The V-Bang

How The Universe Began

By

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- FOREWORD -

This book deals with a number of scientific issues, but focuses primarily on the big bang theory. The big bang theory, as some of you are probably aware, has numerous vexing, and some insurmountable, problems. Since most of these difficulties are well-known within the scientific community, only some of them are covered, and only briefly, in the first chapter.

Moreover, astronomers make observations on a regular basis that cannot be explained by the big bang. Yes, scientists sometimes come up with theories that seem to reconcile individual observations with the big bang. But after a number of such patchwork theories, the big bang has taken on the appearance of a car that's been repaired one time too many; the headlights have been repaired, but now point in the wrong direction; the blown tire has been replaced, but is smaller than the others; the trunk that didn't shut, now doesn't open. Such localized, ill-fitting "solutions" either create other problems or are not in sync with the unit as a whole.

The big bang, at best, is in disrepair. At worst, it is, as numerous scientists concede, completely out of kilter and in need of a serious overhaul.

The V-Bang is that overhaul. Although sometimes referred to in this book as the "new big bang," the V-Bang is actually a completely new theory describing the same event that the big bang was supposed to. The difference is the V-Bang solves many cosmological mysteries in one fell swoop, without the need for a myriad of patchwork theories. The V-Bang will probably do the same for observations astronomers have yet to make.

The V-Bang, for example, describes what dark energy is. The surprising and inexplicable discovery in the 20th Century that the universe's expansion is accelerating, which has been attributed to something called "dark energy," remains one of cosmology's greatest mysteries. At this writing, scientists have no clue as to what dark energy is.

The V-Bang describes how the process that brought our universe into existence also created the force that we refer to as dark energy. And, unlike the big bang, no patchwork theories are necessary; the chronology of events leading up to the creation of the force we refer to as dark energy flows naturally from the basic V-Bang theory.

The V-Bang also solves another major mystery, a discussion of which often takes on an aura of philosophy and even science fiction: Where did all the matter in the universe come from?

In the big bang, all matter was once squeezed into one point. The expansion of the universe then spread matter to all corners of the cosmos. Aside from recently expressed doubts by some scientist as to whether matter can be squeezed down to such a great degree, there is the question of where matter came from in the first place. It is claimed that the answer is unknowable since, as often cited by scientists, all the evidence of what may or may not have existed before the big bang has been wiped out.

The V-Bang, however, shows that matter did not exist before the creation of our universe, but was created by the same process that brought our universe into existence. What's more, the process that created matter is a very provable phenomenon and observable to this very day.

The V-Bang also addresses the following issues: dark matter, how some galaxies and super structures can appear to be older than the universe, why the universe looks so evenly no matter what part of the sky you look at (known as "the horizon problem"), and more.

A discussion of the beginning of the universe would not be complete without a discussion of the beginning of life. The evidence that life did not evolve the way described by Darwinian evolution is so compelling that a chapter on this topic has been included in this book: "The Fossil Record Disproves Darwinian Evolution."

The Author

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The Big Bang:
A Big Blunder of Universal Proportions

The big bang, the cornerstone of cosmological physics, is a long-held theory about how the Universe began. However, it doesn't answer many nagging questions about the development of the Universe. Are scientists missing something? Is the big bang just completely wrong? Do we need a new big bang theory?

Hopefully, this chapter will answer these questions.

The seeds for the big bang were laid in 1929, when Edwin Hubble discovered that all galaxies in the sky are receding from us in every direction. This observation lead to the concept of the expanding Universe. In the late 1940's, the term Big Bang was coined sarcastically, and it stuck as the name of this theory. The big bang basically says that the Universe began as a small "dot" smaller than the period at the end of this sentence about 14 billion years ago and exploded. This began the expansion of our Universe, which is expanding to this day and carrying all matter -- stars, galaxies, supercluster, etc. -- farther out into space.
Our Universe is now believed to be roughly 30 billion light-years in diameter. (One light-year is the distance that light travels in one

year. With the speed of light being around 186,000 mile per second, one light-year comes out to around 6 trillion miles.)

That the Universe is 14 billion years old is based on an extrapolation of the galaxies back to their point of origin. At their current speed and distance, they would take 14 billion years to meet at one central point. Which means, 14 billions years ago there had to be a "big bang," the point from which our universe originated.

A galaxy, as described by NASA's website, nasa.gov, is this:

"A galaxy is a system of stars, dust, and gas held together by gravity. Our solar system is in a galaxy called the Milky Way. Scientists estimate that there are more than 100 billion galaxies scattered throughout the visible universe. Astronomers have photographed millions of them through telescopes. The most distant galaxies ever photographed are as far as 10 billion to 13 billion light-years away. A light-year is the distance that light travels in a vacuum in a year -- about 5.88 trillion miles (9.46 trillion kilometers). Galaxies range in diameter from a few thousand to a half-million light-years. Small galaxies have fewer than a billion stars. Large galaxies have more than a trillion.

"The Milky Way has a diameter of about 100,000 light-years. The solar system lies about 25,000 light-years from the center of the galaxy. There are about 100 billion stars in the Milky Way.

"Galaxies are distributed unevenly in space. Some have no close neighbor. Others occur in pairs, with each orbiting the other. But most of them are found in groups called clusters. A cluster may contain from a few dozen to several thousand galaxies. It may have a diameter as large as 10 million light-years."

How do scientists know how fast galaxies are moving? By their "long wavelength," also known as a "redshift." What's a long wavelength? A good analogy would be sound: Ever notice that the whistle of a train approaching you is a higher pitch than the same whistle leaving you? Sound travels in waves. When the train approaches you, this sound wave is "squeezed" together into shorter wavelengths, making for a higher pitched sound. When the train leaves you, this sound wave is "stretched," creating a lower pitched sound.

You can visualize this effect by imagining you're holding a spring at both ends. As you stretch the spring, the distance between each spiral ("wave") increases; this is similar to "long wavelengths." If you squeeze the spring together, the spirals come closer together, making for shorter "wavelengths."

A similar thing happens with light. When scientists analyze light moving away from them the light seems to stretch out (making for longer wavelengths) and it gives off a reddish color called a redshift. Light moving toward them seems to squeeze together (making for shorter wavelengths) and it gives off a bluish color called blueshift.

Scientists can tell how fast an object is moving toward or away from them by the degree of these redshifts or blueshifts; the greater the shift the faster the object is moving.

There are a number of things that need to be explained before I get to the question of how solid the big bang theory is.

The next thing that needs explanation is what the "dot" that existed a moment before the big bang was. The truth is we don't know what it was or where it came from. But if everything in the Universe came from that dot, it obviously contained everything that currently exists in the Universe, squeezed into a super compact little ball.

What kind of properties would a super-compact, little ball like that have? Again, we don't know. But we can get some idea from similar objects that we believe exist in our current Universe -- black holes.

A black hole is believed to begin with a star. The sun, with a diameter of about 865,400 miles, is considered an average sized star, and is basically a huge thermonuclear "reactor" which has enough "fuel" to keep it burning for many, many generations. But what happens when a star's fuel burns out?

There are various scenarios, depending on the size of the star. A cold (burned out) star about one and a half times the size of the sun (which is now known as the Chandrasekhar limit) will collapse under its own weight. A live star even many times the size of the sun does not collapse because of the outward force generated by its powerful nuclear explosions. When this nuclear force is gone, however, such massive bodies undergo dramatic changes.

A star less massive than the Chandrasekhar limit still has the ability to stop contracting at about a radius of just a few thousand miles. In such a state it is called a "white dwarf," and one cubic inch of its mass weighs hundreds of tons.

Another scenario for a cold star about one or two times the mass of our sun is to contract into a "neutron star." A neutron star can have a radius of roughly ten miles and weigh as much as hundreds of millions of tons per cubic inch.

Since gravitational pull increases in proportion to mass, when stars collapse, their surface gravity become stronger the more compact they become. That's because with a neutron star, for example, you may have a sphere with a ten-mile radius exerting a gravitation pull equivalent to a star several times the size of the sun. And that's massive (in the colloquial sense)!

But as spectacular as such transformations seem, they are nothing compared to the collapse of a star many times the size of the sun. In such a case, the collapse is not halted at a radius of thousands or even ten miles. The force of its massive weight ensures its continued collapse until it reaches a point, according to general relativity, where it has infinite density and space-time curvature. Its radius is a fraction of that of a neutron star. And, thus, a "black hole" comes into being.

A black hole has such a strong gravitational force that nothing, not even light, can escape its pull. This renders a black hole virtually "invisible" -- if you shined the most powerful light at such a body, you couldn't see it because the light would get trapped in the black hole and never reflect back to reach your eyes. Furthermore, inside a black hole, the laws of nature as we know them would break down completely, leaving no viable method of predicting any future events within the black hole.

But if we can't see black holes, how do we know they exist? Although direct proof of their existence still alludes us, we have evidence which seem to support their existence. We have cases of a star revolving around an invisible object, sometimes assumed to be a black hole. Occasionally we see spectacular "fireworks" in remote regions of space, which sometimes is assumed to be produced by matter spiraling into a black hole, creating powerful energy surges.

(The reason this energy is capable of reaching us is because it has not yet entered the black hole's "event horizon," the point of no return from where nothing can escape.)

This brings us back to the dot that existed a moment before the big bang. That dot must have been the mother of all black holes. If a black hole with the mass of hundreds of suns is so powerful, you can imagine how powerful a small dot containing all the energy and mass in the universe must have been. If you can imagine that, you're lying to yourself. If you can't image it, then you have some idea.

Now we're getting close to the first serious problem with the big bang. When they say the Universe is expanding it means that the fabric of space itself is expanding. (Empty space is not empty at all. It's seething with subatomic particles that come into existence and disappearing. But we'll get more into this later. The point here is that "empty" space is an actual entity.) The big bang didn't just hurl everything out into space, it created space itself and is currently still expanding that space.

Why not just leave it at, the big bang hurled everything into space; why even bother with the concept of expansion? Well, here's the problem. When we look at galaxies far out in space, their "redshifts" seem to indicate they're receding faster than the speed of light. Einstein's special theory of relativity, the cornerstone of modern physics, says physical objects cannot move at or faster than the speed of light. The expansion of space itself, however, can move faster than the speed of light without violating this law.

So, the extreme redshifts coming from some galaxies, scientists believe, is not the result of thrust, but mostly the result of their being carried outward with the expansion of space.

An analogy might be, several pieces of paper are glued down to a rubber mat. As the rubber mat expands by being pulled on all sides, the pieces of paper move away from each other, not because they're actually moving, but because they're being carried out by the expansion of the rubber mat.

So, since space can expand faster than the speed of light without violating any laws of physics, the galaxies can "hitch a ride" faster than the speed of light with the expanding Universe without violating any laws of physics.

Well, that explains everything. Or does it? Maybe not.

If space is expanding, shouldn't everything in it expand with it? In our analogy, as the rubber mat expands, the papers would get ripped apart, since the rubber underneath the papers are also expanding.

The Expansion

But this is not what's happening in space; the space between galaxies seems to be expanding but galaxies and other objects are not getting ripped apart. Why not? The space they're in is expanding, why aren't they expanding too?

One of the two following things should be happening:

1 - Everything from atoms to people to galaxies to the space between galaxies should be expanding with the Universe. As a result, we couldn't even tell that the Universe was expanding since our eyes, our telescopes, light rays, galaxies and everything else would all be expanding proportionally; so everything would look the same. (It would be as if, for example, you grew up in a house that grew with you; you couldn't tell the house was getting bigger.) And then we'd be stuck with the original question: how can the galaxies be moving faster than the speed of light.

2 - If matter is not expanding with the space that it resides in, it

should get ripped apart, as in our rubber mat analogy.

But neither of the above seems to be happening; space does seem to be expanding, but not everything in it is expanding with it. Yet, nothing's getting ripped apart. How is this possible?

The question why atoms are not being ripped apart by the expansion of space was presented to a Nobel prize-winning scientist. Reportedly, this was his answer: "The expansion of the universe doesn't actually affect the spaces between particles. The universe's expansion is not a force that will rip particles, molecules or even objects apart. The 'fabric of space' is not stretching -- just the distances between really large things like galaxies. So while the distance between the milky way and its nearest neighbor may increase over the next billion years, the distance between the proton and neutron in a deuterium atom's nucleus will not."

What this scientist was saying, in effect, is that the question is the answer. Question: Why don't particles and galaxies get ripped apart? Answer: "The expansion of the universe ... is not a force that will rip particles, molecules or even objects apart ... just the distances between really large things like galaxies."

Wasn't the question: why?

One reason I heard was that gravity was keeping galaxies together.

Are galaxy clusters and super clusters (groups and "super groups" of galaxies) expanding? If not, why not; there's plenty of space between their member galaxies? If they are, why; shouldn't gravity keep them together? And what's the critical gravity strength to keep galaxies or galaxy clusters together?

But here's the real problem with the notion that a galaxy's gravity can stand up against the expansion of the Universe. This same expansion ripped apart that big bang "dot," the most powerful "black hole" ever to exist, that dot that contained all the energy/matter in the Universe. This expansion does not have the power to rip apart a mere galaxy?

Perhaps the big bang only expanded space, and the energy/mass in it simply exploded on its own? Then we'd have to invent a whole new force that's capable of ripping apart such a massive black hole. We don't know of a force that can rip apart an average black hole today, let alone the enormously powerful big bang's.

So, it must be that it was the big bang expansion itself that "blew up" that big bang dot. And if that dot contained everything that exists today, the expansion must be capable of expanding anything; space, energy or mass. But matter isn't expanding; planets aren't blowing up. And energy isn't expanding, either; stars aren't blowing up. Only space between galaxies is expanding? How, when and why did this happen? Something's wrong with this picture.

Could the expansion today have gotten weaker? Perhaps. But how weak could it have gotten if it's still expanding a Universe containing billions of galaxies, and, to add to the mystery, the rate of expansion is increasing (discussed later)?

So, the expansion problem boils down to this: If the Universe is still expanding, why are portions of it not expanding. And if the "fabric of space is not stretching," how can galaxies be receding faster than the speed light?

This is not the only serious problem with the big bang. There's quite list, which I'd like to delineate here. After listing these problems, I'd like to present a new big bang theory that will solve the above and the following cosmological mysteries: (For the benefit of those who may not be familiar with the following concepts, I'll try explaining them in as non-technical terms as possible.

But I would suggest reading this chapter next to a computer so you can google those areas that may still not be that clear to you after explanation.)

* What dark matter is.

* The Horizon problem: The uniformity of the Cosmic Microwave Background (CMB).

* The Flatness problem: The very curious "coincidence" that there seems to be just enough matter in the universe to keep it from expanding forever and not enough for it to collapse under its own gravity.

* Inflation theory: This unlikely and counter-intuitive theory is not necessary with my new big bang theory.

* How the universe can appear so "clumpy," containing galaxies, superclusters, large-scale structures and huge areas of relatively empty space, when it started off so smooth.

* What dark energy is.

* How can the Universe have large-scale structures when there wasn't enough time for them to develop?

Some of the above issues remain mysteries and some are explained by theories in, I believe, a very tenuous way. One widely accepted theory in particular, "inflation," which will be discussed later, comes off like a very contrived "patch" to the big bang, and I think it's highly questionable whether it even explains what it's supposed to.

My new big bang theory explains the issues that inflation supposedly explains, but does so in a far more elegant manner as part of the overall theory, without the need for contrived patchwork. Additionally, my new big bang theory explains most, if not all, those issues that remain cosmological mysteries at this point.

But first, here are some of the other problems with the big bang.

Dark matter

Here's a quick intro to the puzzle of "Dark Matter" as it appeared on NASA's website in July 2009:

"When the Universe was young, it was nearly smooth and featureless. As it grew older and developed, it became organized. We know that our solar system is organized into planets (including the Earth!) orbiting around the Sun. On a scale much larger than the solar system (about 100 million times larger!), stars collect themselves into galaxies. Our Sun is an average star in an average galaxy called the Milky Way. The Milky Way contains about 100 billion stars. Yes, that's 100,000,000,000 stars! On still larger scales, individual galaxies are concentrated into groups, or what astronomers call clusters of galaxies.

"The cluster includes the galaxies and any material which is in the space between the galaxies. The force, or glue, that holds the cluster together is gravity -- the mutual attraction of everything in the Universe for everything else. The space between galaxies in clusters is filled with a hot gas. In fact, the gas is so hot (tens of millions of degrees!) that it shines in X-rays instead of visible light.

"By studying the distribution and temperature of the hot gas we can measure how much it is being squeezed by the force of gravity from all the material in the cluster. This allows scientists to determine how much total material (matter) there is in that part of space.

"Remarkably, it turns out there is five times more material in clusters of galaxies than we would expect from the galaxies and hot gas we can see. Most of the stuff in clusters of galaxies is invisible and, since these are the largest structures in the Universe held together by gravity, scientists then conclude that most of the matter in the entire Universe is invisible. This invisible stuff is called 'dark matter'. There is currently much ongoing research by scientists attempting to discover exactly what this dark matter is, how much there is, and what effect it may have on the future of the Universe as a whole."

"... five times more material ... than we would expect ... " is a large chunk of our world for us to have no idea what it's made of. And if it affects our universe today, it had to effect the big bang, somehow? But how? My new big bang theory will explain what dark matter is and its connection to the big bang.

To describe some of the other problems with the big bang it is necessary to explain what the Cosmic Microwave Background Radiation (CMBR) is. Very briefly, shortly after the big bang, all the energy in the Universe was extremely hot. The radiation of this heat spread throughout the cosmos, and to this day we can detect a very low energy leftover from this radiation. No matter where in space you look, the radiation is almost exactly the same temperature, save for a slight fluctuation here and there.

The Horizon problem

Now, this is where the "horizon problem" comes in. A quote from the website www.zmescience.com describes it well:

"[The "horizon problem" is something] scientists have had many problems with, to say the least. The truth is despite the fact that there are some solutions that would partially (or even totally) explain the issue, there is no satisfactory explanation to this Big Bang related topic.

"Basically, our universe appears to be uniform; look in one part of the universe [one horizon], you'll find microwave background radiation filling it, at mostly the same temperature. Look in the opposite direction [another horizon], you'll find the same thing ... You have to keep in mind that nothing travels faster than the speed of light, and this is not about just matter, it's about physical properties and information too.

"The two edges of the Universe are 28 billion light years apart, and the universe is just 14 billion years old, so according to our understanding there is no way that heat radiation could have traveled between these horizons to even out the temperature difference. So the hot and cold spots that resulted after the Big Bang couldn't have been evened out; but they have. [How?] This has given scientists huge headaches, and solutions are just wishful thinking.

"The solution that seems to somewhat satisfy scientists is called 'inflation.' Inflationary theory relies on the idea that just after the Big Bang, the universe expanded by a factor of [many times] in [a small fraction of a] second. So this just solves [one] mystery to give another one."

Inflation Theory

In other words, the "inflation" theory says that for one moment after the big bang the Universe expanded at super speed from that big bang "dot" to the size of a ball. One opinion holds it expanded to the size of our solar system; but that's irrelevant.

During this inflation period, all parts of the Universe were in causal contact with each other (that is, any area of the Universe could have affected any other area) and therefore the heat radiation was able to smooth or spread out evenly without the need for faster-than-light communication. So when the Universe subsequently expanded to 28 billion light-years, the smoothness of the heat radiation simply expanded with the Universe.

One of the problems with inflation theory, though, is that it's a counter-intuitive concept that's not based on empirical evidence, or even an extrapolation of known events. It's a theory concocted for the express purpose of solving some vexing cosmological problems. And even some scientists don't know if it makes much sense. Here are just a few responses to the inflation theory:

Andreas Albrecht, Professor of Physics, UC Davis, on his CalTech website:

"There are a number of interesting open questions connected with inflation. The origin of the Inflaton [the theoretical field/particle that purportedly caused inflation]: It is far from clear what the inflaton actually is and where its potential comes from ... Currently, there is much confusion about physics at the relevant energy scales, and thus there is much speculation about different possible classes of inflaton potentials. One can hope that a clearer picture will eventually appear as some deeper theory ... emerges to dictate the fundamental laws of physics at the inflation scale."

He then goes on to list a few other (too technical for this treatise) issues with inflation.

The following appears on the Chemistry Encyclopedia website, ChemistryDaily.com:

"One theoretical challenge for inflation arises from the need to fine tune the potentials for the fields which may give rise to inflation ... inflation causes rapid cooling of the universe and so it must be followed by a period of reheating before the hot big bang can begin. It is not known how reheating occurs, although several models have been proposed.

"Observationally, it is hoped that improved measurements of the cosmic microwave background will tell us more about inflation. In particular, high precision measurements of ... the background radiation will tell us if the energy scale of inflation predicted by the simplest models is correct, and ... if our naive models of inflation can produce the correct primordial fluctuations."

Dr. Ben Mathiesen, a research astrophysicist specializing in X-ray astronomy, the numerical simulation of astrophysical fluids, and the evolution of the universe, in an article on the science and physics website www.physorg.com:

"The fine-tuning problem [of inflation] has [as a result of the discovery that the Universe's expansion is accelerating] returned ... The initial density of vacuum energy had to be very close to zero at the Big Bang, or else an accelerating expansion would have driven apart all the matter before stars could form. Inflation can't solve the problem this time ... Once again, cosmologists find themselves debating the initial conditions of the universe."

The Flatness Problem

Inflation theory supposedly resolves the "Flatness problem." The website for the Centre for Astrophysics and Supercomputing, Swinburne University of Technology, explains the Flatness problem well (in brackets, are my insertions):

"A flat Universe is one in which the amount of [gravity from the] matter present is just sufficient to halt its expansion but insufficient to re-collapse it. This would represent a very fine balancing act indeed! Imagine the surprise of astronomers to find that, as near as we can tell, the Universe has exactly the required density [called "critical density"] of matter to be 'flat.' This seems like a truly remarkable coincidence and has become known as the 'flatness problem.'

"The 'problem' is that for the Universe to be so close to critical density after 14 billion years of expansion and evolution, it must have been even closer at earlier times.

"There is no known reason for the density of the Universe to be so close to the critical density, and this appears to be an unacceptably strange coincidence in the view of most astronomers. Hence the flatness 'problem.'

"Many attempts have been made to explain the flatness problem, and modern theories now include the idea of inflation which predicts the observed flatness of the Universe. [In the infinitesimal fraction of a second that inflation expanded the Universe from a dot to a ball, all energy and/or matter supposedly redistributed itself to the critical density, and throughout the next 14 billion years of expansion the Universe purportedly maintained that same density level.] However, not all scientists have accepted inflation, and the matter remains a subject of much debate and research."

The Flatness problem as well as other big bang mysteries, will, as mentioned, be resolved by my new big bang theory.

The Lumpy Universe Problem

Now we have the "lumpy Universe problem," as explained by NASA's Goddard Space Flight Center:

Heading: "If [the Universe] Starts Out Smooth, How Does It Become Lumpy?

"The Universe that we see today is very lumpy. There are planets, stars, galaxies, and clusters of galaxies. Yet when we look at the afterglow [of the Background Radiation] from the Big Bang, we see an incredibly smooth glow across the sky. So how did the matter in the Universe get to be so lumpy after starting out so smooth?

"Most astronomers believe that gravity shaped the evolution of the lumps we see in the Universe today. The force of gravity between different chunks of matter caused the chunks to pull together into one body, and then that body pulled in more material. However, it takes time for gravity to do this job and the Universe is only about 15 billion years old. Has there been enough time? Only if most of the matter in the Universe is some kind of strange material which does not interact with light (so-called "dark matter"). The young Universe was so hot that normal matter, i.e. matter as we know it here on Earth, would not have been able to clump together until time passed and the Universe expanded and cooled. The Universe is probably not old enough for the gravitational attraction of ordinary matter to be responsible for the structures we see today.

"The clumping discussed above could have started early on only if there is a lot of material in the Universe known as dark matter, which behaves differently. If the clumping could have started when the Universe was still quite hot, there has probably been enough time for structures such as stars and galaxies and clusters of galaxies to evolve.

"However, if the young Universe started perfectly smoothly, then we would see no clumping today. Things must have been at least a little tiny bit unsmooth in the beginning. Such slight variations were first discovered by NASA's Cosmic Background Explorer (COBE) satellite in 1992. Astronomers believe that the Universe started out with very tiny lumps and that a type of dark matter helped gravity along to develop much of the larger lumps we observe today.

"The questions then remain: what caused the original tiny lumps? What is this exotic dark matter? Does this picture really hold together?"

The Large-Scale Structures Problem

Here's another picture that doesn't hold together: large-scale structures in space. An April 2009 article on NewScientist.com, entitled "New cosmic map reveals colossal structures," reported:

"Enormous cosmic voids and giant concentrations of matter have been observed in a new galaxy survey ... One of the voids is so large that it is difficult to explain where it came from.

"In fact the newly found void is so large that it is difficult to fit into our present understanding of the universe on the largest scales. Computer simulations show that gravity causes galaxies and galaxy clusters to get closer together over time, with voids growing between the clusters.

"But the finite time [14 billion years] available since the big bang makes it difficult to explain a void as large as the one found in this survey ...

"'It's not easy to make voids that large in any of the current models of large scale structure formation,' Huchra says. [John Huchra is a survey team member of the Harvard-Smithsonian Center.]

This bewilderment over large cosmic voids is also echoed in a paper entitled "Puzzles of Large Scale Structure and Gravitation" by The International Institute for Applicable Mathematics & Information Sciences:

"These voids would have dimensions of the order of a 100 million light years. This has been a puzzle thrown up in the late 20th century: Exactly why do we have the voids and why do we have polymer like two-dimensional structures on the surfaces of these voids? The puzzle is compounded by the fact that given the dispersion velocities of the galaxies of the order of a 1000 km/s, it would still take periods of time greater than the age of the universe [13 billion years] for them to move out of an otherwise uniform distribution, leaving voids in their wake."

There are also questions as to whether superclusters of galaxies had enough time to evolve in 13 billion years, as expressed by the website metaresearch.org:

"These huge structures [superclusters of galaxies] would take perhaps 100 billion years to form, given the typical relative speed of galaxies. The same problem applies to 'great walls' of galaxies, which are even vaster structures. There is no clear way to form structures on such large scales in the time available [by the current age of the Universe] unless relative velocities were much higher in the past."

The next couple of cosmological problems may make the above pale in comparison. They alone are enough to create serious doubts that the current version of the big bang is correct.

Dark Energy

From the NASA Science Astrophysics website, NSASScience.nasa.gov:

"In the early 1990's, one thing was fairly certain about the expansion of the Universe. It might have enough energy density to stop its expansion and recollapse, it might have so little energy density that it would never stop expanding, but gravity was certain to slow the expansion as time went on. Granted, the slowing had not been observed, but, theoretically, the Universe had to slow. The Universe is full of matter and the attractive force of gravity pulls all matter together. Then came 1998 and the Hubble Space Telescope (HST) observations of very distant supernovae that showed that, a long time ago, the Universe was actually expanding more slowly than it is today. So the expansion of the Universe has not been slowing due to gravity, as everyone thought, it has been accelerating. No one expected this, no one knew how to explain it. But something was causing it.

"Eventually theorists came up with three sorts of explanations. Maybe it was a result of a long-discarded version of Einstein's theory of gravity, one that contained what was called a 'cosmological constant.' Maybe there was some strange kind of energy-fluid that filled space. Maybe there is something wrong with Einstein's theory of gravity and a new theory could include some kind of field that creates this cosmic acceleration. Theorists still don't know what the correct explanation is, but they have given the solution a name. It is called dark energy.

"What Is Dark Energy?

"More is unknown than is known. We know how much dark energy there is because we know how it affects the Universe's expansion. Other than that, it is a complete mystery. But it is an important mystery. It turns out that roughly 70% of the Universe is dark energy. Dark matter makes up about 25%. The rest - everything on Earth, everything ever observed with all of our instruments, all normal matter - adds up to less than 5% of the Universe. Come to think of it, maybe it shouldn't be called "normal" matter at all, since it is such a small fraction of the Universe."

What all this adds up to is, after all these years of probing the cosmos, how much knowledge do we really have about the Universe we live it? Or is it all just one big theory?

Excerpts from an article on the New Scientist Website, newscientist.com, put it well:

"Like the decorator who strips away a layer of wallpaper to reveal a crumbling wall, cosmologists are realizing that their findings [that the universe's expansion rate is increasing] point to serious problems with their models of the structure of the universe. " ... it is beginning to sink in that there is no easy way to understand what dark energy might be. The problem has become so intractable that many now see it as the greatest challenge facing physics."

And how did such a powerful force as dark energy, which is effecting the entire universe today, effect the big bang? The big bang is basically the same theory now as it was before the discovery of dark energy. This is like claiming to have the design for a car, but the engine is not included in the design. If the big bang does not incorporate dark energy, it simply can't be correct.

The Big Bang Problem

There's even confusion about what exactly the expansion of the Universe means. Here's a generally accepted view of the big bang, as described by The University of Michigan's website, umich.edu:

"About 15 billion years ago a tremendous explosion started the expansion of the universe. This explosion is known as the Big Bang. At the point of this event all of the matter and energy of space was contained at one point. What existed prior to this event is completely unknown and is a matter of pure speculation. This occurrence was not a conventional explosion but rather an event filling all of space with all of the particles of the embryonic universe rushing away from each other. The Big Bang actually consisted of an explosion of space within itself unlike an explosion of a bomb where fragments are thrown outward. The galaxies were not all clumped together, but rather the Big Bang lay the foundations for the universe.

"In the minuscule fractions of the first second after creation what was once a complete vacuum began to evolve into what we now know as the universe. In the very beginning there was nothing except for a plasma soup. What is known of these brief moments in time, at the start of our study of cosmology, is largely conjectural.

However, science has devised some sketch of what probably happened, based on what is known about the universe today.

"Immediately after the Big Bang, as one might imagine, the universe was tremendously hot as a result of particles of both matter and antimatter rushing apart in all directions. As it began to cool, [a fraction of a second] after creation, there existed an almost equal yet asymmetrical amount of matter and antimatter. As these two materials are created together, they collide and destroy one another creating pure energy. Fortunately for us, there was an asymmetry in favor of matter. As a direct result of an excess of about one part per billion, the universe was able to mature in a way favorable for matter to persist. As the universe first began to expand, this discrepancy grew larger. The particles which began to dominate were those of matter. They were created and they decayed without the accompaniment of an equal creation or decay of an antiparticle.

"As the universe expanded further, and thus cooled, common particles began to form. These particles are called baryons and include photons, neutrinos, electrons and quarks that would become the building blocks of matter and life as we know it. During the baryon genesis period there were no recognizable heavy particles such as protons or neutrons because of the still intense heat. At this moment, there was only a quark soup. As the universe began to cool and expand even more, we begin to understand more clearly what exactly happened."

A confusion common in science literature that attempts to describe the big bang is there doesn't seem to be a clear cut understanding of what exploded and what expanded. Did space expand, did the stuff inside space explode, or was it a combination of both? And although it's usually made clear that the big bang was an "expansion," not a common "explosion," the two words are often used interchangeably.

The UMICH description above states, "About 15 billion years ago a tremendous explosion started the expansion of the universe."

Did an explosion precede the expansion? Wasn't the expansion the beginning of our universe?

Then, "This occurrence was not a conventional explosion but rather an event filling all of space ..."

What space? There was no space before the expansion.

"In the minuscule fractions of the first second after creation what was once a complete vacuum ... "

What vacuum? If there was no space, there was no vacuum.

And what kind of power was it that ripped apart the big bang dot? I know scientists don't generally deal with things that happened before the big bang, so this is not a question of how that power behind the big bang came to be. But once the big bang did explode/expand, in that moment it became "our Universe." The ripping apart of this densely packed dot that contained all the energy/matter that will ever exist, happened in our universe, not before the big bang. How? What kind of power can rip apart such a densely packed "singularity?"

A singularity, as defined by the Cornell University website, is, "...a point where some property is infinite. For example, at the center of a black hole, according to classical theory, the density is infinite (because a finite mass is compressed to a zero volume). Hence it is a singularity. Similarly, if you extrapolate the properties of the universe to the instant of the Big Bang, you will find that both the density and the temperature go to infinity, and so that also is a singularity."

If there's no power in the Universe that we know of that can even rip apart a massive black hole, how could anything have ripped apart the far greater concentration of energy/mass that was in the big bang dot?

This issue is in fact addressed by science, as explained by The Math Department of the ucriverside University of California website:

"Sometimes people find it hard to understand why the Big Bang is not a black hole. After all, the density of matter in the first fraction of a second was much higher than that found in any star, and dense matter is supposed to curve spacetime strongly.

"The short answer is that the Big Bang gets away with it because it is expanding rapidly near the beginning and the rate of expansion is slowing down."

Their longer answer is: "Space can be flat even when spacetime is not. Spacetime's curvature can come from the temporal parts of the spacetime metric which measures the deceleration of the expansion of the universe. So the total curvature of spacetime is related to the density of matter, but there is a contribution to curvature from the expansion as well as from any curvature of space. The Schwarzschild solution of the gravitational equations is static and demonstrates the limits placed on a static spherical body before it must collapse to a black hole. The Schwarzschild limit does not apply to rapidly expanding matter."

My short response to this is, this may (or may not) make sense on paper to some people, but until this is proven and verified, it remains a highly speculative response to a legitimate contradiction to the big bang.

My other response is that matter isn't expanding at all, let alone "rapidly expanding." When we peer into the cosmos today we find that space seems to be expanding, not matter, not energy, not planets, not stars, nothing -- just space.

And according to the Nobel prize-winning scientist above, even, "The 'fabric of space' is not stretching -- just the distances between really large things like galaxies."

So how could the big bang expansion have involved "rapidly expanding matter?"

But then, if the big bang expanded only space and not matter, it would have created a Universe containing billions of light-years of empty space and a core black hole that still contained all energy/matter. And that's not what our Universe looks like today.

Okay, so let's say the big bang did expand matter as well as space. So if the Universe is still expanding, why isn't matter still expanding, too, like it did during the big bang?

So let's say the Universe used to expand but stopped. Why, when and how did it stop expanding? And galaxies are still flying apart, they're doing so faster than the speed of light, and, to really complicate things, they're flying apart at ever increasing speeds. Does this sound like the Universe stopped expanding? So what's the answer: Is the Universe expanding or isn't it?

There are obviously some serious problems with the theory of an expanding universe. Apparently, when it solves one problem, it's expanding "this," when it solves another problem, it's expanding "that." Something ain't right.

This will all be explained by my new big bang theory. But we're not through with the old one yet.

Unpacking The Big Bang Singularity

How did the big bang "unpack" the energy/matter it contained? Remember, this event happened in "our" Universe, not before the big bang, so this requires a logical, scientific explanation.

Whether the big bang was an expansion or an explosion, it must have carried everything outward with a force far more powerful than anything this Universe has even seen. When a star collapses to form a black hole, as powerful as that collapsing force may be, it's no match for what must have been the power of the big bang expansion/explosion.

Yet, a massive star's collapse compresses ordinary matter into infinite density, while the big bang supposedly took energy/matter that already had infinite density and "uncompressed" it into a soup of some sort that would eventually become the precursor to ordinary matter. How?

The big bang supposedly did the precise opposite of what physics tells us about powerful cosmic forces.

This kind of inconsistent "science" shows there are some fundamental problems with cosmology, as described on the home page of MetaResearch.org:

"Something has gone wrong in the field of astronomy. Many widely held beliefs fly in the face of observational evidence. Theories go through such contortions to resolve inconsistencies that the ideas can no longer be explained in simple language. Alternative ideas are often rejected out of hand simply because they challenge the status quo. The result: many of today's theories are unnecessarily complex.

"Intuitively, most of us understand that an idea's popularity is no more an appropriate measure of its validity today than it has been at any other time in history."

The problem with the big bang even goes right down to that singularity, the moment when all matter was supposedly concentrated at a single point of infinite density, predicted by Einstein. Quantum structure limits how tightly matter can be concentrated and how strong gravity can become. This raises serious questions as to whether that big bang dot could even have existed. So much so, that some scientists have been entertaining theories about what might have happened before the big bang to explain what happened after it. They call it the "big bounce:" a Universe before ours contracted into a "big crunch," causing a "big bounce," which started our big bang. These are "big" theories.

The problem with these patchwork theories is that, in the best case, they may sometimes answer a few immediate concerns but invariably leave the vast majority of cosmic mysteries unanswered, and, in some cases, raise more question than they answer. It's sort of like trying to use a 9 by 9 foot canvass to cover a 10 by 10 foot hole; no matter which corner you pull it to, you uncover other corners.

The V-Bang

At this point I'd like to present my new big bang theory, which will solve most, if not all, of the above cosmological mysteries, and perhaps even some not mentioned here.

First, let's give my new big bang theory a name so we can differentiate it from the current big bang. Let's call it the V-Bang (or V-Bang) theory.

As an introduction to the V-Bang Theory, it would help to go over several scientific concepts, in case the reader is not familiar with them. They are: atoms and subatomic particles, particle accelerators, empty space and virtual particles, Hawking Radiation, and the Law of Conservation of Energy.

Some of these can get complicated, but I'll try to address them in a simple enough manner so that the average reader can pick up the gist of it. As mentioned earlier, it would be a good idea to read this next to a computer so you can look up some points that may not have been made that clear.

Atoms are the smallest component of an element and consist of electrons, protons and usually neutrons. Everything you see around you is made up of atoms. When you break apart an atom, you get subatomic particles. You can also break apart sub-atomic particles to get more subatomic particles.

To break apart subatomic particles, scientists use "particle accelerators," which are huge contraptions that can consist of miles of tubes. When subatomic particles are hurled through these long tubes at extremely high speeds and smashed into one another, they break up into various other subatomic particles and release energy. Sometimes these powerful collisions can create micro black holes. These micro black holes usually evaporate quickly.

"Virtual particles," on the other hand, are subatomic particles that are constantly popping into existence from "empty" space, and disappearing in very short periods of time -- usually in micro seconds. Apparently, "empty" space is not empty at all. It's seething with an energy that's constantly producing (in what's referred to as "vacuum fluctuations") virtual particles from seemingly nothing. These particles generally pop into existence in pairs which consist of particles and anti-particles.

Since particles have a positive electrical charge and anti-particles have a negative electrical charge, when these two particles bump into each other, which usually happens shortly after they come into existence, they annihilate each other and release a (micro) flash of energy. That's right, they come from "nothing" and disappear when they make contact with each other. And this is not just theory. Experiments show these virtual particles really do exist and are constantly coming into and going out of existence throughout space.

They're called "virtual particles" because, although they do have an effect on real matter, they do not interact with real matter in a normal way. (This is a huge topic in itself, as are some other topics in this chapter, the intimate details of which would be more confusing than relevant. So I'll limit my explanations.)

Sometimes virtual particles -- which can be electrons, neutrons, protons, photons, etc. -- do not disappear. Sometimes, they become "real" particles. How? If some strong force is able to tear the pair of virtual particles far enough away from each other to keep them from making contact again, they can turn into real particles. Strange stuff. Welcome to quantum physics.

According to the renowned physicist Stephen Hawking, black holes are one of the forces that can turn a virtual particle into a real particle. If a black hole pulls in a virtual anti-particle, its companion (positive) particle can escape and turn into a real particle. This companion particle's escape gives off a micro flash of energy, called "Hawking Radiation."

While black holes normally become more powerful as they consume normal (positive) matter, they become weaker when they consume negative particles. If a black hole consumes enough negative particles, the black hole can eventually evaporate.

Despite their usual short life spans, virtual particles are believed to mediate particle decay and the exchange of the fundamental forces of nature: the electromagnetic force, the weak force, the strong force, and gravitational forces. (Again, the details of these forces are not relevant here.)

By now you must be asking yourself, how the heck can things just pop in and out of existence? Aside from being counter intuitive, there is the law of conservation of energy, which states that energy cannot be created or destroyed, it can only change forms. Particles, even if only virtual, popping in and out of existence certainly qualify as energy being created and destroyed.

This is explained by the "Heisenberg Uncertainty Principle." This principal says that both the position and momentum of a subatomic particle, like an electron, for example, cannot be measured precisely. In other words, if you measure its position, its momentum becomes uncertain, and if you measure its momentum, its position becomes uncertain. (Don't try to figure out how this works. This is quantum mechanics.)

Here are two explanations for how the Heisenberg Uncertainty Principle allows for the creation of virtual particles:

The free online dictionary, thefreedictionary.com:

Definition of a virtual particle: "A short-lived subatomic particle whose existence briefly defies the principle of conservation of energy. The [Heisenberg] uncertainty principle of quantum mechanics allows violations of conservation of energy for short periods, meaning that even a physical system with zero energy [the vacuum of space is considered to have zero energy] can spontaneously produce energetic particles."

The science encyclopedia, science.jrank.org:

"The meaning of Heisenberg's uncertainty principle is that 'something' can arise from 'nothing' if the 'something' returns to the 'nothing' after a very short time, an interval too short in which to be observed. These micro-violations of energy conservation are not only allowed to happen, they do, and so 'empty' space is seething with particle-antiparticle pairs that come into being and then annihilate each other again after a very short interval."

These explanations are basically the accepted view within the scientific community. The underlying question, however, still remains: where do these virtual particles actually come from? There are only two possibilities: they either come from "nothing" or they come from an energy source that exists but we can't detect.

If virtual particles come from a source we simply can't detect, then they're not violating the law of energy conservation even for a moment. If they come from "nothing," the moment they come into existence, no matter how quickly they disappear, they've already violated the law of conservation of energy. In other words, they do not violate the law of conservation of energy for only a "short" period of time – they violate the law of energy conservation, period. That they disappear soon does not negate the fact that they've already violated the law of conservation of energy.

Saying that "something" can come from "nothing," if it's for only a short period of time, is like saying you can't borrow money from a bank that doesn't exist, but if it's for a short period of time then it's okay. How? The bank doesn't exist. Similarly, if you're not certain you have a toaster, can a toaster suddenly pop up in your kitchen as long as you eat your breakfast fast?

Okay, this may be a little tongue-in-cheek, but the point is -- if it ain't there, it ain't there.

The whole point of the law of conservation of energy is that the Universe has a finite amount of energy and you can't just create "existence" from "none existence." As I wrote a couple of decades ago, "nothing" -- true "nothing" -- implies complete non-existence, without even the potential to create anything. True "nothing," therefore, can never create anything. So if you see "something" coming from "nothing," that is the biggest proof that there is something there where you think there is nothing. If "vacuum fluctuations" can create new energy, there is an energy source in "empty" space. What is it?

The same lack of understanding of this energy source also presents one of the biggest mysteries of cosmology. Since matter and antimatter come in pairs that shortly annihilate each other, all matter and antimatter produced by the big bang should have annihilated each other. But since we're here, that obviously didn't happen. So if it didn't happen, and most of the cosmos is currently made of regular matter, where is all the antimatter? Scientists have been searching for years, without success, for massive amounts of antimatter that should have existed.

My V-Bang theory will describe how the creation and destruction of virtual particles have nothing to do with "uncertainties" or violations of the law of conservation of energy. It will also describe how what seems like "vacuum fluctuations" is actually a fine-tuned mechanism that regulates the quantity of particles, and the ratio of particles versus antiparticles, released into space, depending on conditions at a particular time and place in the Universe.

The V-Bang Unfolds

We're now ready to describe the V-Bang theory.

The V-Bang theory has very little resemblance to the big bang theory. What little resemblance it might have would probably be in the expansion of the Universe. And even that's not similar.

Here are the fundamental differences between the two theories in a few words:

The big bang starts as a very simple concept. As new discoveries are made, the big bang becomes increasingly complicated as scientists attempt to explain these new discoveries. Currently, the big bang is at an unwieldy stage where some discoveries can no longer be explained, while others can only be explained by resorting to "contortionist" theories, some of which employ concepts which can themselves not be explained. (For example, you often hear certain cosmological mysteries explained with dark energy and dark matter, yet we do not yet know what dark energy and dark matter are.)

The V-Bang theory, on the other hand, starts as a considerably more complex theory. Once the concept is laid out, however, it explains many, if not all, current major cosmological mysteries, including dark energy and dark matter. And it does much of this as part of the core theory, without resorting to a list of "contortionist" theories. Further, most of the V-Bang theory is based on observable phenomena or extrapolations of contemporary science.

So, without further ado, here's the V-Bang theory:

In the beginning, the Universe expanded.

This, already, requires an explanation, since this expansion was nothing like the big bang. The only thing that expanded was space. There was nothing "inside;" no compressed energy, no compressed matter, and it did not produce a "soup," as in the big bang.

The Universe expanded in an instant to the full length and breadth it would ever expand to -- whether that's 50 billion light-years in diameter, 100 billion light-years, infinity, or whatever. After that one moment of expansion, the Universe stopped expanding and never expanded again.

Although the expansion itself contained no compressed energy (as we know it) or matter, the creation of space opened up the floodgates of virtual particles. Massive amounts of particles flooded empty space in quantities that would make today's "vacuum fluctuations" look like a "light drizzle." This influx of particles did not violate the law of energy conservation, which I'll address later.

These particles "hit the ground running." In other words, they were all swept outward at terrific speeds by the instant expansion of the Universe and continued shooting outward at great speeds even after the expansion ceased.

Neither did the cessation of the expansion put an end to the frenzy of virtual fluctuations; virtual particles kept pouring into space. Unlike the initial wave of particles, which made their debuts at terrific speeds, these new, post-expansion particles entered the universe in relatively stationary positions. This set off a cataclysmic event of monumental proportions -- the entire universe turned into one giant "particle accelerator" (an apparatus scientists use to smash subatomic particles into one another at terrific speeds), As the high-speed particles collided with enormous impact with the relatively stationary particles, they created tremendous heat, radiation, and massive black holes throughout the cosmos. This event is probably the source of the Cosmic Microwave Background (CMB) radiation we detect to this very day.

These massive black holes continued moving outward at great speeds, away from the center of the V-Bang, forming an ever-growing massive circle with a "wall" of black holes billions of light-years thick. We'll call this the "black wall."

The black wall's traversal through thick layers of new particles continually pouring into the Universe, set the stage for galaxy development. A simple analogy might be, swimming through a pool sends the water around you into somewhat of a swirl.

In other words, as the circle grew larger, the black wall became more "porous," allowing newly created virtual particles to come between the individual black holes. The gravitational tug of the speeding black wall would set those virtual particles near its path into a swirl.

(I'll be using variations of the word "enlarge" rather than "expand" so it doesn't get confused with the big bang's concept of an "expanding" Universe.)

The effect the speeding black holes' gravitational fields had on the surrounding particles varied depending on the particles' positions and distances from these individual black holes; particles directly in front of or relatively close to any side of the black hole would be consumed by the black hole, and particles too far away would experience little to no disturbance. It's the "borderline" particles, too close to remain undisturbed and too far to get pulled in, that would play the most important role in quick, early galaxy development.

As the black holes gobbled up matter and cut swaths of empty space throughout the cosmos, the remaining space dust would start to coalesce, since their gravitational pull would no longer be equal on all sides.

(Please note that cutting "swathes of empty space" in this description is a relative term akin to shoveling snow in a heavy snow storm. Any portion you shovel gets quickly covered with snow again, but it's still covered with less snow than the unshoveled portions. Similarly, any swath of empty space would quickly get filled in with new particles pouring into space, but that area would still contain much less particles than areas not touched by the black holes.)

Then, the "borderline" particles would get pulled along with a speeding black hole until the black hole was far enough so that its gravitational pull was weaker than that of the surrounding particles. Upon the black hole's loosing its gravitational grip on the borderline particles, the borderline particle would change course and slam into the surrounding stationary particles.

These high speed collisions would give the stationary particles, which were already starting to coalesce, a circular thrust, setting in motion a whirl somewhat similar to weather patterns stirring up a storm or hurricane. And, thus, the initial stages of galaxy development were set in motion.
As the black wall continued on its high-speed trek outward, it would leave an inner circle of massive numbers of galaxies, stars

and black holes in various stages of development; space dust closest to the black holes (comprising the black wall) would get the strongest "push," dust farther away would be affected on a weaker level, and dust considerably far away would be affected the least and undergo a far slower development process.

Additionally, the black wall's mighty gravitational pull would drag all matter in the Universe outward in every direction, as if all matter had come from the point of the V-Bang. And it is this inner circle, or perhaps a small portion of it, that we now call the "visible Universe."

And there you have it; the V-Bang theory.

At this point the V-Bang already explains most of the major mysteries of the Universe that the big bang cannot. Some may be obvious, some not. But I'll go over all of them. The only mystery it does not yet explain is dark matter. I'll leave that toward the end because it indirectly ties in with the issue of why the infusion of all these virtual particles in the early Universe did not defy the law of conservation of energy, the explanation of which I will also leave for later.

Horizon problem

"[The "horizon problem" is something] scientists have had many problems with, to say the least. The truth is despite the fact that there are some solutions that would partially (or even totally) explain the issue, there is no satisfactory explanation to this Big

Bang related topic.

"Basically, our universe appears to be uniform; look in one part of the universe [one horizon], you'll find microwave background radiation filling it, at mostly the same temperature. Look in the opposite direction [another horizon], you'll find the same thing ... You have to keep in mind that nothing travels faster than the speed of light, and this is not about just matter, it's about physical properties and information too.

"The two edges of the Universe are 28 billion light years apart, and the universe is just 14 billion years old, so according to our understanding there is no way that heat radiation could have traveled between these horizons to even out the temperature difference. So the hot and cold spots that resulted after the Big Bang couldn't have been evened out; but they have. [How?] This has given scientists huge headaches, and solutions are just wishful thinking.

"The solution that seems to somewhat satisfy scientists is called 'inflation.' Inflationary theory relies on the idea that just after the Big Bang, the universe expanded by a factor of [many times] in [a small fraction of a] second. So this just solves [one] mystery to give another one [about inflation]."

With the V-Bang, a "contortion" like inflation theory is totally unnecessary, for the "horizon problem" does not even begin to be a problem. The Universe looks so uniform, and the microwave background radiation (MBR) is roughly the same temperature, in all directions because both matter and the MBR were created evenly throughout the Universe; they were not created in one location and propelled billions of light-years through space.

The small variations in the MBR temperature can be accounted for by a couple of processes. First, random particle collisions would not have been precisely, evenly distributed on the micro level. Then, an influx of massive new particles into space, immediately after the initial particle collisions that created the MBR, would have had a cooling effect at various locations on the micro level (in addition to an overall cooling effect on the macro level).

Neither are "lumpiness" and "large-scale structures" problems with the V-Bang.

The lumpiness problem, as described in more detail earlier, is basically this: "The Universe that we see today is very lumpy. There are planets, stars, galaxies, and clusters of galaxies. Yet when we look at the afterglow [of the Microwave Background Radiation] from the Big Bang, we see an incredibly smooth glow across the sky. So how did the matter in the Universe get to be so lumpy after starting out so smooth?"

The large-scale structure problem is: "Enormous cosmic voids and giant concentrations of matter have been observed ... One of the voids is so large that it is difficult to explain where it came from ... In fact the newly found void is so large that it is difficult to fit into our present understanding of the universe ... the finite time [of 14 billion years] available since the big bang makes it difficult to explain a void as large as the one found ... "

The lumpiness in the Universe is due to the fierce and violent coalescing of matter into stars, galaxies and black holes brought on by the black wall. Yet, on a macro level, the Universe looks the same in all directions because matter was created everywhere, in even distribution.

Large-scale structures and huge galaxies were made possible by black holes carving out large voids in a particle-cluttered Universe. The remaining mass then coalesced, giving the appearance of large structures.

Furthermore, a subsequent stage of the V-Bang may have produced even greater voids and structures. As the black wall continued to speed outward, and its circumference grew, the empty spaces between the black holes would have increased greatly. This would have resulted in a secondary, but weaker, phase of star, galaxy and black hole creation.

In other words, the structures that were created near the swaths of empty spaces (left behind by the black wall) would have had a similar, but somewhat weaker, effect on the space dust adjacent to them. This would have started a cascading process of star, black hole and galaxy creation until the outermost bodies would no longer have the energy to reproduce this effect.

The black wall would thus leave behind a plethora of rapidly developing stars, galaxies and black holes. Space dust in regions less effected by the black wall's gravitational pull would proceed at a slower development pace. And regions of space too far to be effected to any significant degree would remain dust-strewn voids.

In some cases, these voids may also have become devoid of all matter, as positive and negative particles annihilated each other.

(I've avoided the connotations of "positive" and "negative" with respect to particles up to this point because this is a separate issue, to be covered later. The ratio of negative to positive particles produced by "empty" space, I believe, varies, depending on cosmological conditions. But more on that later.)

The V-Bang, therefore, predicts that the farther out you look into space, the more cluttered with matter space should get. On the other hand, looking toward the center of the Universe, we should find more voids. That's because the smaller circumferences closer to ground zero of the V-Bang had less space and space dust with which to produce stellar bodies; therefore, the relatively few bodies that developed and then spread out over larger areas, as the Universe enlarged, created considerable voids.

Another prediction of the V-Bang would be that at the center of the Universe (ground zero of the V-Bang) there should be the biggest and "voidest" void of them all.

Why?

The infinitesimal moment after the Universe stopped expanding should have been enough time for the particles speeding outward to clear the vicinity of ground zero before a new wave of particles was born. These new particles would have had no speeding particles coming in from behind them to collide with, thereby creating an area at the center of the Universe with little or no matter or microwave background radiation.

Scientists have recently found a "hole" in space which is unexplainable with the big bang, but resembles the above prediction:

"Physics and Astronomy Online" website, physlink.com:

"University of Minnesota astronomers have found an enormous hole in the Universe, nearly a billion light-years across, empty of both normal matter such as stars, galaxies and gas, as well as the mysterious, unseen 'dark matter.' While earlier studies have shown holes, or voids, in the large-scale structure of the Universe, this new discovery dwarfs them all.

"'Not only has no one ever found a void this big, but we never even expected to find one this size,' said Lawrence Rudnick of the University of Minnesota astronomy professor. Rudnick, along with grad student Shea Brown and associate professor Liliya Williams, also of the University of Minnesota, reported their findings in a paper accepted for publication in the Astrophysical Journal.

"Astronomers have known for years that, on large scales, the Universe has voids largely empty of matter. However, most of these voids are much smaller than the one found by Rudnick and his colleagues. In addition, the number of discovered voids decreases as the size increases.

"'What we've found is not normal, based on either observational studies or on computer simulations of the large-scale evolution of the Universe,' Williams said.

"'Although our surprising results need independent confirmation, the slightly lower temperature of the CMB in this region appears to be caused by a huge hole devoid of nearly all matter roughly 6-10 billion light-years from Earth,' Rudnick said.

"How does a lack of matter cause a lower temperature in the Big Bang's remnant [MBR] radiation as seen from Earth?"

With the V-Bang, two ways.

One, if at the center of the Universe, it would have started out with no MBR at all and then the subsequent trickling in of radiation from nearby space.

Two, a massive influx of particles, in the early universe, into an empty void. The greater the void at the time, the cooler the MBR.

The above website goes on to explain, "The answer lies in dark energy ... " We still haven't got the faintest idea what dark energy is, how can you explain one mystery with another one of equal confusion?

Second Microwave Background

A January 2009 article in Scientific American, entitled "Background Radiation: Glow in the Dark - A second cosmic background radiation permeates the sky," stated " ... astronomers say they have found a second, younger [MBR] background. It is thought to be the first look at a previously unseen period of the universe -- between the release of the [first] microwave background and the formation of the earliest known galaxies ... "

What's interesting about this second MBR is that there's nothing in the big bang to account for its source. Apparently, scientists have discovered not only an event in the V-Bang, but precisely when it occurred: The black wall that tore through the particle-cluttered early Universe, initiating stellar evolution, would have created massive amounts of radiation, from Hawking Radiation to particle collision radiation -- and this happened "between the release of the [first] microwave background and the formation of the earliest known galaxies."

Dark Energy and the Universe's expansion

And now, the mystery of dark energy.

As mentioned earlier, "In the early 1990's, one thing was fairly certain about the expansion of the Universe. It might have enough energy density to stop its expansion and recollapse, it might have so little energy density that it would never stop expanding, but gravity was certain to slow the expansion as time went on. Granted, the slowing had not been observed, but, theoretically, the Universe had to slow. The Universe is full of matter and the attractive force of gravity pulls all matter together. Then came 1998 and the Hubble Space Telescope (HST) observations of very distant supernovae that showed that, a long time ago, the Universe was actually expanding more slowly than it is today. So the expansion of the Universe has not been slowing due to gravity, as everyone thought, it has been accelerating. No one expected this, no one knew how to explain it. But something was causing it."

Theorists have decided that there must be some unknown repulsive force in the Universe counteracting gravity and causing the Universe to expand faster. They've given this force a name: Dark Energy.

The problem with an expanding Universe, in the first place, is that our observations of heavenly bodies flying outward are more consistent with objects flying toward a strong gravitational field than with an expanding Universe. A gravitational field would explain why only space seems to be "expanding" and nothing else -- not stars, not planets, not atoms, not glass bottles, not paper bags, etc.

The enlarging ("expanding") Universe is, I'm convinced, due to the powerful tug of the black wall, which probably still contains the vast majority of the mass in the Universe. Objects "falling" toward a gravitational field will increase in speed as they fall (although never reaching the speed of light). As they get closer to the source of gravity, the light emitted by these objects (in the opposite direction of the source of gravity) becomes increasingly redshifted with the increase of the gravitational force. Thus, if you attribute the entire redshift to recessional speed, when in fact only a small portion of it is due to that, an object may appear to be travelling faster than the speed of light.

The rapid dimming of highly luminous objects in the sky, the notion on which a Universe expanding at an increasing rate is based, is due to an entirely different phenomenon and has nothing to do with dark energy. This phenomenon, which I will describe here, will also explain a number of other puzzles, namely, how the incredible "coincidence" of "Omega" equalling one (also described soon) is not a coincidence at all, and how vacuum fluctuations do not violate the law of conservation of energy.

Omega and "Critical Mass"

What is Omega?

Scientists have long struggled with the question of whether the Universe has enough mass for its gravitational pull to halt its expansion and cause it to recollapse. If it does, it will eventually recollapse into a "big crunch." If it does not have enough to halt its expansion, it will continue to expand forever. If it has just enough mass to halt its expansion but not enough to cause it to recollapse (called "critical mass"), the Universe will expand just enough to avoid collapsing and remain in a steady state (neither expanding nor collapsing) or perhaps keep expanding very slowly.

Scientists have given this relationship between "critical mass" and the amount of matter in the Universe a name: Omega. If the universe has critical mass, omega is equal to 1. If omega is less than 1, the Universe will expand forever. If omega is greater than 1, the expansion will reverse itself and collapse into a Big Crunch.

Omega today is believed to be between 0.1 and 2. For it to be so incredibly close to one today, it would have to have been (if we assume the Universe started as the big bang theory describes) between 0.999999999999999 and 1.000000000000001 one second after the big bang; for if omega had been off by slightly more than that, it would today be off by far more than it is.

The big bang can't explain why omega began so close to one. And the notion that omega remained so close to one after all these years, after so much evolution and activity in the Universe, seems like an incredible coincidence.

One analogy I've seen about the phenomenal coincidence of omega today being so close to one is: It's like walking into a busy office and seeing a pencil on a desk balanced in an upright position. You come back five years later to that same busy office and see the same pencil on the same desk still balanced in that same position. What are the odds of that?

Even some of those who swear by the big bang acknowledge that the odds against omega equalling 1 today is too incredible. The CalTech website nedwww.ipac.caltech.edu (which draws on research from the NASA/IPAC Extragalactic Database (NED) which is operated by the Jet Propulsion Laboratory, California Institute of Technology, under contract with NASA) puts it this way:

"Omega is very difficult to determine, but it is safe to say that its present value lies somewhere in the range of 0.1 to 2. That seems like a broad range, but consideration of the time development of the Universe leads to a spectacularly different point of view. Omega = 1 is an unstable 'equilibrium point' of cosmological evolution, which means that it resembles the situation of a pencil balancing on its sharpened tip. The phrase equilibrium point implies that if omega is ever exactly equal to one, it will remain exactly equal to one forever -- just as a pencil balanced precisely on end will, according to the laws of classical physics, remain forever vertical. The word unstable means that any deviation from the equilibrium point, in either direction, will rapidly grow. If the value of omega in the early Universe was just a little above one, it would have rapidly risen toward infinity; if it was just a smidgen below one, it would have rapidly fallen toward zero. For omega to be anywhere near one today, it must have been extraordinarily close to one at early times ... For omega to be anywhere in the allowed range today, at that time omega must have equaled one to an accuracy of 15 decimal places!

"A simple explosion gives no explanation for this razor-sharp finetuning, and indeed no explanation can be found in the traditional version of the Big Bang theory."

Virtual Particles

The omega problem and the problem of virtual particles violating the law of conservation of energy beg for new theories and explanations. The new theories I'm about to present should put both of these puzzles, and probably others, to rest.

The question of how something can come from nothing, when the Universe has a finite amount of energy, is only part of the problem. (It should be noted that there is no difference between positive and negative particles except for their electrical charges. It's not like negative particles don't really exist because they're negative. Both particles actually do exist, they just have different electrical charges, and they annihilate each other when they meet.) An equally pressing issue is, why are virtual particles popping in and out of existence altogether, regardless of whether they're violating the laws of physics?

I understand, there's an uncertainty about space energy. But that's the whole point: Why? Other forces of nature don't seem to be subject to "uncertainties:" gravity doesn't disappear and reappear, neither does light, neither does the weak force, neither does the strong force, etc. Why are subatomic particles, which mediate the above forces, doing a "dance" that has nothing to do with their function? To do their job, they could just as well remain in existence.

To add a new twist to an old Einstein phrase ("God doesn't play dice with the universe"): God doesn't do useless things.

I'm convinced that for virtual particles to be popping in and out of existence today, the process itself (not just their existence) must have as critical a function today as it had when it brought primordial matter into existence.

Space, I believe, does not create new energy and it never violates the law of energy conservation, not even for one moment. At the instant of the creation of the universe all the energy that will ever exist appeared. None of it has disappeared and no new energy has appeared since. Instead, space, it seems, is sort of an "energy distribution system;" it merely moves energy from one place to another.

How, and why?

Let's start again from the beginning of the V-Bang.

The V-Bang brought two things into existence; space and energy ("Time," I believe, is not a separate entity; it's an illusion resulting from the progression of events. But that's another matter.) Space came in the form of the expansion, and its underlying energy then produced virtual particles.

(As an aside, this already has one strong advantage over the big bang. Although virtual fluctuations are sometimes mentioned in discussions of the big bang, the bulk of matter in the big bang supposedly came from that microscopic point that expanded into our universe. Not only is there no explanation for where the matter of the big bang came from, but there is no parallel to that sudden appearance and expansion of such a massive amount of mass today to test or verify the theory against. In the V-Bang, however, it's only after space itself was created (which in itself, admittedly, is not verifiable under any theory) that virtual fluctuations, a verifiable process that goes on to this day, brought matter into existence.)

In the infinitesimal moment that the Universe was roughly the size of one virtual particle, one virtual particle came into existence. It contained all the energy the universe will ever contain. You might call it a virtual particle "on steroids." The gravitational force of that one particle would have been equal to that of all the matter in the universe today combined. What kept it from collapsing under its own gravity was the phenomenal outward thrust of the universe's expansion, which would have to have been the most powerful force ever to exist.

As the Universe reached the size of, say, one hundred particles, another 99 particles came into existence. But they did not violate the law of energy conservation; because the energy of the first particle now spread to the other ninety-nine. That is, each one of the 100 particles now had 100th the energy of the first particle.

By the time the Universe contained a billion particles, each particle had one billionth the energy of the first one. And so on. And by the time the expansion stopped, which took about a fraction of a second, the energy of the original particle was spread out over, or in the process of spreading to, a considerable amount of mass then in existence. Space, I believe, has barometric properties. A severely imbalanced distribution of matter activates a regulated influx of particles to voids that are disproportionately vacuous. The energy for new particles is taken from neighboring masses, which weaken in the process. This weakening is not perceptible because the energy "siphoned" off is spread out over large masses. In other words, if for every new particle created, ten billion nearby particles, for example, get slightly weaker, it's hardly perceptible. ("Nearby," by astronomical standards, could still mean many light-years away.)

When new particles annihilate each other, their energy is returned to the nearby masses, leaving no trace that the nearby masses ever suffered a temporary loss of energy. If new particles do not annihilate each other, but remain as real particles, the energy loss of the surrounding masses is propagated throughout the cosmos.

This energy propagation might be similar in some respects to heat transfer; as a heated object is placed next to a cooler object, the cooler object gets warmer and the warmer object gets cooler. Eventually, a mass that was once the source of energy for new particles, will regain much of its energy by "sharing" its loss with the rest of the universe.

So, in a universe as populated as ours is today, the slight fluctuations of energy levels within matter in various parts of the cosmos, most of it temporary, that results from the constant creation and annihilation of virtual particles, is hardly perceptible. To sense this energy ebb and flow today you'd probably have to look at huge cosmic regions. If we could peer into the first moments of the universe we could probably detect sudden transfers of huge amounts of energies more easily.

So, space and virtual particles today do more or less what they've been doing since the V-Bang; distributing matter. What has changed is the needs of the Universe. Whereas moments after the V-Bang much matter was needed in every corner of the cosmos, in today's Universe this need is on a far smaller scale, and perhaps more localized. And it is these changes in conditions that alter the ratio of positive vs. negative particles from one region of space to another and from one point in time to another.

So when scientists find that there is a greater tendency for a certain ratio of negative vs. positive particles, what they're seeing is the requirements for a particular time and place, which may have nothing to do with what's going on billions of light-years away or what has happened in the past.

This may also resolve the "missing negative particles" mystery. Scientists have long wondered where all the negative particles, that mysteriously did not annihilate the Universe at its inception, have gone. Maybe they never existed; in the great void that existed in the beginning of the universe there was little or no need for negative particles. So, mostly, or perhaps, only, positive particles were created.

What function do virtual particles have today?

One, to keep omega in check.

As the Universe enlarges and matter becomes more spread out, virtual fluctuations fill in newly formed large voids. The energy for the new matter, as explained earlier, can come from the annihilation of matter in just about any part of the Universe; from galaxies, intergalactic gas clouds or space dust, black holes, the

Black Wall, etc.

This doesn't mean we shouldn't find large voids. What we consider "large" may not be so by astronomical standards, in the sense that it throws the distribution of matter in the Universe out of kilter. If, let's say, regions adjacent to a large void are more densely packed with matter than average, they may offset the emptiness of the void, thereby eliminating the need for a massive influx of virtual particles.

And this, I believe, is what keeps the Universe in a state of equilibrium, and also resolves the omega problem. Omega equalling one is not at all a coincidence. It's a result of the never ending finetuning properties of space and virtual fluctuations.

Another way in which virtual particles may maintain the equilibrium of the cosmos is by keeping black holes in check. Black holes weaken or evaporate, according to Stephen Hawking, as a result of absorbing negative particles. The more massive the black hole, the greater its gravitational pull, the greater its "event horizon," and the more negative particles it will attract. (The event horizon is the point-of-no-return from which no energy or matter is, at this writing, believed to be able to escape the gravitational pull of the black hole.) The energy subsequently released by the black hole's absorption of negative particles is thus transported to other parts of the Universe in the form of Hawking Radiation. And the more massive the black hole, the more energy is distributed.

Virtual particles also keep humans from destroying themselves. By absorbing negative particles, micro black holes created with particle accelerators are kept from growing large enough to destroy earth.

Areas of the cosmos, on the other hand, where "corrections" are not necessary, positive and negative particles trickle in at a more even ratio, allowing for annihilations that result in no appreciable net effect.

This finetuning process that keeps omega close to one predicts that we will see objects in the sky, especially distant ones, that may be here today and gone, or less luminous, tomorrow. That is, we may have a clear line of sight to a galaxy or another object in the sky, but the next time we look it may display a fraction of its original brightness, or disappear altogether, as a result of an obstruction in our line of sight due to the formation of new matter; gas clouds, space dust, etc.

A reduction in brightness of heavenly bodies is, therefore, not necessarily an indication of increased velocity, especially not when the implied velocity is greater than the speed of light. And if it's not going that fast, it's not necessarily that far away.

Therefore, the comparison between a Cepheid variable star's reduced luminosity and its known luminosity cannot be used as an indicator of its distance from us or its velocity, as scientists have been doing for years. And it certainly cannot be used as evidence that the Universe's "expansion" rate is increasing.

Then, when you consider that the extreme redshifts of distant objects are due to the exponentially increasing gravitational pull of the black wall, there is no evidence at all to support the existence of the repulsive force called dark energy.

Faster Than Light Communication

One question that arises here is, if the loss of energy in one part of the Universe shows up instantly in another part, isn't this faster-than-light communication, and doesn't this defy Einstein's special theory of relativity?

Well, although scientists have accepted for years that communication faster than the speed of light was not possible, some strange things seem to happen at the quantum level. Something called "quantum entanglement" has proven that at the quantum level instant communication does happen. No, this is not a theory -- it's a proven fact. And, yes, it is believed it just might defy Einstein's special theory of relativity.

What is quantum entanglement? Here's a very simplified description:

Certain subatomic particle pairs seem to have a very strange relationship to each other -- they always spin in opposite directions. Even if you change the spin of one, the other one instantly changes its spin in the opposite direction. And this happens instantly no matter how far apart we separate the particles. How does this instant communication happen? Nobody knows, but it happens.

In his book, "The God Effect: Quantum Entanglement, Science's Strangest Phenomenon," physicist Brian Clegg states: "Entanglement is a strange feature of quantum physics, the science of the very small. It's possible to link together two quantum particles -- photons of light or atoms, for example -- in a special way that makes them effectively two parts of the same entity. You can then separate them as far as you like, and a change in one is instantly reflected in the other. This odd, faster than light link, is a fundamental aspect of quantum science. Erwin Schrodinger, who came up with the name 'entanglement' called it 'the characteristic trait of quantum mechanics.'"

A March 2009 article in Scientific American, entitled "Was Einstein Wrong?: A Quantum Threat to Special Relativity," states, "Quantum mechanics ... embraces action at a distance with a property called entanglement, in which two particles behave synchronously with no intermediary; it is nonlocal. This nonlocal effect is not merely counter-intuitive: it presents a serious problem to Einstein's special theory of relativity, thus shaking the foundations of physics."

The Internet Encyclopedia of Science, DavidDarling.info, puts it this way: " ... it's said [identical twins] can sometimes sense when one of the pair is in danger, even if they're oceans apart ... Scientists cast a skeptical eye over such claims, largely because it isn't clear how these weird connections could possibly work. Yet they've had to come to terms with something that's no less strange in the world of physics: an instantaneous link between particles that remains strong, secure, and undiluted no matter how far apart the particles may be -- even if they're on opposite sides of the universe. It's a link that Einstein went to his grave denying, yet its existence is now beyond dispute. This quantum equivalent of telepathy is demonstrated daily in laboratories around the world. It holds the key to future hyperspeed computing ... Its name is entanglement."

Are the same mechanics responsible for entanglement and the instant redistribution of energy? That's hard to tell; we have no idea what's behind entanglement. But what we do know for sure is that instant communication at the quantum level is real, and the condition of a particle in one part of the Universe can affect the condition of a particle in another part of the Universe. And it's this ability that adds a profound dimension to the already extraordinary phenomenon of instant communication.

That the energy of annihilated particles in one part of the Universe can instantly become the source of energy for the creation of new particles in another part of the Universe, and eventually get distributed to all matter in the Universe, seems well within quantum possibilities.

And for "space-energy" (which may perhaps be that same medium that acts as a conduit for instant quantum communication) to sense vacuous areas in space that are tugging omega out of kilter and

trigger an increase in virtual fluctuations, or a higher ratio of positive vs. negative virtual particle production, in those depleted regions, is not at all out of the question.

What seems less likely is the notion that an "uncertainty" in space-energy can somehow spawn the creation of particles out of energy that does not exist; this defies common sense, logic and the laws of nature. The only uncertainty about space energy is perhaps its ebb and flow; where and when particles will appear. Their creation, however, must have a source.

Thus, when we observe particles in some region of space popping into existence, it's a good bet that some other part of the cosmos, perhaps billions of light-years away, just lost energy of equivalent proportions. However, since we are not aware of where that energy was just lost, either because that region of space too far away or we've just never made the connection, it appears as if virtual particles violate the laws of nature by popping out of a non-existing source.

A Universe With Greater Energy In The Past

Is there any evidence today of our universe having started out with energy levels far greater than those of today and continually decreasing in potency? Absolutely. The evidence is all around us.

As pointed out earlier: Scientists have observed, " ... there is five times more material in clusters of galaxies than we would expect from the galaxies and hot gas we can see. Most of the stuff in clusters of galaxies is invisible and, since these are the largest structures in the Universe held together by gravity, scientists then conclude that most of the matter in the entire Universe is invisible."

In other words, the amount of gravity produced by galaxy clusters is not enough to keep them together; at the fast rate that they're spinning, they should disintegrate. But since they're not disintegrating, scientists have concluded that galaxy clusters must contain much more mass (since, the more mass, the more gravity), and have called this invisible mass "dark matter."

Early observations suggested that there was a 6 to 1 ratio between dark matter and regular matter. But after examining 100 galaxies, astronomer Stacy McGaugh (of the Department of Astronomy at the University of Maryland) found they all had less regular matter than predicted. Our own galaxy, the Milky Way, had only a quarter of the predicted amount of regular matter, and many small galaxies had a mere 0.05 percent of the predicted amount of regular matter.

According to an article, "Galaxy Without Dark Matter Puzzles Astronomers," in February 2008 on NewScientist.com, a team of astronomers from the Polish Academy of Science in Krakow have even discovered what seems to be a galaxy (named NGC 4736) with little or no dark matter.

It's one thing to have no explanation for what dark matter is, it's quite another thing for its ratio of distribution to be so inconsistent. Perhaps this inconsistency is the biggest clue we've had yet into the dark matter dilemma -- maybe dark matter doesn't exist, and what we're observing is an entirely different phenomenon.

More than 70 years after the discovery in the 1930s that the visible matter of stars, galaxies and clouds of cosmic dust account for less than 5 per cent of the total mass of the Universe, we've found no direct, hard evidence of dark matter. And not out of lack trying.

An article in PhysicsWorld.com, as late as Jun 2, 2010, stated:

It's "Hardly surprising ... that so much attention was given to a paper written last year by the members of the Cryogenic Dark Matter Search (CDMS-II) detailing their evidence for dark matter (arxiv:0912.3592v1). The CDMS-II collaboration is looking for evidence of collisions between Weakly Interacting Massive neutral

Particles (or WIMPs) -- a leading candidate for dark matter -- and nuclei of germanium in a detector in a mine in Soudan, Minnesota. The detector is located 700 m underground to minimize background noise from neutrons produced in cosmic-ray collisions, which can mimic real WIMP signals.

"CDMS-II spokesperson Jodi Cooley revealed that the researchers had found only two events, compared with 0.5 expected from background, yielding a confidence level of about 21%. Physicists normally expect more -- at least 99.73%. 'The results cannot be interpreted as significant evidence for WIMP interactions,' Cooley admitted in her talk, 'but we cannot reject the possibility that either event is signal.'

In a universe that's supposed to be brimming -- at least 25% -- with dark matter, to find only two dark-matter-candidate events in 70 years, and for even those two to be questionable, would seem to suggest there may not be dark matter out there.

That's not to say there can't be some form of hitherto unknown, mysterious matter lurking in some corner of the universe. But in amounts that can account for the plethora of dark-matter-related observations, that doesn't seem very likely.

The V-Bang, fortunately, does not need dark matter to explain most dark-matter-related observations. It's important to remember one of the major differences between the big bang and the V-Bang. A basic overview of the big bang is easy to describe: something or other expanded or exploded, and things have been expanding or flying apart ever since. The complexities come in when you attempt to reconcile theory with observation. And the more observations, the more "contortionist" the theory gets.

The V-Bang, on the other hand, is almost the precise opposite. The theory of how the V-Bang universe began can get complicated. But once the theory is laid out in detail, most observations can be astonishingly easy to explain.

Most, if not all, dark-matter-related observations, and a few other unrelated observations, can be explained with the V-Bang's concept of an early universe that contained the same amount of energy as it does today packed into far less matter, enhancing many features of the basic building blocks of matter.

Being that mass produces gravity, gravitational forces in the early universe would have been more powerful in direct proportion to the enhanced properties of matter. Over time, as the universe filled with more matter, matter and gravity would decrease in potency.

Gravity in the first few moments of the V-Bang could have been powerful enough that a chunk of matter the size of earth, for example, could conceivably have exerted greater gravitational pull than an average black hole today.

Fast-spinning galaxies that formed in the early V-Bang universe, therefore, would not have disintegrated because they had far greater gravitational pull than galaxies of the same size that formed later on.

In most of our celestial observations, we're seeing galaxies as they appeared in the past. So if you take a reading of these galaxies' gravitational fields using the gravity strength of today's matter as a model, they give the impression of containing dark matter. That is, today's gravity couldn't hold some of these galaxies together, while past gravitational strengths could.

Furthermore, even if we were to observe two equal-sized galaxies as they appeared in the same period in the past, they could still exert different gravitational strengths. That's because matter that coalesced earlier would have done so with greater impact and therefore in more compact form due to greater gravity. As a result, the galaxy that formed earlier would have greater gravity, even though we now see both as they appeared in the same time period.

This, then, explains not only our observations of "dark matter," but also the different ratios of "dark matter" to regular matter; celestial bodies exert gravitational forces consistent with the time periods in which we're observing them and the time periods in which they were formed. This opens up the heavens to a host of bodies of the same size with a wide range of gravitational strengths.

Now, if the V-Bang's theory of declining natural forces explained only dark matter, as if that were not enough, you might be tempted to wait for a less drastic theory. But it explains a host of other unresolved cosmological mysteries, some of which defy our current understanding of galaxy formation.

One anomaly relates to the structure of galaxies, the center of which generally contain a black hole. An article in the May 2010 issue of Discover magazine describes research done by an international team of scientists using the Very Large Array radio telescope in New Mexico and the Plateau de Bure Interferometer in France to probe deep space, examining the black-hole-to-galaxy mass ratio. That is, they probed what percentage of a galaxy's total mass lies in its central black hole.

What they found was a very peculiar difference between younger and older galaxies. "Although the astronomers admit their error bars are large, they find that black holes in the early universe are much heavier relative to their host galaxies than they are today -- a ratio of about 1/3o as opposed to the current 1/7oo."

A few theories were thrown around to explain this finding. But one member of the team, Dominik Riechers of the California Institute of Technology, conceded, "it's so new that there's not yet a good theory to account for it."

The article goes on, "As if things weren't confusing enough, even the masses of giant black holes now seem to be up for grabs. In 2009, [a team from] the Max Planck Institute for Extraterrestrial Physics and University of Texas analyzed the masses of the central black holes in M87 and M60, two large galaxies in the Virgo cluster. The team found that astronomers may have underestimated the masses by a factor of two and suggests that similar revisions may be necessary for most, if not all, supermassive black holes in large galaxies."

These findings seriously challenge the currently accepted fundamentals of galaxy formation. And that these findings are "new," probably has little to do with the lack of viable explanations. The standard big bang, I don't believe will ever explain them.

The V-Bang, on the other hand, explains these findings quite readily; no waiting for new theories necessary. In fact, the explanations are so simple, if you're a seasoned scientist you might be tempted, out of sheer habit, to look for something more complicated. But, as I mentioned earlier, the basic description of the V-Bang theory may be more complicated than the big bang, but reconciling between theory and observation, sometimes not even possible with the big bang, is generally relatively simple with the V-Bang.

The theories of galaxy formation are described on NASA's website this way:

"Scientists have proposed two main kinds of theories of the origin of galaxies: (1) bottom-up theories and (2) top-down theories. The starting point for both kinds of theories is the big bang, the explosion with which the universe began 10 billion to 20 billion years ago. Shortly after the big bang, masses of gas began to gather together or collapse. Gravity then slowly compressed these masses into galaxies.

"The two kinds of theories differ concerning how the galaxies evolved. Bottom-up theories state that much smaller objects such as globular clusters [collections of stars] formed first. These objects then merged to form galaxies. According to top-down theories, large objects such as galaxies and clusters of galaxies formed first.

The smaller groups of stars then formed within them. But all big bang theories of galaxy formation agree that no new galaxies -- or very few -- have formed since the earliest times."

An article entitled "Galaxies Appear Simpler Than Expected," in the October 2008 issue of Nature, puts a damper on the above two theories:

"Galaxies are complex systems the evolution of which apparently results from the interplay of dynamics, star formation, chemical enrichment and feedback from supernova explosions and supermassive black holes. The hierarchical theory of galaxy formation holds that galaxies are assembled from smaller pieces, through numerous mergers of cold dark matter. The properties of an individual galaxy should be controlled by six independent parameters including mass, angular momentum, baryon fraction, age and size, as well as by the accidents of its recent haphazard merger history.

"Here we report that a sample of galaxies that were first detected through their neutral hydrogen radio-frequency emission, and are thus free from optical selection effects, shows five independent correlations among six independent observables, despite having a wide range of properties.

"This implies that the structure of these galaxies must be controlled by a single parameter, although we cannot identify this parameter from our data set. Such a degree of organization appears to be at odds with hierarchical galaxy formation, a central tenet of the cold dark matter model in cosmology.

Another article in the same month of Nature reads:

"A study of galaxies indicates that galaxy formation may be regulated by a single parameter. This unexpected finding shows that prevailing views on the process could need revision.

"The current theory of galaxy formation holds that galaxies were assembled through the chaotic hierarchical merging of massive haloes of dark matter, in which star-forming matter was later embedded. One would therefore expect the properties of individual galaxies to be determined by numerous independent factors, such as star-forming history, merger history, mass, angular momentum, size and environment.

"It is thus surprising that galaxies seem to form an (almost) one-parameter family in which their mass is the dominant factor, as an investigation by Disney [of the Geography Department at University College London] et al suggests."

With the V-Bang, however, this finding is not surprising at all. The powerful thrust of the instant expansion of the universe, and the subsequent formation and catapulting of massive black holes ("the black wall") throughout the cosmos, is what kicked off the earliest, most powerful and massive galaxy formations.

Additionally, galaxy formation in the V-Bang did not need anywhere near the enormous amount of time required with the big bang. The greatest burst of galaxy formation would have been initiated very early on, close to the inception of the universe.

(Incidentally, in the V-Bang "old" doesn't necessarily mean "far away," as it generally means in the big bang. In the V-Bang, a galaxy can be almost as old as the universe itself, yet be very close to us in space, or it can be twenty billion light-years away and be relatively young.

This said, "distance from us," even in the V-Bang, does have some bearing on how far in the past we're seeing an object relative to another object. That is, if we see a galaxy 2 millon light-years away, we're seeing it as it appeared farther back in the past compared to a galaxy that's only 1 million light-years away. But it does not tell us how old these galaxies are. In fact, the galaxy closer to us may be much older than the one farther away.

And just as matter and gravity were of a more robust nature in the past, so was light. This will be discussed later.)

The dominant factor in galaxy formation in the V-Bang would have been it's mass, as the evidence suggests. Although some accretion would have occurred, the many stages of accretion essential to the big bang would not have been necessary in the V-Bang.

Before getting to the point of why the black-hole-to-galaxy mass ratios vary so greatly between some galaxies, it's interesting to note that the above NASA article states, "But all big bang theories of galaxy formation agree that no new galaxies -- or very few -- have formed since the earliest times." This in itself is quite perplexing. With the big bang model, it had to take an enormous amount of time for gravity to cause space dust and fragments to coalesce into the super structures we see today. How could such structures form in the early universe?

An articles on Space.com on January, 19, 2004, entitled "Ancient Cosmic Superstructure Defies Theory," described the problem this way:

"A string of ancient galaxies has thrown astronomers for a loop by defying standard predictions for the evolution of the universe. The colossal structure hints at possible misunderstandings of how the universe, or maybe mysterious dark matter, behaved shortly after the universe was born.

"The arc of galaxies [observed] is arranged in an easily defined, gravitationally bound superstructure. But it's so old -- forming just 2.8 billion years after the Big Bang -- that astronomers aren't sure how it had enough time to develop.

"While the modern universe is full of galaxy clusters, it should not have been that way so long ago.

"'This is the earliest and largest structure of galaxies that we have ever seen,' said Povilas Palunas, an astronomer with the University of Texas and lead author of a report on the study. 'And we find its a discrepancy with what all models predict for the early universe.'"

Some even question as to whether the currently accepted age of the universe of 10 to 20 billion years was enough time for super structures to form at all. That super structures formed in the early universe, totally defies explanation, according to the big bang.

With the V-Bang, of course, all this is not a problem. The initiation of galaxy formation, a process that would have taken billions of years under the big bang, was set in motion within the first few moments of the inception of the universe.

As an aside, although the powerful particle collisions of the initial moments of the universe would have created extreme heat and radiation, a state that may not have been conducive to the formation of matter as we know it today, the unrelenting massive influx of new particles during that period would have cooled all matter down relatively quickly, sort of like a fire extinguisher cooling smoldering wood. This, again, is a process that would have taken many years under the big bang, but almost no time under the V-Bang.

Now, here's what's behind black-hole-to-galaxy mass ratios, according to the V-Bang.

In the initial stages of the V-Bang, matter's enormous gravity would have collapsed much of the swirling space particles (that had been set in motion by the powerful outward thrust of the "black wall" traversing the cosmos) into extremely compact and massive black holes, which would later form the core of many galaxies. As time went on and gravity decreased, newly formed stars, whether they formed within the galaxy or were pulled in after formation, would have been composed of lesser compacted matter. As a galaxy grew larger over the years, each successive layer of new stars would be less compact.

As a result, the core of a galaxy should generally have a greater mass density than the outer layers. The difference in core-to-galaxy mass ratio from one galaxy to another therefore depends on how long it took for the galaxy to form and in what period in the universe's history it formed. The longer the formation process, the less mass density the outer layers will have, making for a greater black-hole-to-galaxy mass ratio.

And since the decline in energy and therefore the decrease in gravity would likely have been more rapid in the earliest stages of the universe, when the most massive amounts of particles were created, two galaxies taking the same amount of time to form but formed in different periods of the universe's history would also have different core-to-galaxy mass ratios.

So, the size of a galaxy has less to do with its overall weight and black-hole-to-galaxy mass ratio than the circumstances surrounding its formation. Which leaves the door open for a host of "anomalies" and "contradictions" under the big bang model, but easily explainable phenomena under the V-Bang.

The evidence for an early universe with strong gravity goes far beyond black-hole-to-galaxy mass ratio. There are galaxies that show signs of having been formed in their entirety under extremely strong gravitational fields, as described in a PhysOrg.com, April 29, 2008, article entitled "Compact Galaxies in Early Universe Pack a Big Punch:"

"Imagine receiving an announcement touting the birth of a baby 50 centimeters long and weighing 80 kilograms. After reading this puzzling message, you would immediately think the baby's weight was a misprint.

"Astronomers looking at galaxies in the Universe's distant past received a similar perplexing announcement when they found nine young, compact galaxies, each weighing in at 200 billion times the mass of the Sun. The galaxies, each only 5,000 light-years across, are a fraction of the size of today's grownup galaxies but contain approximately the same number of stars."

A NewScientist.com, August 19, 2008, article entitled "Bloating Galaxies Confound Astronomers" describes scientists' bewilderment about the origin of compact galaxies:

"Astronomers continue to puzzle over the recent discovery of a strange population of dense, compact galaxies that existed in the early universe but are nowhere to be seen today. They suspect the galaxies somehow puffed up into the bloated behemoths we see around us, but new research shortens the timescale during which this mysterious swelling could have happened.

"In April, astronomers reported finding extremely compact galaxies as far back as 10 billion years ago, or 3.7 billion years after the big bang. The galaxies contained the same number of stars as modern, blob-shaped galaxies known as ellipticals -- but were two to three times smaller on average.

"Now, observations have turned up compact galaxies roughly a billion years later, when the universe was almost 5 billion years old. Some, dubbed 'red nuggets', are extremely compact -- weighing as much as modern ellipticals, but measuring as little as a tenth their size.

"'There's nothing like this in the nearby universe,' says astronomer Roberto Abraham of the University of Toronto in Canada. 'These things are a complete, out-of-left-field surprise.'"

An article on DailyGalaxy.com, June 09, 2010, "Could the Universe Be Older Than We Think?", takes it a step further. How can fully matured galaxies, it questions, exist alongside these compact galaxies -- the two should've existed in different time periods? It also questions how fully-matured galaxies can exist so early in the universe's history altogether:

"Early in its life it appears that our Universe was a place of puzzling extremes and seeming contradictions. That's the conclusion scientists are drawing from new infrared observations of a very distant, unusually bright and massive elliptical galaxy.

"This galaxy was spotted 10 billion light years away [which, according the big bang, means it's 10 billion years old] ...

"Measurements show that the galaxy is as large and equally dense as elliptical galaxies that can be found much closer to us. Coupled with recent observations by a different research team -- which found a very compact and extremely dense elliptical galaxy in the early Universe -- the findings deepen the puzzle over how 'fully grown' galaxies can exist alongside seemingly 'immature' compact galaxies in the young Universe.

"'What our observations show is that alongside these compact galaxies were other ellipticals that were anything up to 100 times less dense and between two and five times larger -- essentially 'fully grown' -- and much more like the ellipticals we see in the local Universe around us,' explains Michele Cappellari of Oxford University's Department of Physics, an author of a report of the research in The Astrophysical Journal Letters. 'The mystery is how these two different extremes, 'grown up' and seemingly 'immature' ellipticals, co-existed so early on in the evolution of the Universe.'"

The confusion comes from the fact that according to the big bang heavenly bodies farther away from us are supposedly older than bodies closer to us. A galaxy ten billion light-years away, for example, is supposedly ten billion years old, a galaxy 5 thousand light-years away is only 5 thousand years old, etc. So if the universe is roughly 15 billion years old, then a fully developed galaxy 10 billion light-years away would have reached maturity pretty close to the beginning of the universe.

But given the big bang's scenario of galaxy development, where space particles had to wait for gravity to pull massive amounts of matter together, it's questionable whether this process could have happened so early in the universe's history. And if it did happen so quickly, why haven't those "immature," compact galaxies developed as well?

With the V-Bang, not only is all this not a problem, but these observations fit in so well that they go a long way in corroborating the V-Bang.

To begin with, how far away a body in the sky is from us has little to do with its age. With the V-Bang, a galaxy 10 billion light-years away can be the same age as a galaxy 5 thousand light-years away. That's because in the V-Bang galaxy development was initiated throughout the entire universe at the same moment by the powerful outward thrust of the "black wall" (the massive black holes created in the first moments of the universe).

Once these "first round" galaxies were set in motion, they, in turn, set other matter around them in motion (matter that was not close

enough to become part of these galaxies, yet close enough to be impacted by their gravitational fields), producing a second round of galaxy development. The second round then set in motion a third round, and so on.
With each successive cycle of galaxy development less energetic than the previous, these cycles continued until there was either not enough punch left to initiate another cycle or there was not enough matter in the vicinity to create more galaxies.

So, with the V-Bang, young and old galaxies can coexist alongside each other. Galaxy-age has to do with which cycle the galaxy was born in rather than how far away it is. In fact, it's the powerful gyrations of an older galaxy that initiated the formation of a newer one; so you would expect "old" and "young" to be in proximity to each other.

Furthermore, age differences in the V-Bang are nowhere near as great as they are in the big bang. Many "young" and "old" galaxies in the big bang would have differences in the millions or billions of years because of the enormous amount of time required for gravity to set in motion the massive amounts of matter needed to form galaxies. The appearance of the first galaxies, according to the big bang timeline, is estimated to be at least 300 million years.

This enormous amount of time alone was completely circumvented by the V-Bang by the tremendous push matter received from the immediate after-effects of the universe's expansion, namely, the outward thrust of the black wall. Thus, the initiation of galaxy development in the V-Bang happened almost immediately upon the creation of the universe.

Even that "cooling period" of the first 300,000 years of the big bang universe never happened in the V-Bang. The big bang model says that matter in the first 300,000 years of the universe's existence, having just gone through a tremendous explosion/expansion, was a "soup" of some sort, too hot for atoms that dominate today's universe to have formed.

In the V-Bang, however, the initial particles to enter the universe were not part of the expansion itself, but only appeared as the expansion created the space for virtual fluctuation to occur. And, rather than "expanding" with the universe, these particles were merely propelled outward by the instant expansion of the universe to extremely high speeds. Further, these relatively few initial particles, which contained all the energy the universe will ever contain, were, aside from being far more energetic than today's particles, not much different from today's particles in terms of structure and function, and not necessarily even hotter.

It's only after these extremely high-speed particles collided with new stationary particles that appeared the moment the universe ceased expanding that tremendous heat and radiation were generated (which is likely the source of the Cosmic Microwave Background Radiation (CMB) that's still detectable to this day). But, unlike the long cooling period needed in the big bang, this heat would have cooled relatively quickly due to the continual influx of massive new "cold" particles, much like a fire extinguisher dousing a fire. How long would the V-Bang's cooling period have taken? That's anybody's guess. Hours or days are probably good guesses; certainly not millions of years.

In short, the V-Bang did not start with a "hot soup," it did not need millions of years to cool, galaxy formation happened at an incomparably swifter pace than in the big bang, and, with a galaxy's distance from us having little to do with its age, there's no reason why "young" and "old" galaxies cannot be in close proximity to each other.

Now, getting back to compact galaxies. Although young and old bodies can appear next to each in space, compact galaxies are not necessarily "immature." They generally do not appear to be underdeveloped in any way other than being compact, and often contain the same total mass and number of stars as galaxies several times their size. Compact galaxies are therefore exactly the kind of fully matured galaxies you'd expect to find in a universe with stronger gravity.

Some scientists have speculated that a universe with stronger gravity might have crushed even bodies the size of earth into black holes. That may be so, if everything else in the universe -- all other forces and constants -- were the same as they are today, and only gravity increased. But in a universe where everything -- including the basic building blocks of matter -- had a more potent and dynamic makeup, the atomic force would be powerful enough to withstand stronger gravity in the same way that today's nuclear force prevents earth-sized and larger bodies from collapsing into black holes.

The Illusion of Dark Matter

In our current universe, any galaxy will appear to have far greater gravity than it should if it's old enough. Both its stronger gravity in the past and its greater mass density will be contributing factors. Which means, even if we see a galaxy as it appeared more recently, when gravity had already decreased to levels closer to today's, the galaxy's great mass may, if it's old enough, make it appear to exert far greater gravity than it should for a body that size.

(Remember, in the V-Bang you can see a galaxy as it appeared, let's say, a thousand years ago although it may be much older. In other words, even if we assume light in the past traveled the same speed as today, which is not necessarily the case, light from a galaxy a thousand light-years away would have taken a thousand years to get here. But the light that left it two thousand years ago is long gone. So we'd see a galaxy that could be five thousand years old, but we're seeing it as it appeared only one thousand years ago.)

In some cases, the impression of having an extraordinarily great ratio of "dark matter" to regular matter is given by a galaxy that has lost most of its stars. A galaxy's core, in general, is known to contain the greatest density of matter relative to the rest of the galaxy. So, if a galaxy were to lose its stars and be left with little else but its core, the illusion of having a great ratio of dark to regular matter would become greatly exaggerated.

Can a galaxy lose its stars? Yes. Galaxies keep their stars in orbit the same way our Sun keeps the planets in our solar system in orbit; through gravity. If the Sun's gravity were to weaken, some of the planets would move out into more distant orbits, while those farthest from the sun, which were being held in orbit by weaker gravitational forces to begin with, might fly out of our solar system altogether.

In the same way, in a universe with declining gravity, galaxies should eventually go through a stage of de-evolution. That is, as gravity weakens, galaxies should lose their grip on many of their stars and fling them out into intergalactic space. What's more, if the gravity reduction is great enough and the stars' orbital speeds are fast enough, a galaxy could conceivably lose a majority, or perhaps even all, of its stars. What you wind up then is with a "dwarf galaxy."

Dwarf Galaxies and Galaxy Formation

"A good example of a dwarf galaxy is the 'Large Magellanic Cloud,' located about 160,000 light-years from Earth. It contains about 1/10th the mass of the Milky Way, and has about 10% of its stars. Two other dwarf galaxies are even closer to the Milky Way, and have been captured by our galaxy's gravity. Other dwarf galaxies are just remnants that have been torn apart by the Milky Way's gravity, and are currently being incorporated into the structure of our galaxy."

This article from UniverseToday.com, entitled, "Dwarf Galaxies," goes on:

"The smallest dwarf galaxies in the Universe are known as ultra compact dwarf galaxies. ... [They] can be as small as 200 light-years across [as compared to our Milky Way's 100,000 light-year diameter] and contain about a hundred million stars [as compared to our Milky Way's estimated 200 billion stars]. It's thought that ultra compact dwarf galaxies are just the cores of dwarf elliptical galaxies that were stripped of gas and outlying stars."

Dwarf galaxies are believed to be by far the most numerous galaxies in the Universe. There are at least 30 of them just around our own Milky Way.

Current theory holds that dwarf galaxies were formed in collisions with larger galaxies, with the larger galaxies stripping away the smaller galaxy's stars. But this theory has some problems, as articulated by the following excerpt of the above article:

"The research team [in this study of dwarf galaxies] has ... been able to show that most of these ... [dwarf] galaxies rotate in the same direction around the Milky Way, like the planets revolve around the Sun ... The physicists believe that this phenomenon can only be explained if the satellites were created a long time ago through collisions between younger galaxies.

"'The fragments produced by such an event can form rotating dwarf galaxies,' Manuel Metz [an astrophysicist at the German Aero-space Center] said. But there is an interesting catch to this crash theory, 'theoretical calculations tell us that the satellites created cannot contain any dark matter.' This assumption, however, stands in contradiction to another observation. 'The stars in the satellites we have observed are moving much faster than predicted by the Gravitational Law. If classical physics holds, this can only be attributed to the presence of dark matter.'

"Or one must assume that some basic fundamental principles of physics have hitherto been incorrectly understood. 'The only solution would be to reject Newton's classical theory of gravitation,' adds Pavel Kroupa [an astronomer at Bonn University]. 'We probably live in a non-Newton universe. If this is true, then our observations could be explained without dark matter.' Such approaches are finding support amongst other research teams in Europe, too."

In other words, these dwarf galaxies seem to contain too much matter. That is, they exert too much gravity to have formed in compliance with current theory. And the problem with the collision theory doesn't stop there. An article entitled, "Milky Way's Neighbouring Galaxies Have Different History," on RedOrbit.com in November of 2006, goes even further:

"A large survey, made with ESO's VLT [European Southern Observatory's Very Large Telescope], has shed light on our

Galaxy's ancestry. After determining the chemical composition of over 2000 stars in four of the nearest dwarf galaxies to our own, astronomers have demonstrated fundamental differences in their make-up, casting doubt on the theory that these diminutive galaxies could ever have formed the building blocks of our Milky Way Galaxy [through collisions].

"'The chemistry we see in the stars in these dwarf galaxies is just not consistent with current cosmological models,' said Amina Helmi of the Kapteyn Astronomical Institute in Groningen, The Netherlands, and lead author of the paper presenting the results. 'It shows that there is plenty of astronomy to learn in our backyard.'"

The same problem is raised in DailyGalaxy.com, "Are Ancient Dwarf Galaxies Orbiting the Milky Way Clues to Dark Matter Mystery?" July 29, 2010:

"If dwarf galaxies are indeed the building blocks of larger galaxies, then the same kinds of stars should be found in both kinds of galaxies, especially in the case of old, 'metal-poor' stars ... Surveys over the past decade have failed to turn up any such extremely metal-poor stars in dwarf galaxies, however.

"'The Milky Way seemed to have stars that were much more primitive than any of the stars in any of the dwarf galaxies,' says co-author Josh Simon of the Observatories of the Carnegie Institution. 'If dwarf galaxies were the original components of the

Milky Way, then it's hard to understand why they wouldn't have similar stars.'"

European Southern Observatory's website, February 17, 2010:

"Cosmologists think that larger galaxies like the Milky Way formed from the merger of smaller galaxies. Our Milky Way's population of extremely metal-poor or 'primitive' stars should already have been present in the dwarf galaxies from which it formed, and similar populations should be present in other dwarf galaxies. 'So far, evidence for them has been scarce,' says Giuseppina Battaglia, co-author of a report on the study of over 2,000 giant stars in four nearby galaxies. 'Large surveys conducted in the last few years kept showing that the most ancient populations of stars in the Milky Way and dwarf galaxies did not match, which was not at all expected from cosmological models.'"

What this means is, given our understanding of galaxy formation, we can't explain why some galaxies are big and others are small. One explanation touches on the subject, but doesn't quite explain it. In 2002, astronomers, using NASA's Chandra X-ray Observatory, discovered that a nearby dwarf galaxy is spewing oxygen and other heavy elements into intergalactic space, supporting the idea that dwarf galaxies might be responsible for most of the heavy elements between galaxies.

Then, in January 2010, scientists described computer simulations that showed winds generated by supernovas (the explosion of huge stars) can push stars and gas clouds out from the center of dwarf galaxies. The ejection of mass from dwarf galaxies, astronomers believe, is made possible by the fact that dwarf galaxies have less gravity than big galaxies.

This may explain why dwarf galaxies are emptier -- less stars crammed into their centers -- than large galaxies. But it doesn't explain how they became dwarfs in the first place.

If dwarf galaxies were ever the size of our Milky Way, for example, their gravity would have prevented them from shooting all that mass into outer space. So how did dwarf galaxies become so diminutive?

The V-Bang explains all this very nicely. What's more, it does so within the framework of the basic theory already laid out, without the need for new, entangled, theoretical appendages. To show how, a quick recap of the V-Bang is in order.

In the V-Bang, the most powerful force ever to exist in the universe was the expansion of the universe itself. The fastest particles ever to fly across the universe would have been the virtual particles -- electrons, neutrons, protons, photons, etc. -- that came into existence during the expansion, travelling outward at the speed of the expansion.

Probably the most massive and compressed chunks of mass ever to exist were the black holes (the black wall) created when the universe stopped expanding and the particles flying outward collided with new virtual particles making their first appearance in the universe. The impact of these collisions also sent these black holes flying outward at terrific speeds in every direction, probably resembling a spectacular fireworks display.

The particle collisions that created these black holes would have released tremendous heat and radiation across the cosmos. This is likely the source of the cosmic microwave background (CMB) radiation (also known as CMBR, CBR, MBR, and relic radiation).

Under these extremely hot conditions, sub-atomic particles would probably not have functioned as they do today. But the universe was quickly cooled by the constant, massive influx of new, "cold" particles, allowing particles to then interact with each other in much the same way that they do today.

These particles combined to make up the simplest of elements: hydrogen, which has one proton and one electron, and is believed to make up 75% of the universe. Also likely to have been created was the "light" element Helium, which has 2 protons, 2 electrons and 2 neutrons, and is believed to make up most of the rest of the 25% of the universe.

It is widely believed that nucleosynthesis, the process that creates heavier elements by fusing lighter elements together, requires either the extreme heat of the thermonuclear furnace of a star or the powerful shockwaves of a supernova (exploding star). Both of these conditions were met in the next phase of the V-Bang.

As the black wall grew in diameter, the gaps between its constituent black holes widened, allowing space particles to "fall through the cracks." Particles that were too close to the powerful gravitational fields of the speeding black holes would get sucked into the black holes, those particles too far away would not be effected much, while those particles in the middle (not too close to get sucked in and not too far to escape strong gravitational tugs) would be most instrumental in forming new elements -- oxygen, carbon, neon, nitrogen, magnesium, iron and the rest of the periodic table -- and the first generation of stars, as follows:

The powerful gravitation pull of the speeding black holes would pull massive amounts of virtual particles along with them. This might be analogous to a powerful magnet flung at high speed through a mist consisting of magnetized filings. Many filings pulled along with the magnet would collide with other filings. As the filings would fail to keep up with the magnet's great speed, their attraction to the magnet would be broken and they'd fall back upon themselves, under their own magnetic pull.

In a similar manner, the powerful particle collisions triggered by the massive black holes speeding through a universe filled with enormous amounts of virtual particles would likely have created the extreme heat and great shockwaves necessary to produce probably every naturally occurring element, secondary black holes and the initial conditions that set star and galaxy formation into motion.

These secondary black holes would have been created from the particles closest to, but not close enough to get sucked into, the (black wall's) speeding black holes. Although not as powerful as the originals, these secondary black holes would still be powerful enough to become the centers of massive galaxies.

Particles farther away from the speeding black holes would receive enough of a jolt to form the heaviest elements, while particles a little farther away would receive a lesser jolt and form lighter elements, on so on, until the farthest particles (still close enough to be impacted) would form the lightest elements.

Scientists have detected the telltale signs of a secondary CMBR that can't be explained by the big bang. The powerful impacts just described, of the black wall initiating star formation, could very well account for it.

Then, the gyrations of these first generation stars and galaxies would have set in motion more mass that would initiate the formation of second generation stars and galaxies, but with less energy. The second generation would then initiate the third generation, with even less energy. And this chain of events would continue, with each generation of stars and galaxies having less energy and impact than the previous. Eventually, this process would run out of "steam." And that's basically the universe we live in today.

Yes, perhaps there are still some stars and galaxies being formed here and there today, and there are probably many stars still churning out heavy elements. But, for the most part, the formation of new stars and galaxies has trickled down to a small fraction of its original pace, and most of the heavy elements in the universe were created in the first few moments of the V-Bang.

Thus, lighter elements account for about 99% of the matter in the universe for two reasons. First, With the enlargement of the black wall, more particles would be "lightly" impacted by its gravitational tugs, and less particles would be "heavily" impacted. Secondly, and probably a more important factor, lighter elements have continued to form from secondary and subsequent generation of stars long after the strongest forces subsided.

As a result, the V-Bang's description of star and galaxy formation fits in very nicely with the hierarchy of elements and mass densities observed in many galaxies. At the center of almost every galaxy is a massive black hole; this would have been created by the powerful forces of the speeding black wall. The area immediately surrounding the centers of galaxies (but still far enough that its matter does not get sucked into its black hole), contain some of the most massive stars, which also contain the heaviest elements. These stars would have been formed by the gravitational forces still strong enough to create powerful shockwaves but not strong enough to create black holes.

Farther away from the centers of galaxies are stars generally containing lighter elements. At these distances, the gravitational tug of the black wall would have been too weak to create many heavy elements.

Then, most galaxies are surrounded by a halo of extremely light-element stars. These stars likely formed later on, after the strongest forces of the universe subsided and the creation of the heaviest elements dwindled significantly.

That galaxy halos came later and were not part of the initial galaxy formation process, is evidenced by the fact that some halos have several streams or layers of stars with different properties and revolve around their host galaxy in different directions. Our galaxy, the Milky Way, for example, has two distinct halos. While we travel around the center of the Milky Way at 500,000 miles per hour, the first halo above us revolves at 50,000 miles per hour in the same direction as we do, but the outer halo spins in the opposite direction at 100,000 miles per hour.

With the big bang, this is all very difficult to explain. Light-element stars, according to the big bang, are the oldest stellar objects. The lighter the elements in the star, the big bang goes, the older the star.

Thus, a star consisting largely of the light elements hydrogen and helium supposedly dates back to the first generation stars created shortly after the big bang, which purportedly happened 13 to 14 billion years ago.

But how did light-element --old -- stars, after surviving billion years without getting pulled into forming galaxies, neatly wrap themselves around galaxies to form halos?

And the notion that halos may already have been in place while their host galaxies were forming, as some have pondered, makes even less sense. Most galaxies have a variety of stars with different elements and densities, yet they do not form such distinct layers as halos do. Why are halos so different?

The big bang's depiction of galaxy evolution has been a challenge for scientists for some time now, as described by a New York Times article, "Old Galaxy in Early Universe Jolts Theory," on June 13, 1996:

"As astronomers peer deeper into the universe, measuring distances and time and glimpsing early conditions, the more perplexing the problems they are posing for theorists trying to understand cosmic origins and evolution. Now they have observed an apparently old galaxy out where there should be nothing but emerging galaxies of young stars, if current theories are correct.

"The new findings, being reported today in the journal

Nature, raise yet another serious challenge to what has been the standard [big bang] model of cosmology.

"The galaxy is being seen as it appeared about 1.6 billion years after the Big Bang [an age that is assumed based on its distance] ... The problem, astronomers pointed out, is that the stars making up the galaxy appear to be at least 3.5 billion years old. This would mean that constituents of the galaxy are older than the universe itself -- a paradox, experts say, that must now be explained away.

"... if the observations are correct, the standard [big bang] theory must be flawed.

"In their journal report, Dr. Dunlop and his colleagues said that this was 'the first time that such an unambiguously old object has been discovered at such large look-back times.' Its existence, the scientists said, 'sets strong constraints both on the first epoch of galaxy formation and on cosmological models.'"

Twelve years later very little had changed with respect to our understanding of the big bang's depiction of galaxy evolution.

August 6, 2008, DailyGalaxy.com, "The Gemini Paradox: Why are Galaxies in the Early Universe Old?"

"Some of the faintest spectra in the universe raise a glaring question: Why do Galaxies in the early universe appear so old? ... these galaxies appear to be more fully formed and mature than expected at this early stage in the evolution of the Universe.

"'Theory tells us that this epoch should be dominated by little galaxies crashing together,' said Dr. Roberto Abraham (University of Toronto) who is a Co-Principal Investigator of the team conducting the observations at Gemini. 'We are seeing that a large fraction of the stars in the Universe are already in place when the Universe was quite young, which should not be the case. This glimpse back in time shows pretty clearly that we need to re-think what happened during this early epoch in galactic evolution. The theoreticians will definitely have something to gnaw on!'

"'The Gemini data is the most comprehensive survey ever done covering the bulk of the galaxies that represent conditions in the early Universe ... These highly developed galaxies, whose star-forming youth is in fact long gone, just shouldn't be there, but are,' said Co-Principal Investigator Dr. Karl Glazebrook (Johns Hopkins University).

As late as May 2010, a ScienceNews.org article, "New Hubble pictures suggest Milky Way fell together," further accentuated how observations contradict big bang theories of galaxy evolution;

"A preliminary analysis of elderly stars in the Milky Way appears to strike a blow against the prevailing theory of galaxy formation. The study suggests that several large and seemingly disparate chunks of the Milky Way galaxy formed at the same time from the collapse of a single blob of gas and dust [precisely what the V-Bang predicts].

"That's in direct contrast to the leading [big bang] galaxy-formation scenario, which holds that the Milky Way and other galaxies began small and grew bit by bit for the most part, gravitationally acquiring intergalactic gas and dust and merging with galaxies in their immediate neighborhood."

To add to this predicament, scientists have discovered enormous clouds of gas in space that, according to big bang predictions that galaxies initially form out of huge gas clouds that collapse under their own gravity, should have collapsed to form stars and galaxies. But they haven't; they're just sitting there as gas clouds.

The V-Bang explains all this logically and systematically.

To begin with, how far away a galaxy is from us has, according to the V-Bang, little to do with its age. When scientists say they see an "old" galaxy they're talking about one that's very far away. Whereas in the big bang everything started at one single point and travelled outward to their present locations, in the V-Bang star and galaxy formation happened simultaneously throughout the universe in more or less their current relative positions.

Therefore, according to the V-Bang, a galaxy 13 billion light-years away can be the same age as a galaxy only 5 thousand light-years away. (And although the light from the more distant a galaxy may have taken longer to get here, it did not have to take 13 billion years to do so, for light in the early universe did not necessarily travel at the same speed as today, as will be explained soon.)

In the V-Bang, the formation of the first galaxies were initiated by some of the most powerful forces ever to exist; massive black holes (the black wall) speeding through a universe super-saturated with virtual particles. As described earlier, this is the sources of most (secondary) black holes, galaxies, and the wide range of heavy as well as light elements we see today. The gyrations of this period created a ripple effect that initiated a new phase of stellar and other formations. but with less energy then the previous phase. This loss of energy was due in part to the Second Law of Thermodynamics that says systems that perform work lose energy in the process. Also, in part, due to the universe's finite energy becoming dispersed to so much more matter.

With the lock step decrease in matter's gravitational strength, the kind of gravitational tugs that whipped gas clouds into a star- and galaxy-forming frenzy in the first phase were now, in the second phase, far less energetic, and gravitational collapses now had far less impact.

Compact galaxies are practically a testament to the V-Bang. They are as massive as big galaxies but take up much less space. They were formed in the first phase when gravity was stronger, was able to greatly compact massive objects and was able to hold together large galaxies in smaller spaces. Galaxies of the same mass that formed later on, in phase two or later, when gravity had already decreased, were less compacted and spread out over larger areas.

The light-element stars of dwarf galaxies, and the halos that surround most galaxies, likely formed in a third phase, in which cosmic energy levels had been so depleted that heavy-element stars could no longer be produced consistently. (That's not to say stars today cannot produce heavy elements. Perhaps they can. But back then the process would have been far more prevalent.)

Dwarf galaxies were probably born in a third phase. In that period, developing galaxies did not have the gravitational strength to attract the massive clouds and form the kind of heavy stars they once did, and so they formed with fewer stars and lighter elements. In addition to shedding light on galaxy formation, the V-Bang also clears up a recent observation that the smaller a galaxy is, the greater its ratio of "dark matter" to visible matter is. That is, the smaller a galaxy is, the more gravity it seems to have relative to its visible mass.

The illusion of dark matter (in most cases), to begin with, is created by our assumption that gravity in the past was the same as it is today. That not being the case, most galaxies, even those that formed in the latter stages of galaxy formation, will appear to exert more gravity than they should because they did have more gravity.

Furthermore, the illusion of dark matter is further heightened as energy and gravity in the universe diminishes and galaxies fling gas and stars from their outer regions into intergalactic space because their current gravity can't hold on to the same mass as before. Now, since the centers of galaxies are known to contain the most massive black holes and stars, losing their lighter, outer components leaves them with a greater gravity to visible-mass ratio. And this illusion is sometimes enhanced even further because the centers of galaxies are often obscured from view by intervening space dust and clouds.

Dwarf galaxies in particular are more susceptible to this effect because they never accumulated much visible mass in the first place. So, as they lose chunks of the relatively little visible mass they had, they're pretty much left with little else but their dense innermost portions,

So, if galaxies lose stars, many if which are not ingested by other galaxies, where do these lost stars go? They become intergalactic "lone stars."

There's been plenty of evidence of lone stars, or "tramp stars," going as far back as January of 1997, as described by a news release on HubbleSite.org:

"NASA's Hubble Space Telescope has found a long sought population of 'stellar outcasts' -- stars tossed out of their home galaxy into the dark emptiness of intergalactic space. This is the first time stars have been found more than 300,000 light-years (three Milky Way diameters) from the nearest big galaxy.

"The isolated stars dwell in the Virgo cluster of galaxies, about 60 million light-years away. The results suggest this population of 'lone stars' accounts for 10 percent of the Virgo cluster's mass, or 1 trillion Sun-like stars adrift among the 2,500 galaxies in Virgo."

With the current theory that these intergalactic stars have all been ejected during galaxy collisions falling short, the V-Bang's explanation that declining gravity causes galaxies to lose their grip on some stars fills in the gap.

Another discovery that seems to lend much support to the V-Bang theory is the finding by Xiang-Ping Wu, a scientists at the Beijing Astronomical Observatory. Wu and several colleagues found that the density of matter in the Universe increases the farther out you look. At about 30 million light years, the density is only 10 per cent of the critical value (needed to reverse the universe's "expansion"), while at about 300 million light years it may be as much as 90 per cent of the critical value.

A similar conclusion was reached by the Royal Astronomical Society, as recorded in the NASA/IPAC Extragalactic Database: "... Our results highlight that distant clusters were much denser environments than today's [closer] clusters, both in galaxy number and mass ..."

The Institute of Physics' (iop.org's) Astrophysical Journal puts it this way: "Astrophysical observations indicate that the 'local universe' [space in our immediate vicinity] has a relatively lower matter density than the predictions of the standard [big bang] inflation cosmology ... "

As inexplicable as a variable density universe is with the big bang, it is quite explainable with the V-Bang. To illustrate this point, I'll start with an analogy.

Imagine a conveyer belt with free-spinning rollers leading from a parked truck to the basement of a grocery store. A crate is placed on the conveyer belt and pushed from the truck into the basement. For simplicity sake, let's assume the length of the crate is the same length as the conveyer belt.

Once the crate completes its trip into the basement, which rollers on the conveyer belt will have gotten the most spin out of the moving crate? The ones closest to the basement, toward the end of the belt.

The reason, of course, is that they were spun for just about the entire time that the crate went from the truck into the basement. The first couple of inches, in contrast, were spun for only the amount of time it took the tail end of the crate to move over them.

Now, let's go over this analogy and add something to it. Let's say the moment the crate started to move it began to snow. By the time the crate completed its trip into the basement, which part of the conveyer belt will have accumulated the most snow? The part closest to the truck.

Of course, that's because the portion closest to the truck was covered by the crate for a very short amount of time. The last portion of the belt, on the other hand, was covered for just about the entire trip of the crate into the basement and would have accumulated the least amount of snow.

Then, once the crate completes its trip into the basement, it will have more snow on its tail end than on its front end. That's because the tail end, being the last portion to enter the basement, was in contact with falling snow for a longer period of time than the front end.

Now, back to the V-Bang.

Try to picture the moment the Black Wall, the billions of massive black holes spanning the entire universe, was created and was about to start moving outward. The black wall is the "crate" in the analogy. The virtual particles that will soon be tugged by massive gravitational fields are the "rollers" in the analogy. The virtual particles that will be left behind once the black wall passes are the "snow" in the analogy. (To simplify this explanation, we'll not concern ourselves with the particles that get "swallowed" by the black holes and those that are too far to be effected.)

As the black wall speeds through a universe awash with virtual particles, which particles will get the most "spin" (gravitational tug)? Of course, the particles in the outermost reaches of the universe, because almost every inch of the black wall will tug on them. The particles closest to ground zero of the V-Bang will get much less tug because the black wall will pass them quickly.

Now, keep in mind that the powerful gravitational tugs and high-speed collisions are what set galaxy formation in motion and also created most of the elements in the universe. This process, then, would have produced more matter, greater density matter and more galaxies the farther out in the universe it went, just as in the crate analogy the rollers at the far end got the most spin. And this order of variable density is exactly what we're seeing.

Furthermore, this process would have worked even if primordial virtual particles consisted of both particles and anti-particles, which annihilate each other upon contact.

As suggested by Stephen Hawking, black holes can pull in anti-particles and leave behind their companion (positive) particles to remain as real particles. As the farthest reaches of the universe would have had the longest contact with the black wall's powerful gravitational tugs, more negative particles would have gotten ripped from their companion particles, creating the most mass in the outer regions.

If, on the other hand, primordial particles consisted mostly of positive particles, which I believe was the case, due to space's barometric properties that produce particles in proportion to the degree of space vacuum, all the better.

And how would this have effected the inner portions close to ground zero of the V-Bang, considering these inner areas got little "spin" from the black wall? Particles and anti particles would, for the most part, have annihilated each other, leaving behind great voids. Areas populated with more particles than anti-particles would have been left with massive gas clouds. We see both of these.

The V-Bang's prediction of a variable density universe is also evidenced by the phenomenon of quasars -- the most luminous, massive, energetic bodies in the cosmos. Which, "coincidentally," also happen to be the most distant objects.

"Quasars are peculiar objects that radiate as much energy per second as a thousand or more galaxies, from a region that has a diameter about one millionth that of the host galaxy. It is as if a powerhouse the size of a small flashlight produced as much light as all the houses and businesses in the entire L.A. basin!" describes NASA's Chandra X-ray Observatory's website, Chandra.Harvard.edu. "Quasars are intense sources of X-rays as well as visible light. They are the most powerful type of X-ray source yet discovered. Some quasars are so bright that they can be seen at a distance of 12 billion light years."

NASA.gov: "Quasars are active galaxies which are all very, very, very far away from us."

HubbleSite.org: Quasars "are billions of light-years away and several hundred billion times brighter than normal stars."

Seasky.org: "Quasars are the brightest and most distant objects in the known universe."

The point that almost every description of quasars makes is that quasars are very distant objects. Why are they all so far away? Far away from where? Is there a special place in the universe? Not according to the big bang. In a universe where matter was distributed more or less evenly, as the big bang supposes, there should be quasars close to us as well as far away. The big bang has no way to account for anything so different "far away."

The V-Bang, on the other hand, says that regions far away from the V-Bang's epicenter were subjected to the most prolonged gyrations and shockwaves in the early universe and therefore became the most saturated with mass. As a result, these outer regions were able to accumulate and compact the most massive and brightest objects in the sky.

The Constants of Nature

The V-Bang theory would not be complete without a discussion of the "constants of nature."

"The constants of nature are the fundamental laws of physics that apply throughout the universe: gravity, velocity of light, electromagnetism and quantum mechanics. They encode the deepest secrets of the universe, and express at once our greatest knowledge and our greatest ignorance about the cosmos. Their existence has taught us the profound truth that nature abounds with unseen regularities. Yet while we have become skilled at measuring the values of these constants, our frustrating inability to explain or predict their values shows how much we have still to learn about inner workings of the universe" ... by John D. Barrow, from "The Constants of Nature: From Alpha to Omega"

Constants of nature are forces of nature represented in science by numbers that supposedly do not change. For example, the speed of light, which is approximately 186 thousand miles per second (mps) in a vacuum, is a constant of nature.

The "Newtonian constant of gravitation," another constant of nature, is used to determine the gravitational attraction between two objects. This involves a calculation that includes the mass of each object and their distance from each other. You then multiply this result by the Newtonian constant of gravitation, which is 0.00000000006674.

Why is the speed of light 186,000 mps and why is the Newtonian constant 0.00000000006674? Nobody knows; they just are what they are.

There are many more constants of nature. Examples: Planck's constant, the charge of the electron, the atomic mass unit, the magnetic constant, the electric constant, the Coulomb's constant, the Josephson constant, the von Klitzing constant, and the list goes on.

Then there is "alpha," also known as the "fine structure constant." This is sort of the mother of all constants. Rather than describe a single feature of nature, this constant is based on a calculation of other constants, specifically, Planck's constant, the speed of light, and the charge of the electron. It governs the strength of the electromagnetic force and affects just about everything in the universe.

What all these constants have in common is that no one knows how or why nature sets them to their specific values. It's generally been believed that they've had the same values throughout history and throughout the universe. Scientists have speculated that if any of these constants were to deviate only slightly, our universe would take on very different properties and, depending in which constants changed, possibly be destroyed.

If alpha, for example, which has the value of 0.007299, were greater than 0.1, stellar fusion would not be possible; there would be no sun and no stars. If alpha were large enough, you couldn't tell the difference between energy and matter. If it were too small, matter would disintegrate.

Changing a few constants here and there is like replacing a few random beams or pipes in your house with ones that are bigger or smaller than the originals. Without adjusting the rest of the house to accommodate these changes, your house would be out of kilter or collapse altogether.

How so many constants could have gotten so precisely tuned to support the quantum world, the cosmos and life on earth is one big scientific mystery. So much so that some scientists have entertained the thought that there are, or were, many universes with constants set to different values and we happen to live in the one which the values are just right for our existence.

A relatively recent discovery, however, shows that we don't need to resort to other universes to find constants with different values. They may actually change in our own universe.

NewScientist.com - September 2010:

"New evidence supports the idea that we live in an area of the universe that is 'just right' for our existence. The controversial finding comes from an observation that one of the constants of nature appears to be different in different parts of the cosmos.

"At the centre of the new study is the fine structure constant, also known as alpha. This number determines the strength of interactions between light and matter.

"A decade ago, John Webb [of the University of New South Wales in Sydney, Australia] used observations from the Keck telescope in Hawaii to analyse the light from distant galaxies called quasars. The data suggested that the value of alpha was very slightly smaller when the quasar light was emitted 12 billion years ago than it appears in laboratories on Earth today.

"Now Webb's colleague Julian King, also of the University of New South Wales, has analysed data from the Very Large

Telescope (VLT) in Chile, which looks at a different region of the sky. The VLT data suggests that the value of alpha elsewhere in the universe is very slightly bigger than on Earth.

"Moreover, the team's analysis of around 300 measurements of alpha in light coming from various points in the sky suggests the variation is not random but structured, like a bar magnet. The universe seems to have a large alpha on one side and a smaller alpha on the other ... Earth sits somewhere in the middle of the extremes for alpha."

One of the authors of this paper, Michael Murphy of Swinburne University in Australia, reported New Scientist, said, " ... the evidence for changing constants is piling up. We just report what we find, and no one has been able to explain away these results in a decade of trying ... The fundamental constants being constant is an assumption. We're here to test physics, not to assume it.'"

With this said, I'd like to present that the constants of nature do in fact change right before our eyes, in our part of the universe, in our time, and on a regular basis. And it's not just one, two or several constants, but all the constants. They apparently are capable of changing so uniformly, proportionally and seamlessly that nature continues to function without the slightest degradation or distortion.

This is demonstrated by atomic clocks as they show signs of the "time dilation" predicted by Einstein's theories of relativity. His theories consist of the general theory of relativity, which deals with gravity, and the special theory of relativity, which deals with motion and the speed of light. Without going into the technical details of each, to keep things simple, I'll just refer to both as the Theory of Relativity, or TOR, wherever possible.

One amazing prediction of TOR is time dilation -- time can actually go slower or faster. TOR predicts that everything -- trees, objects, rocks, life forms, computers, everything -- ages slower in a stronger gravitational field. Despite that the word "theory" is usually associated with "Relativity," time dilation is a proven fact; time does not pass at the same speed under all circumstances. If earth's gravity were to increase, for example, everyone and everything on it would age slower.

But that doesn't mean you could take six months to make your monthly mortgage payments. Because if time went slower for everyone and everything, things would look normal to everyone; no one would even know time has slowed down. You'd eat slower, your digestive system would work slower, you'd talk slower, your clock would run slower, and Department of Motor Vehicle employees would work even slower than they do (can you imagine that?). But it would all look and feel normal because everything has slowed down in the same proportion.

One way you could tell time was going slower would be if you compared earth's "time" with the "time" of, let's say, another planet where gravity is of a different strength and its time is therefore passing at a different rate.

A good example of how this works comes from swiftor.com, "Why Does Gravity Slow Time?"

"Imagine a pair of twins, Alice and Bob, who will live to exactly the same age. Rather than giving this age in years, which might be confusing in what follows, let's say each will live for one billion heart beats, and their hearts beat at 60 beats per minute. Alice, a hurricane hunter by trade, has become bored with Earth's puny storms and has moved to Jupiter to chase its Great Red Spot, a ... cyclone of truly mammoth proportions.

"Now, gravity is stronger on Jupiter than on the Earth, one consequence being that Alice weighs more. But more interestingly, Albert Einstein's theory of general relativity ... says that, due to the [greater gravity] on Jupiter than on Earth, time as experienced by Alice is moving more slowly relative to time experienced by Bob back on the Earth.

"What does this mean? First, the word 'relative' is crucial here: it means that as far as Alice is concerned, nothing in her own experience indicates to her that time is moving more slowly ... Alice herself feels nothing out of the ordinary. For instance, her heart still beats at 60 beats per minute, according to her wristwatch. It's only when Alice and Bob compare their experiences ... that they notice something very strange.

"For example, when they speak with each other over the satellite link, Bob notices that Alice's voice is a bit deeper and she is speaking more slowly -- exactly like a [CD or movie] played at a slightly slower speed. But Alice does not feel that she is speaking slowly, or thinking slowly, or anything else for her is happening more slowly.

"And from Alice's point of view, she notices that Bob's voice is higher pitched [than normal] and he is talking (and thinking, and doing everything else) a bit faster -- exactly like a [movie] played at a faster speed. More to the point, when Bob puts the phone next to his heart, Alice hears it beating at faster than 60 beats per minute according to her wristwatch; conversely, Bob hears Alice's heart beating more slowly."

As a result, Alice could return to Earth before her billion heart beats are up, and Bob could already be dead because his heart already beat a billion times.

What this demonstrates is that the difference in the speed of time isn't just "relative" or an illusion. It's real -- time actually moves at different speeds under different gravitational fields.

But you don't have to go as far as Jupiter to see how the difference in gravity effects time. You could see the same affect if you lived on top of a mountain. Gravity on top of a mountain is a bit less than it is at sea level because it's a little farther from earth's center of gravity. So your time on the mountain, compared to your friends' at sea level, would go faster. (Your pizza deliveries may take a little longer, though.) The difference in time in this case would be so small that it would have no practical effect; but time does run slightly slower on top of a mountain.

According to TOR, there's another event that changes how fast time goes -- acceleration. The faster you accelerate, the slower time goes. At the relatively slow speeds that we travel -- even on a plane -- the slowing of time is not noticeable. But if you were to travel in a spaceship at close to the speed of light, you could age, say, only one year for every ten years your friends on earth aged. (Think of how much you could save on face creams.)

There are some well-known experiments that prove time dilation actually occurs.

From the Physics & Astronomy Online website, PhysLink.com:

"In October 1971, Hafele and Keating flew cesium-beam atomic clocks, initially synchronized with the atomic clock at the US Naval Observatory in Washington, D.C., around the world both eastward and westward. After each flight, they compared the time on the clocks in the aircraft to the time on the clock at the Observatory. Their experimental data agreed within error to the predicted effects of time dilation. Of course, the effects were quite small since the planes were flying nowhere near the speed of light."

"In nature, subatomic particles called muons are created by cosmic ray interaction with the upper atmosphere. At rest, [muons] disintegrate in about 2 x 10E-6 seconds and should not have time to reach the Earth's surface. Because they travel close to the speed of light, however, time dilation extends their life span, as seen from Earth, so they can be observed reaching [Earth's] surface before they disintegrate."

Most of us are effected by time dilation on a daily basis without even realizing it. GPS (Global Positioning System) satellites that make it possible for you to get directions in your car have to take small time dilation effects into account. They're programmed to adjust for the difference in the faster speed of time on a satellite in orbit and the slower speed of time on earth. Time on GPS satellites runs about 30 nanoseconds fast per minute. Uncorrected, distance errors would grow by about 9.5 meters per minute.

A question arises now. If you're on a satellite, can you test whether time is going faster or slower, without comparing your time to someone else's? The answer is no.

Let's do a thought experiment. Let's say you're in a spaceship about to be launched from earth. With you, you have a baseball pitching machine. From the moment it pitches a ball, it takes exactly one second for the ball to hit the wall across the room.

Your spaceship takes off and approaches a speed where time on board is now running at half the speed it ran on earth. You decide to test your time by having your machine pitch a ball. To your surprise, the ball hits the wall in exactly one second on your clock, not in the half second you expected.

What's happening here?

What's happening is that not only is your clock running slower, but you are moving slower, your machine is pitching slower, the ball is flying slower, and everything in your ship is moving slower in the exact same proportion so that it's impossible for you to tell time has slowed unless you compare it to someone else's frame of reference.

Suppose you happen to pass by an astronaut in space who is stationary relative to your ship (let's say he missed his flight back to earth and is waiting for a cab) and he looked into your window. He would see the ball take two seconds on his clock to hit the wall, and he'd see your clock running at half the speed of his clock.

But what if you tested some of the constants of nature, wouldn't they tell you time on your ship is running slower? No. Because everything in your ship is in the same frame of reference and all natural forces have adjusted accordingly. There isn't an experiment in the world you could perform on your ship (without comparing your time to someone else's) that would tell you your time is running slower. Yet, when you come back to earth, you'd find that your clock lags behind everyone else's, and you're younger than other earthlings by the precise amount predicted by TOR -- it wasn't all an illusion.

The question now is, what is time anyway? Is time a separate entity or is it just an illusion given by the progression of events?

To address this, it might help to look at what makes atomic clocks so accurate. Shouldn't a good bedroom clock tell time as accurately as an atomic clock? The answer is no. A bedroom clock compared to an atomic clock is roughly analogous to a printed train schedule compared to standing at the train station and watching the trains go by. The former tells you when it's supposed to happen, the latter tells you when it's actually happening (although, admittedly, it's a strange thing to do).

The accuracy of atomic clocks depends on the oscillation frequencies of atomic elements. The most accurate atomic clocks in the world are at the National Institute of Standards and Technology (NIST) in Boulder, Colorado. Their accuracy is based on measuring oscillation frequencies of sub-atomic components; electrons surrounding the nucleus of an atom have characteristic oscillation frequencies (they "jump" up and down at certain speeds under certain conditions). To greatly simplify a complex topic, it's the speed of these "jumps" that are measured and are at the root of the time-telling aspect of atomic clocks.

A commonly used atomic clock uses the metallic element cesium, which produces a frequency of over 9 billion vibrations per second. It would take one and a half million years for this clock to be off by one second. Short of the clock itself breaking down, only if the energies and frequencies at the atomic level were to change would this clock's time-telling feature be significantly impacted. And, in this case, the clock wouldn't be wrong. It would mean that time itself was running at a different speed.

What this means is that time has no independent existence. Time merely reflects how fast things are happening at the atomic level. If everything in the universe were to disappear except Michelin Tires, for example, you'd still have Michelin Tires. If everything in the universe were to disappear except helium atoms, you'd still have helium atoms. But if everything in the universe were to disappear except time, you wouldn't even have time -- there'd be nothing left to "time."

Time therefore has a direct relation to the existence of matter and, more importantly, the pace of the quantum world. Time "standing still" would not mean, as depicted by science fiction writers, that everything in the universe stopped moving; that would mean the universe turned into a frozen custard. (Actually, if everything, including the quantum world, stopped moving, the entire universe as we know it would disintegrate.) Time standing still would mean that the universe's structure, organization and vigor never changed.

When we say that time came into existence with the inception of the universe, it means that the inception of the universe brought with it the concept, or perception, of time, not a separate entity called time. Time is basically entropy; all systems in the universe that do not receive energy or organizational input from an outside source, will eventually become less energetic, more random and more chaotic. (This type of system is referred to as a "closed systems.")

As energies in the universe shift, some systems degenerate while others ("open systems") rejuvenate. The entire universe as a whole, which must be a closed system since there is no outside system to influence it, becomes less energetic and moves toward a state of greater randomness in what is perceived as the progression of time. The universe may not suffer a loss in total energy (which is the principal of energy conservation), but it does go through energy transformations that reduces it vigor.

The point is, if time -- which runs at a speed directly proportional to the speed at which the quantum world resonates -- can be made to speed up or slow down, it stands to reason that increased energy levels of the basic building blocks of matter, which would accelerate the quantum world, would also accelerate time.

Thus, with the energy of the entire universe packed into relatively small amounts of matter, the early V-Bang universe would have resembled something akin to a high-speed time-lapse photography movie. If your great uncle lived in that period, he would see nothing unusual as far as time is concerned, just as you can't see time moving slower or faster today without comparing your time to that of another frame of reference. But if you could peek into that early period from today, you'd see your great uncle's clock zipping around twenty-four-hour periods while your wristwatch only registered seconds.

The V-Bang star and galaxy formation process would have taken much less time than required by the big bang for several reasons. First, star and galaxy formation was initiated immediately after the inception of the universe, whereas in the big bang this alone took millions of years.

Second, the formation process was much faster, since it was set in motion as a chain reaction of the most powerful force ever to exist -- the expansion of the universe. In the big bang the formation process was the result of billions of years of gravitational compaction, a process some scientists even question whether it could have created everything that exists, especially super structures.

Third, time ran much faster.

The difference in the speed and force of the star and galaxy formation process between the big bang and the V-Bang might be roughly analogous to the difference between dropping a bullet from a building and shooting the bullet down with a rifle.

If you dropped a bullet (regardless of caliber) 100 feet, it would hit the ground at a speed of about one million feet per second (in a vacuum). If you shot a 50 caliber bullet, for example, downward with a rifle from 100 feet in the same environment, it would hit the ground at a speed of about two and a half billion feet per second.

Similarly, the force of the V-Bang's expansion gave star and galaxy formation a head start that put it far ahead of a formation process that would have relied solely on gravity, as the big bang supposes. How much quicker was this formation process than the big bang's? It's hard to give a precise figure, but it almost certainly would not have taken billions or even millions of years. It's even conceivable that the formation of the first stars and galaxies did not even take hundreds of years (in our time).

There actually is evidence of a speedier star and galaxy formation process, as pointed out by RedOrbit.com, December 17, 2010, in an article entitled, "Herschel Finds Stars Formed Faster In The Past:"

"A UK-led international team of astronomers have presented the first conclusive evidence for a dramatic surge in star birth in a newly discovered population of massive galaxies in the early [far away] Universe. Their measurements confirm the idea that stars formed most rapidly about 11 billion years ago ... and that the rate of star formation is much faster than was thought.

"The scientists used the European Space Agency's Herschel Space Observatory, an infrared telescope with a mirror 3.5 m in diameter, launched in 2009. They studied the distant objects in detail with the Spectral and Photometric Imaging Receiver (SPIRE) camera, obtaining solid evidence that the galaxies are forming stars at a tremendous rate and have large reservoirs of gas that will power the star formation for hundreds of millions of years.

"The new galaxies have prodigious rates of star formation, far higher than anything seen in the present day [nearby] Universe."

ScienceDaily.com, March 22, 2010, "Early Galaxy Went Through 'Teenage Growth Spurt,' Scientists Say:"

"Scientists have found a massive galaxy in the early [distant] Universe creating stars like our sun up to 100 times faster than the modern-day Milky Way

"They found four discrete star-forming regions ... Each region was more than 100 times brighter than star-forming regions in the Milky Way, such as the Orion Nebula.

"Lead author Dr Mark Swinbank, in the Institute for Computational Cosmology, at Durham University, said: 'This galaxy is like a teenager going through a growth spurt ... We don't fully understand why the stars are forming so rapidly ... '

"The scientists estimate that the observed galaxy is producing stars at a rate equivalent to 250 suns per year."

Please note that although the big bang refers to anything far away as "early" or "old," in the V-Bang "far away" can be "old," "recent" or just about any time period. In this case, the fact that these objects are far away do have some meaning, as will be explained soon, but being "old" is not necessarily it. The point is we have found high-speed star formations that cannot be explained by big bang theories but is very explainable with the V-Bang.

Actually, the V-Bang would have produced stars at an even greater pace, but we can't see very early periods because their light would have passed us long ago.

That is, as the early V-Bang universe's clock ran much faster, light would have zipped across the cosmos at super speeds without violating the law of physics that says light travels at the constant speed of 186 thousand miles per second. Because a second in that early period went by so much faster, light would have covered much greater distances in what we call a second.

Thus, light from 11 billion light years away did not take 11 billion (of our) years to get here. The light that would have shown us galaxies forming at extraordinarily super speeds, therefore, would have passed our region of space long before we arrived at the scene.

But we're still seeing faster star formation in distant regions because light from distant stars do come from a slightly more distant past, when energy levels were still somewhat stronger. Light from closer stars, on the other hand, reach us relatively quickly, so we see these stars evolve more slowly, in a more recent time period when energy levels were closer to what we are familiar with.

On a time-scale of 1 to 10, 1 being the V-Bang period, 10 being today, almost the complete evolution of the universe, I believe, happened during period 1. After that, there might still be a relative trickle of cosmic evolution, but the major star and galaxy formation heydays are long over.

The V-Bang may even explain a vexing quasar anomaly. "Mike Hawkins from the Royal Observatory in Edinburgh searched for, and did not find evidence for, so-called time dilation in distant quasars. Time dilation is a counter-intuitive, yet actual, feature of Einstein's special relativity in which time slows down for an object that is in motion relative to another," posted Discovery.com, on April 16, 2010, in an article entitled, "No Time Dilation for Distant Quasars?"

"Since the universe is expanding -- and the distant quasars are racing away from us -- a clock placed in one of these distant galaxies should be running more slowly than a clock we have on Earth. Therefore, the effects of time dilation for distant objects can be measured if we can observe the ticking clock in the distant galaxy.

"Hawkins took advantage of the fact that quasars blink. This blinking ... can be viewed as [a] 'ticking clock.' He used data from quasar monitoring programs ... to measure the timescale of the blinking. Looking at the timescales for two groups of quasars, one distant and the other even farther away, there was no measurable difference. That meant no time dilation: meaning that for both groups of quasars, the clocks were the same.

"This could mean several things. It could be a sign that the universe is not expanding. Or, it could indicate that quasars are not really what we think they are ... "

True. But it could also mean that we need the V-Bang to explain it.

The fact that quasars are so much farther than most other objects in the sky means we're seeing them in a more distant past (not that they're necessarily older) than closer objects. The acceleration-related time dilation difference that scientists have been looking for may be so minute compared to the quasars' far greater clock-speeds that it's imperceptible.

In other words, to pick some arbitrary numbers for the purpose of a simplified explanation, suppose that one quasar is flying a million miles per hour faster then the other one. The fact that these quasars are so far away means we're seeing them in a past when time ran considerably faster. Time on these quasars could be going so fast that what we see as one hour on our clock is actually one year, for example, on the quasars' clocks. This would mean that the difference in their speeds is actually one million miles per year, an extremely small difference, by astronomical standards, and therefore imperceptible.

There is even evidence of light going faster than 186,000 mps within its own frame of reference, as described by an article entitled, "Speed of light slowing down?" by Chris Bennett, WorldNetDaily.com, July 31, 2004:

"Early in 1979, an Australian undergraduate student named Barry Setterfield, thought it would be interesting to chart all of the measurements of the speed of light since a Dutch astronomer named Olaf Roemer first measured light speed in the late 17th century. Setterfield acquired data on over 163 measurements using 16 different methods over 300 years.

"The early measurements typically tracked the eclipses of the moons of Jupiter when the planet was near the Earth and compared it with observations when the planet was farther away. These observations were standard, simple and repeatable, and have been measured by astronomers since the invention of the telescope. These are demonstrated to astronomy students even today. The early astronomers kept meticulous notes and sketches, many of which are still available.

"Setterfield expected to see the recorded speeds grouped around the accepted value for light speed, roughly 299,792 kilometers per second. In simple terms, half of the historic measurements should have been higher and half should be lower.

"What he found defied belief: The derived light speeds from the early measurements were significantly faster than today. Even more intriguing, the older the observation, the faster the speed of light. A sampling of these values is listed below:

"* In 2004: 299,792 km/second (accepted constant)
* In 1983: 299,792.4586
* In 1877: 299,921
* In 1861: 300,050
* In 1738: 303,320
* In 1657: 307,600

"Setterfield teamed with statistician Dr. Trevor Norman and demonstrated that, even allowing for the clumsiness of early experiments, and correcting for the multiple lenses of early telescopes and other factors related to technology, the speed of light was discernibly higher 100 years ago, and as much as 7 percent higher in the 1700s. Dr. Norman confirmed that the measurements were statistically significant with a confidence of more than 99 percent.

"Setterfield and Norman published their results at SRI [Stanford Research Institute] in July 1987 after extensive peer review.

"It would be easy to dismiss two relatively unknown researchers if theirs were the only voices in this wilderness and the historic data was the only anomaly. They are not.

"Since the SRI publication in 1987, forefront researchers from Russia, Australia, Great Britain and the United States have published papers in prestigious journals questioning the constancy of the speed of light.

"Within the last 24 months, Dr. Joao Magueijo, a physicist at Imperial College in London, Dr. John Barrow of Cambridge, Dr. Andy Albrecht of the University of California at Davis and Dr. John Moffat of the University of Toronto have all published work advocating their belief that light speed was much higher -- as much as 10 to the 10th power [10 billion times] faster -- in the early stages of the 'Big Bang' than it is today.

"Dr. Magueijo believes that light speed was faster only in the instants following the beginning of time. Dr. Barrow, Barry Setterfield and others believe that light speed has been declining from the beginning of time to the historic near past.

"Dr. Magueijo recently stated that the debate should not be why and how the speed of light could vary, but what combination of irrefutable theories demands that it be constant at all. "Setterfield now believes there are at least four other major observed anomalies consistent with a slowing speed of light:

"1. Quantized red-shift observations from other galaxies
2. Measured changes in atomic masses over time
3. Measured changes in Planck's Constant over time
4. Differences between time as measured by the atomic clock, and time as measured by the orbits of the planets in our solar system"

The above article practically describes the V-Bang's declining energy principle. And, although it speaks in terms of the big bang, it also seems to corroborate my 1 to 10 time scale of how the greatest energy levels existed immediately after the inception of the universe (in period "1"). What's more, in conjunction with the following discovery, it also suggests that energy levels do not necessarily change uniformly throughout the universe.

An article entitled, "Laws of Physics May Change Across the Universe," in NewScientist.com (September 2010), describes a baffling discovery that seems to fly in the face of the widely accepted theories of Einstein:

"New evidence supports the idea that we live in an area of the universe that is 'just right' for our existence. The controversial finding comes from an observation that one of the constants of nature appears to be different in different parts of the cosmos.

"If correct, this result stands against Einstein's equivalence principle, which states that the laws of physics are the same everywhere. 'This finding was a real surprise to everyone,' says John Webb of the University of New South Wales in Sydney, Australia. Webb is lead author on the new paper, which has been submitted to Physical Review Letters.

"Even more surprising is the fact that the change in the constant appears to have an orientation, creating a 'preferred direction', or axis, across the cosmos. That idea was dismissed more than 100 years ago with the creation of Einstein's special theory of relativity.

"At the centre of the new study is the fine structure constant, also known as alpha. This number determines the strength of interactions between light and matter."

Astronomy.com, September 7, 2010, "Fundamental Constant Might Change Across Space:"

"New research suggests that the supposedly invariant fine-structure constant, which characterizes the strength of the electromagnetic force, varies from place to place throughout the universe. The finding could mean rethinking the fundaments of our current knowledge of physics. These results were presented September 7 during the Joint European and National Astronomy Meeting in Lisbon, Portugal, and the scientific article has been submitted to the Physical Review Letters Journal."

SpaceDaily.com, same date, same article title:

"[John] Webb's results imply that the fine-structure constant, which characterizes the strength of the electromagnetic force, might have different values depending on which direction we are looking in the sky, thus being not so 'constant' after all.

"'The precision of astrophysical measurements of the fine-structure constant, or alpha, dramatically increased about a decade ago when Victor Flambaum and I introduced the 'Many-Multiplet Method', and since then evidence started mounting, suggesting this crucial physical quantity might not be the same everywhere in the Universe,' says Webb.

" ... If correct, the new data indicates that new physics will be required to explain something so fundamental."

This "new physics" is looking more and more like the V-Bang. The pattern formed by the varying alpha, one part of the sky with a slightly higher alpha than the opposite part of the sky, seems to be an uncanny demonstration of the V-Bang's energy redistribution principal.

In the V-Bang, as new matter enters the universe, the energy that gives it life comes from nearby matter, in an osmosis-like pattern. This nearby matter then replenishes its lost energy from other nearby matter of higher energy levels, and the process continues in an effort to reach a state of equilibrium.

But in the ever-changing universe we live in, a state of equilibrium is seldom, if ever, reached on a cosmic scale. So we always have high- and low-energy regions in space with varying constants. Thus, the varying-alpha pattern we're seeing is the V-Bang's energy redistribution principal in action.

The Dark Flow

The V-Bang may even explain the "dark flow" mystery.

The "dark flow" refers to a large group of galaxy clusters scientists have noticed that are being pulled by some unknown force from outside the visible universe.

The description of this mystery from NationalGeographic.com, "New Proof Unknown 'Structures' Tug at Our Universe," March 22, 2010, goes like this (inside brackets are, of course, my comments):

"In 2008 scientists reported the discovery of hundreds of galaxy clusters streaming in the same direction at more than 2.2 million miles (3.6 million kilometers) an hour.

"This mysterious motion can't be explained by current models for distribution of mass in the universe. So the researchers made the controversial suggestion that the clusters are being tugged on by the gravity of matter outside the known universe [the 'black wall'].

"Now the same team has found that the dark flow extends even deeper into the universe than previously reported: out to at least 2.5 billion light-years from Earth.

"'We clearly see the flow, we clearly see it pointing in the same direction,' said study leader Alexander Kashlinsky, an astrophysicist at NASA's Goddard Space Flight Center in Maryland.

"The find adds to the case that chunks of matter [massive black holes comprising the black wall] got pushed outside the known universe shortly after the big bang [V-Bang].

"The new study is based on the collective motion of about 1,400 galaxy clusters... [that's "galaxy clusters," not just galaxies; that's an enormous amount of mass)

"Kashlinsky speculates that the dark flow extends 'all the way across the visible universe,' or about 47 billion light-years, which would fit with the notion that the clusters are being pulled by matter [the black wall] that lies beyond known horizons."

Once again, the big bang has absolutely no way to explain the dark flow. With the V-Bang, on the other hand, why heavenly bodies are being pulled outward does not, at this point in the description of the V-Bang, even need an explanation. What does need some explanation is why these clusters are being pulled more than others?

The outward motion of the black wall, if you'll recall, initiated galaxy formation evenly throughout the cosmos, solving the "horizon problem." The black wall was also responsible for creating huge voids and super structures, solving the "lumpiness problem." The solution to the dark flow lies in what happened after that.

Let's say a thousand people shot powerful rifles out of various windows of one wall of a building, some next to each other, some on top of each other, but all parallel to one another and parallel to the ground. What would the bullets' trajectory be?

Initially, the bullets would fly parallel to each other. Once their power began to wane, gravity would exert a greater influence on their trajectory and they'd begin veering downward. At this point, some bullets would probably crash into each other. Additionally, bullets that weren't perfectly parallel to the others to begin with might even crash into neighboring bullets before gravity took over.

This is what happened to the massive black holes that make up the black wall. The initial thrust of the expansion kept them on target, for the most part, to create both the even horizon and the lumpiness. Eventually, perhaps billions of light-years outside of what we call the visible universe, their gravitational pull on one another would have taken over to some degree, causing many of them to clump together into super massive black holes.

It's then conceivable, perhaps even likely, that one or several cases of clumpiness produced black holes or chunks of mass far greater than any of the other individual components of the black wall, creating spotty gravitational fields with far greater pull than the rest. So much for the Dark flow.

In Conclusion

Our universe does not seem to be a collection of disparate entities and components haphazardly flying apart and evolving with autonomous forces or random destinations. It seems to be an enormous cosmic organism working as a whole to maintain its own viability, not unlike life forms on earth.

There is little doubt in my mind that our laws of nature have an underlying "sub level" set of "laws of nature" which set our physical constants and other parameters. Our world is like the dashboard of a car; it's the sub level, the "wiring" underneath the "dashboard," that makes it all function.

This may explain such phenomena as the instant communication properties of quantum entanglement, which appear to defy the laws of physics. Instant communication, I believe, happens on the sub level, while the effect manifests itself on our level. So none of our laws are broken, and there's no reason to believe that instant communication defies any laws on the sub level?

Lest you think this business of a sub level of laws of nature is some ludicrous invention of mine, please remember that the "bang" -- regardless big bang or the V-Bang -- that brought our universe into existence must have been, by all accounts, a force not of our current universe. There is no known force in our universe that expands space or creates a universe. Yet, our universe exists.

The general assumption is that the "bang" was some sort of "transformation" of a previous force into our universe, and that this previous force no longer exists. I believe that the force responsible for the creation of our universe still exists and is currently maintaining our laws of nature. Unlike the popular concepts of other universes or other dimensions, this "previous" force is an integral part of our universe, and its relation to our universe is similar to roots' relationship to trees.

The thought that our universe is the source behind its own power, and is capable of regulating its own constants, is a preposterous notion. The force that gives the quantum world, which makes up everything that exists, its properties and vitality must have an independent source outside itself. Neither the subatomic particles that result from breaking up larger particles nor the particles that are responsible for facilitating the functionality of other particles, can be the source of their own energy. In the final analysis, there must be a source of power outside our own universe.

Being that scientists do occasionally entertain the thought of "what came before our universe," the previous force, or sub level, that I'm suggesting is therefore not a new concept. What may be new here is the notion that this force did not disappear when our universe came into existence, and, rather than being another universe or dimension, this force is still part of our universe and is the "wiring" underneath our "dashboard."

The Fossil Record Disproves Darwinian Evolution

Although animal groupings comprise Phyla, Classes, Orders, Families, Genera and Species, this treatise focuses on life forms with vastly different forms or structures, regardless of their classifications. My use of terms like "different species" and "speciation," therefore, generally refer to life forms that are very different. Life forms that have relatively minor adaptive differences, even if they are technically different species, are not the subject of this treatise.

The scientific concept of the origin of life on earth begins with the premise that life first appeared billions of years ago with the formation of microscopic organisms out of inanimate matter. In the billions of years that followed, small organisms evolved into higher and more complex forms of life through random mutations, and one species evolved into another.

Over the years, a process referred to as "natural selection," scientists believe, weeded out those mutations and organisms less fit to survive than others. Thus, it was mostly the more "fit" that passed on their genetic character traits to subsequent generations. And that's how we and all other life forms got here.

On the surface, this sounds great. However, a deeper analysis of the underlying mechanism and the fossil record, leaves little doubt that a random process, of mutation or any other kind, could not possibly have been the driving force behind the development of life on earth.

First, it should be pointed out that the purported mechanics of speciation are not exactly based on strong empirical evidence, to begin with, as explained on the website of The Department of Geology of The University of California, which has one of the top 25 Geology programs in the country, according to 'America's Best Graduate Schools' by U.S. News and World Report:

"The process of speciation has been difficult to observe, however, and there is still a great deal of controversy about the mechanisms of speciation. No one doubts that it occurs frequently, at least on a geological time-scale. No one has seen a new species form in ecological time, although some cases come very close. You would expect, then, that the geological record, which is so much longer and more incomplete, would hardly ever sample speciation events. We need to include that fact in any theory of speciation. In fact, then, both biologists and paleontologists must infer what happens, and it is very difficult to sort out where fact ends and where interpretation begins. Possibly the term 'speciation' may cover a broad spectrum of events: we already know that some species differ by as few as three genes from others, a difference that would be less than brother-sister differences in other organisms ... Notice that since biologists have not seen a speciation event that everyone would believe, biologists are driven to theory-heavy models of speciation, rather than a rich store of observational evidence. Even so, there are cases of near-speciation in the biological world, and many of them have been ignored because they suggested the 'wrong' answer!"

In addition to showing how the scientific concept of speciation is not exactly based on solid evidence, the above paragraph also shows how dishonest and misleading some scientific literature can get when it comes to evolution.

The University's literature above actually begins with a factual-sounding declaration which I deliberately left out: "The fossil record tells us that new species have evolved from pre-existing ones."

Really?

With all the difficulties presented within the same literature, does the fossil record really tell us that? How can it make a bold statement like, "No one doubts that [speciation] occurs frequently," when the entire paragraph expresses anything but certainty?

The problem with the purported mechanics of Darwinian evolution, though, goes far beyond the lack of evidence for frequent speciation. The lack of an essential by-product of frequent speciation, a long series of happenstance events, completely undermines the fundamentals of Darwinian evolution.

People often challenge the theory of evolution on the basis of whether a random process can produce organization. An analogy often given is: Can an infinite number of monkeys on typewriters, given enough time, produce the works of Shakespeare purely by random keystrokes? Let's assume for the purpose of this discussion that this is possible -- random mutations can, given enough time, eventually produce the most complex forms of life.

Let's get an idea of how that would work by rolling a die (one "dice"). To get a "3," for example, you'd have to roll the die an average of six times (there are six numbers, so to get any one of them would take an average of six rolls). Of course, you could get lucky and roll a 3 the first time. But as you keep rolling the die, you'll find that the 3 will come up on average once every six rolls.

The same holds true for any random process. You'll get a "Royal Flush" (the five highest cards, in the same suit) in a 5-card poker game on average roughly once every 650,000 hands. In other words, for every 650,000 of mostly lesser hands and meaningless arrangements of cards, you'll get only one Royal Flush.

Multi-million dollar lotteries are also based on this concept. If the odds against winning a big jackpot are millions to one, what will usually happen is that for every game where one person wins the big jackpot with the right combination of numbers, millions of people will not win the big jackpot because they picked millions of combinations of meaningless numbers. To my knowledge, there hasn't been a multi-million dollar lottery yet where millions of people won the top prize and only a few won little or nothing. It's always the other way around. And sometimes there isn't even one big winner.

Now, let's take this well-understood concept of randomness and apply it the story of monkeys on typewriters. As mentioned earlier, for the purpose of this discussion we'll assume that if you allow monkeys to randomly hit keys on a typewriter long enough they could eventually turn out the works of Shakespeare. Of course, it would take a very long time, and they'd produce mountains and mountains of pages of meaningless garbage in the process, but eventually (we'll assume) they could turn out the works of Shakespeare.

For simplicity sake, we'll use a limited number of moneys. (My point actually becomes stronger when you use an infinite number of monkeys.)

Let's say, after putting a monkey in front of a typewriter to type out Shakespeare, you decide you also want a copy of the Encyclopedia of Britannica. So you put another monkey in front of another typewriter. Then, you put a third monkey in front of third typewriter, because you also want a copy of "War And Peace." Now you shout, "Monkeys, type," and they all start banging away on their typewriters.

You leave the room and have yourself cryogenically frozen so you can come back in a few million years to see the results. (The monkeys don't have to be frozen. Let's say they're an advanced species; all they need to survive millions of years is fresh ink cartridges.)

You come back in a few million years and are shocked at what you find. What shocks you is not what you see, but what you don't see. First, you do see that the monkeys have produced the works of Shakespeare, the Encyclopedia of Britannica and "War and Peace." But all this you expected.

What shocks you is that you don't see the mountains of papers of meaningless arrangement of letters that each monkey should have produced for each literary work. You do find a few mistyped pages here and there, but they do not nearly account for the millions of pages of "mistakes" you should have found.

And even if the monkeys happened to get all the literary works right the first time, which is a pretty impossible stretch of the imagination, they still should've typed out millions of meaningless pages in those millions of years. (There's no reason for them to stop typing.) Either way, each random work of art should have produced millions upon millions of meaningless typed pages.

This is precisely what the problem is with the Darwinian theory of evolution.

A random process, as depicted by Darwinian evolution and accepted by many scientists, even if one claims it can produce the most complex forms of life, should have produced at least millions of dysfunctional organisms for every functional one. And with more complex organisms (like a "Royal Flush" when compared to a number 3 on a die), an even greater number of dysfunctional "mistakes" should have been produced (as there are so many more possibilities of "mistakes" in a 52-card deck than a 6-sided die).

The fossil record should have been bursting with millions upon millions of completely dysfunctional-looking organisms at various stages of development for the evolution of each life form. And for each higher life form -- human, monkey, chimpanzee, etc. -- there should have been billions of even more "mistakes."

Instead, what the fossil record shows is an overwhelming number of well-formed, functional-looking organisms, with an occasional aberration. Let alone we haven't found the plethora of "gradually improved" or intermediate species (sometimes referred to as "missing links") that we should have, we haven't even found the vast number of "mistakes" known beyond a shadow of a doubt to be produced by every random process.

That randomness will always produce chaos in far greater ratios than anything else, even in cases where it can occasionally produce order of any kind, is an established fact. A process that produces organization without the expected chaos is obviously following a predetermined course.

The notion that the fossil record supports the Darwinian theory of evolution is as ludicrous as saying that a decomposed carcass proves the animal is still alive. It proves the precise opposite. The relative scarcity of deformed-looking creatures in the fossil record proves beyond any doubt that if massive speciation occurred it could not possibly have happened through a random process.

In response as to why we don't see the massive "mistakes" in the fossil record, some scientists point out that the genetic code has a repair mechanism which is able to recognize diseased and dysfunctional genetic code and eliminate it before it has a chance to perpetuate abnormal organisms.

Aside from this response not solving the problem, as I will point out soon, it isn't even entirely true. Although genetic code has the ability to repair or eliminate malfunctioning genes, many diseased genes fall through the cracks anyway. There are a host of genetic diseases -- hemophilia, various cancers, congenital cataract, spontaneous abortions, cystic fibrosis, color-blindness, and muscular dystrophy, just to name a few -- that ravage organisms and get passed on to later generations, unhampered by the genetic repair mechanism. During earth's history of robust speciation through, allegedly, random mutations, far more genes should have fallen through the cracks. Where are they?

And, as an aside, how did the genetic repair mechanism evolve before there was a genetic repair mechanism? And where are all those millions of deformed and diseased organisms that should've been produced before the genetic repair mechanism was fully functional?

But all this is besides the point. A more serious problem is the presumption that natural selection weeded out the vast majority of the "misfits."

A genetic mutation that would have resulted in, let's say, the first cow to be born with two legs instead of four, would not necessarily be recognized as dysfunctional by the genetic repair mechanism. (I'll be using "cow" as an example throughout; but it applies to just about any organism.) From the genetic standpoint, as long as a gene is sound in its own right, there's really no difference between a cow with four legs, two legs, or six legs and an ingrown milk container. It's only after the cow is born that natural selection, on the macro level, eliminates it if it's design is not fit to survive.

It's these types of mutations, organisms unfit to survive on the macro level, yet genetically sound, that should have littered the planet by the billions.

Sure these deformed cows would have gotten wiped out quickly by natural selection, since they had no chance of surviving. But that's precisely the point: Where are all those billions of life forms that were genetically sound but couldn't make it after birth?

How many millions of dysfunctional cows alone, before you even get to the billions of other species in earth's history, should have littered the planet and fossil record before the first stable, functioning cow made its debut? If you extrapolate the random combinations from a simple deck of cards to the far greater complexity of a cow, we're probably talking about billions of "mistakes" that should have cluttered planet earth for just the first functioning cow.

Of the fossils well-preserved enough to study, most appear to be well-designed and functional-looking. Did nature miraculously get billions of species right the first time? With the ratio of aberrant looking fossils being no more significant than common birth deformities, there seems to have been nothing of a random or accidental nature in the development of life.

And to admit that life was not a random process, as I've heard some evolutionists do, and then just leave the question open as to how life got to its current state of diversity, is absolutely absurd and grossly dishonest. There are no other options: it was either an accident or deliberate. And if it obviously wasn't an accident, it had to be by intelligent design.

One absurd response I got from a molecular biologist as to why a plethora of deformed species never existed was: There is no such thing as speciation driven by deleterious mutation.

This is like, upon asking, "How come no one ever leaves the lecture hall through exit 4?" getting a response like, "Because people don't leave the lecture hall through exit 4." Wasn't that the question?

What evolutionists have apparently done is looked into the fossil record and found that new species tend to make their first appearance as well-formed, healthy-looking organisms. So they made a rule out of it: "Speciation is not driven by deleterious mutations." So now that's it's a rule of evolution, you can no longer ask why? If I told you a "rule" that shoes grow on apple trees, can you no longer ask how that works, because it's a rule?

Instead of asking themselves how can a random series of events, which is known to always produce chaos, seldom produce chaos in nature, they've simply formulated a rule in evolutionary biology: There is no such thing as speciation driven by deleterious mutation. This hardly addresses the issue.

It's one thing for the genetic code to spawn relatively flawless cows today. Perhaps, after years of stability, one might argue, nature finally got it right by passing down mostly the beneficial genes. But before cows took root, a cow with three legs, for example, would have been no more genetically deleterious than a cow with four legs. The genetic repair mechanism may recognize "healthy" or "diseased" genetic code, but it can't know how many legs, horns or ears a relatively new species should have, if we're talking about a trial-and-error crapshoot. If the genetic repair mechanism could predict, years before natural selection on the macro level had a chance to weed out the unfit, what a functioning species should eventually look like, we'd be talking about some pretty weird, prophetic science.

In a paper published in the February 21, 2002, issue of Nature, Biologists Matthew Ronshaugen, Nadine McGinnis, and William McGinnis described how they were able to suppress some limb development in fruit flies simply by activating certain genes and, with additional mutations, suppress all limb development during embryonic development.

In another widely publicized experiment, mutations induced by radiation caused fruit flies to grow legs on their heads.

What these experiments showed is how easy it is to make drastic changes to an organism through genetic mutations. Ironically, although the former experiment was touted as supporting evolution, they both actually do the opposite.

The random process that supposedly resulted in such a massive proliferation of life forms on earth could've have created chaos by simply flipping of few genetic "switches." But it didn't even do that! Obviously, the proliferation of life is not the result of random events, neither on the genetic level nor the macro level.

Evolutionists tend to point out that the fossil record represents only a small fraction of biological history, and this is why we don't find all the biological aberrations we should. The issue here, though, is not one of numbers but of proportions.

For every fossil of a well-formed, viable-looking organism, we should have found an abundance of "strange" or deformed ones, regardless of the total number. What we're finding is the proportional opposite.

The theory of evolution may have made sense in the scientifically ignorant days of Darwin. But in the 21st century, evolution appears to be little more than a figment of imagination. Although this imaginative concept has in the years since Darwin amassed a fanatical cult-like following, there is much evidence that contradicts it.

An article entitled, "The Chaos Theory of Evolution," by Keith Bennett, on NewScientist.com, October 18, 2010, describes research that shows the cornerstones of evolution -- adaptation and natural selection -- have little to do with speciation.

Keith Bennett's bio: Professor of late-Quaternary environmental change at Queen's University Belfast, guest professor in palaeobiology at Uppsala University in Sweden, and author of "Evolution and Ecology: The Pace of Life" (Cambridge University Press). He holds a Royal Society Wolfson Research Merit Award.

Excerpts from his article:

"In 1856, geologist Charles Lyell wrote to Charles Darwin with a question about fossils. Puzzled by types of mollusc that abruptly disappeared from the British fossil record, apparently in response to a glaciation, only to reappear 2 million years later completely unchanged, he asked of Darwin: 'Be so good as to explain all this in your next letter.' Darwin never did.

"To this day Lyell's question has never received an adequate answer. I believe that is because there isn't one.

"...the neat concept of adaptation to the environment driven by natural selection, as envisaged by Darwin in 'On the Origin of Species' and now a central feature of the theory of evolution, is too simplistic. Instead, evolution is chaotic.

"Our understanding of global environmental change is vastly more detailed [today] than it was in Lyell and Darwin's time. James Zachos at the University of California, Santa Cruz, and colleagues, have shown that the Earth has been on a long-term cooling trend for the past 65 million years. Superimposed upon this are oscillations in climate every 20,000, 40,000 and 100,000 years caused by wobbles in the Earth's orbit. "

Their research, mostly on birds, "shows that new species appear more or less continuously, regardless of the dramatic climatic oscillations of the Quaternary or the longer term cooling that preceded it.

"The overall picture is that the main response to major environmental changes is individualistic movement and changes in abundance, rather than extinction or speciation. In other words, the connection between environmental change and evolutionary change is weak, which is not what might have been expected from Darwin's hypothesis.

" ... macroevolution may, over the longer-term, be driven largely by internally generated genetic change, not adaptation to a changing environment."

The gist of Bennett's article is that we cannot predict the course of the evolution of life because adaptation and natural selection -- the bedrock of Darwinian evolution -- have little to do with speciation.

But, you may ask, if Bennet's research shows that speciation is driven by some innate genetic characteristics rather than chaotic climate conditions, aren't we back to square one?

No, we're not. Evolution driven by an innate ability of genes to mutate and evolution driven by unpredictable climactic conditions are totally different animals (no pun intended), as will become clear soon.

Genetically driven speciation is analogous to, say, randomly hitting a ball on a billiard table. When the ball drops into a pocket it may have dropped into a random pocket but this was not necessarily a truly random event. The ball can only drop into one of the six pockets available; it cannot drill a new pocket at a random spot.

The point is, the ball can only drop into a pocket that was previously prepared for it, limiting its randomness by a predetermined set number of possibilities. So, no matter how randomly the ball is hit, its "randomness" is limited and guided by the predesign of the billiard table.

This is what I believe is behind speciation. Organisms only change into "allowable," or perhaps genetically guided, life forms. The appearance of a new organism may be a random choice among several "allowable" life forms, but, aside from the occasional aberration, which never results in a lineage of aberrations, an organism will never turn out to be a truly randomly constructed creature.

Fossil records and lab experiments seem to support this type of "organized evolution", which we will name Focused Biological Evolution (FBE), to differentiate it from Darwinian evolution.

Some years ago I read an article about how scientists found a cactus in the desert that had mutated under extreme conditions into another type of cactus. They decided to experiment to see how many different mutations of cacti they could get out of the original one. So they subjected the original cactus to the same conditions that had resulted in it mutating. To their amazement, no matter how many times they performed the experiment, the cactus only changed into that one mutated form.

The scientists in this experiment did not get a myriad of dysfunctional mutations before getting a functioning cactus. They didn't even get several different functioning cacti. The only result was this one mutation, and there seemed to be nothing random about it.

In 2006, a team of researchers from Panama, Colombia and the UK recreated the Heliconius heurippa butterfly in the laboratory by crossing two other species of butterfly, Heliconius cydno and Heliconius melpomene. The process of creating one new species out of two is known as hybrid speciation. Experimenter Chris

Jiggins of the University of Edinburgh told BBC News: "The fact [that] we've recreated this species in the lab provides a pretty convincing route by which the natural species came about."

Although this was a "reverse" type of evolution, that the genetic code was able to create a new functional species is an indication of how the genetic code holds some sort of "guidance system" that not only maintains the viability of its host's current form but also that of other forms, and true randomness has little to do with speciation.

In another experiment, in 2002, biologists at the University of California uncovered genetic evidence that explains how large-scale alterations to body plans in animals can be accomplished through what was described as "simple mutations" in a class of regulatory genes, known as Hox, that act as master switches by turning on and off other genes during embryonic development.

Using laboratory fruit flies and a crustacean known as Artemia, or brine shrimp, the scientists showed how modifications in the Hox gene Ubx suppresses 100 percent of the limb development in the thoracic region of fruit flies, and 15 percent in Artemia.

"This kind of gene is one that turns on and off lots of other genes in order to make complex structures," said one graduate student working in William McGinnis' laboratory. "What we've done is to show that this change alters the way it turns on and off other genes. That's due to the change in the way the protein produced by this gene functions."

What this experiment demonstrated is that even in cases where it would have been very easy for nature to create an immense number of bizarre creatures by the simple random setting of genetic switches, nature apparently got these switch settings right the first time in a vast majority of cases, as is evidenced by the mostly functional looking creatures in the fossil record.

As an aside, what's interesting is the simplistic interpretation given by the graduate student about how switches "make complex structures." Switches do not "make complex structures" or cause things to evolve, just as turning on light switches do not cause electricity, light fixtures or wiring to evolve. Switches merely signal a pre-programmed or pre-determined event to occur between existing components. The components themselves may have taken much design and planning.

For an organism's features to simply pop up or disappear with the flick of a switch, there would have to have been a sophisticated underlying mechanism already in place that assigned specific tasks to specific genetic switches. Rather than showing how "simple" it is for new limbs to "evolve," the above experiment shows how sophisticated biological systems really are, and yet how simple it is to change their course of development. Similarly, turning a computer's switch on and surfing the web, for example, is simple enough for a 10-year-old to do, but those simple acts make use of highly sophisticated research, design and development efforts.

Another experiment, this one by evolutionary biologist Richard Lenski of Michigan State University, showed very clearly that speciation is the result of an underlying genetic design and not chaos and randomness.

For twenty years Lenski cultivated 12 populations of bacteria that originated from one single Escherichia coli (E. Coli) bacterium. After more than 44,000 generations, Lenski noticed a similar pattern in all 12 populations; they evolved larger cells, faster growth rates on the glucose they were fed, and lower peak population densities.

Sometimes around the 31,500th generation, one (and only this one) population suddenly acquired the ability to metabolize citrate, a second nutrient in their culture medium that E. coli normally cannot metabolize. The citrate-using mutants then increased in population size and diversity.

Lenski wondered what would happen if he replayed this experiment; would the same population evolve in the same way, and would any of the other 11 also evolve. So he turned to his freezer, where he had saved samples of each population every 500 generations, and replayed the experiment.

The replays showed that even when he looked at trillions of cells, it was always the same population that re-evolved, and it always evolved only into that same mutation.

This experiment speaks volumes of speciation's non-randomness. Not only was the end result the same every time this experiment was re-played, but the similarity between the intermediate "chaos" of each culture showed that even what gave the appearance of being chaos was actually part of an organized process.

What's mind-boggling is how some evolutionists saw Lenski's experiments as supporting Darwinian evolution, when in fact it did just the opposite. Here's a comment by an evolutionary biologist at the University of Chicago about Lenski's experiment: "The thing I like most is it says you can get these complex traits evolving by a combination of unlikely events. That's just what creationists say can't happen."

Contrary to what this evolutionary biologist claims, nothing in Lanski's experiment evolved in the Darwinian sense. The entire process, after several runs, became as predictable as the "chaos" of an undeveloped fetus turning into a fully formed human being. That's not evolution. Such events are generally referred to as development, formation, maturation, etc., not evolution.

What Lenski's experiments confirmed is that new mutated life forms are not the result of small, random, beneficial, changes, as described by Darwinian evolution, but a genetic predisposition that allows for very specific, predefined forms of life, very much like my earlier billiard analogy. Furthermore, that the genetic code can hold the blueprint for more than one life form is nothing new. We see this quality in some creatures even today:

* Caterpillars are crawling creatures that go through a stage called pupa, in which they undergo a complete metamorphosis and emerge as flying creatures, butterflies.

* Tadpoles are aquatic, gill-breathing, legless creatures that develop lungs, legs, and other organs to roam on dry land.

* Some salamanders undergo a metamorphosis which also takes them from an aquatic environment to an air-breathing one.

We call these transformations "metamorphoses," as opposed to evolution, because they happen in front of our eyes and it's obvious that their transformations are guided by an innate genetic mechanism, not by an evolutionary process. Had we seen these creatures transform only in the fossil record, and not in front of our eyes, evolutionist would undoubtedly have hailed these transformations as proof of Darwinian evolution.

Darwinian Evolution (DE)
vs.
Focused Biological Evolution (FBE)

You can probably sum up the differences between Darwinian Evolution and Focused Biological Evolution in a nutshell: After a century and a half, we've found more evidence that contradict DE than support it. FBE, on the other hand, is continually being proven in labs, by the fossil record and by archeological discoveries.

After much digging and analysis, we've found that the progression of life as suggested by Darwin is completely absent from fossil and archeological records. Most conspicuous is the absence of the massive number of deformed and diseased life forms that should have littered earth as a result of a long series of random changes.

The vast majority of life forms in fossil or archeological discoveries give the appearance of being well formed and functional organisms. The evidence that DE never happened is spitting in our faces. In fact, the mere proposal by some scientists of a theory like "punctuated equilibrium" (which says that most species experience little change for most of their history, and then, suddenly, new species appear) accentuates the extent to which scientists are at a loss to find empirical support for DE.

In fact, theories like punctuated equilibrium are typical of evolutionists when confronted with contradictions. They simply make a "rule" out of inexplicable findings and, presto, there's no more need to explain. How does life just pop out of nowhere? "Most species experience little change for most of their history, and then, suddenly, new species appear." That really answers that, doesn't it?

One far-fetched, almost comical, explanation given for punctuated equilibrium is that these creatures evolved elsewhere and only their final forms, somehow, mysteriously, appeared in the location where we found sudden appearances of new species.

But the question remains, how come we always find only the fossils where organisms suddenly appeared in their final form and never where they went through the long evolutionary process? Could it be because that long evolutionary process is a myth?

Scientists then start tinkering in the lab with speciation to prove DE. Instead of finding that speciation produces all sorts of random creatures, which is what you'd expect of a random processes, they find that speciation is more of an "action-reaction" process that generally produces some very well-defined, specific, functional organisms. Apparently, speciation seems no more evolutionary than metamorphosis or gestation, albeit requiring different time scales and circumstances.

A theory like punctuated equilibrium actually makes for more comedy than science. Perhaps we should update punctuated equilibrium to the following:

There is overwhelming evidence suggesting that if you incubate three dozen worms in a solution of amino acids and carbon compounds for approximately one and a half million years they will eventually evolve into the Long Island Railroad. The only problem with this theory is that if this were true some species of fish would have a natural tendency to ride the Long Island Railroad. But fish have never actually been observed commuting between Long Island and Manhattan.

A group of enterprising archaeologists, however, found the missing link to this apparent puzzle. Digging through the ruins of an old Long Island Railroad yard, they came across a fossil of a fish believed to be extinct for billions of years. In fact, after taking a radiocarbon reading of the fossil and the brown paper bag it was found in, they confirmed that their find dated back to the "big bang," give or take six months. This proves conclusively that prehistoric fish did commute via the Long Island Railroad.

Now, the question arises, did prehistoric fish commute on dry land or did prehistoric trains run underwater? No one really knows for sure. But, the famous Dr. Imust Beagenius (pronounced I-must Be-a-genius) is grappling with a theory. Dr. Beagenius suggests that prehistoric fish must have travelled on dry land. He points out that extensive laboratory tests show that railroad tickets are not waterproof.

There you have it -- a theory which links fish, worms, and the Long Island Railroad. It couldn't be more logical.

Unfortunately, not everyone is that easy to please. There are those who, believe it or not, would demand a more detailed explanation of such a theory, no matter how logical it sounds. "How do a bunch of worms," they would naively ask, "turn into the Long Island Railroad?"

In spite of the absurdity of such skepticism, I offer the following evidence which should render this theory proven beyond a shadow of a doubt.

Our archeologist friends went back to the same railroad yard and made some more astonishing discoveries. They lined up some of the old cars side by side and noticed how each car was slightly bigger and better developed than the one before it. The car at one end had a highly sophisticated and powerful air conditioning system, while the car at the other end had not even a fan. The only trace of air conditioning found in one underdeveloped car was the fossil of a conductor slapping an old woman with his cap to create some air disturbance. (His cap, incidentally, has been known to be extinct for at least seven and a half billion years. It had no union label.)

Then, scientists took a worm crawling in the same railroad yard and put it under a powerful electron microscope. And behold, they made an astounding discovery: A worm's cell magnified three billion times has an uncanny resemblance to a train window (without the shades).

It's quite obvious that the evidence presented for the worm-train theory overshadows the somewhat popular but fanatical notion that trains may have been manufactured by intelligent beings. The "intelligent beings" theory would imply a labor union. So far, none of the trains studied showed any traces of major medical benefits, pension funds, or sick leave. How such a ridiculous theory even got started is hard to imagine. So much for this nonsensical "intelligent beings" theory.

By now you must be saying to yourself, "Well, the evidence for the worm-train theory is certainly overwhelming. Any idiot can see its scientific validity. But where did the first worm come from?"

I'm glad you asked. The theory widely accepted by the scientific community and also strongly supported by our famous Dr. Imust Beagenius is the "big bait" theory. In the beginning there was a big ball of fishing hooks. Nature found it rather absurd to have so many fishing hooks without worms. In a few short billions of years, worms began to materialize around the hooks. When the first trout started biting, nature found it necessary to produce more worms to keep up with the fishing season. And so, worms began materializing on virtually every hook around the globe. Then, in the off-season, there were more worms than hooks. So, the problem at that point was storing these excess worms. This brought about the invention of the can. So, you see, the worm-train evolution began with the Big Bait. And the Big Bait began with a can of worms.

How's that for a new theory?

I heard one evolutionist even admit that life could not have been an accident. But he wouldn't acknowledge it must have been intelligently designed. This is quite an absurd position. It's got to be one or the other. Something is either an accident or deliberate; there is no in-between and no other options. And if you prove one, you've disproven the other. Conversely, if you disprove one, you've proven the other.

If all evidence shows clearly that the development of life on earth was not the result of accidental occurrences, that demonstrates conclusively that it had to be intentionally designed. To understand the former but not acknowledging the latter is intellectual dishonesty, at best, delusional, at worst.

How is FBE different?

While Darwinian evolution began as a theory in search of evidence, FBE is a direct result of that evidence. Unlike DE, FBE is not a theory waiting to be proven; it's the evidence that created it. What's more, FBE not only explains the fossil record and speciation in the field and the lab, but, interestingly, it is also fully compatible with Creation.

Here's a capsulized review of how FBE would explain the development of life on earth from its inception to today.

Please note that FBE does not explain how life began. And neither does any other science. There is not a scintilla of empirical evidence in the lab or in the field that shows abiogenesis (living organisms arising from inanimate matter) ever occurred or is even possible. Yet, we are here; something or someone had to have started life. So with the complete absence of any science to explain the beginning of life, using Creation as a model is as good as any.

In the beginning, all of today's ancestral life forms were Created. (Whether "Created" means ex nihilo or that the land and sea gave forth their respective creatures is irrelevant to this discussion.)

As these ancestral life forms spread or appeared throughout various climates around the globe, they went through changes to adapt to their environments and, in some cases, speciation may have occurred.

Being that every known (and perhaps as yet unknown) variation of life has its roots in genetic code rather than accidental occurrences, adaptation and speciation did not require massive trial-and-errors or long development periods. Instead, they were as smooth and as precise transformations as the metamorphosis of tadpoles into frogs and caterpillars into butterflies.

(Speciation involving intermediate chaotic-looking organisms, by the way, has thus far been found only in micro organisms. And even then, the "chaos" always have similarities, with the end result always appearing as a specific genetically-dictated mutation, not as a randomly generated organism.)

The sudden appearance of new species in the fossil record, therefore, is precisely how it must've happened. New species could easily have popped up within a generation or two. For without the need of Darwin's lengthy development period, millions of years of myriads of "misfits" and missing links were not necessary (even if they could possibly evolve life).

As far as scientific explanations go, DE has been a 150-year failure. It's time we discarded DE, as we've done with many other outdated "earth is flat" type of theories. The sophistication of the 21st century calls for a new theory that fits the facts, not an old patched-up theory that has its roots in ignorance and needs a new patch for every discovery. Focused Biological Evolution could be that new theory.

What Qualified Charles Darwin To Propose the Theory of Evolution?

Well, let's look at his background. At the age of 13, Charles Darwin was sent to school to study letters. He failed miserably. At the age of 16, his father used his influence to get Charles accepted into medical school.

But Charles was not cut out for this. In January 1826 Charles had written home complaining of "a long stupid lecture" about medicine. He loathed medicine and left in April 1827 without a degree.

Finally, at the age of 22 Charles Darwin studied and received a degree in Theology.

A degree in Theology?

A degree in Theology qualified Charles Darwin to postulate the theory of evolution? What exactly was his theory based on?

Apparently, Charles Darwin based his theory of evolution on little more than personal observations and subjective reasoning. That is, an entire branch of "science" today is based on the imagination of one person who had no scientific credentials. The average high-school student today knows more about genetics than Charles Darwin knew about it then.

What's even stranger is that a contemporary of Darwin, Gregor Mendel, was more qualified than Darwin to speak of biological life and challenged Darwin's views. Yet, Mendel's views never took hold in a big way, and much of his work was not even recognized until after his death.

Darwin assumed that there were no limits to biological variation and that, given enough time, a fish could eventually evolve into a human being. Gregor Mendel challenged this assumption, claiming evolution was restricted to within the "kinds." That is, Mendel maintained that a life form could evolve into something related to its own "kind," but a drastic development such as a fish evolving into a human being, no matter how much time was allowed, could never happen.

Was Mendel's version of evolution not accepted because he was less qualified to speak about biological life than someone holding a degree in theology?

Well, what was Mendel's background? Mendel was an Austrian biologist whose work on heredity became the basis for modern genetics. He had a science education at the University of Vienna, and wrote about geology and organic evolution on his 1850 teaching examination.

Unlike Darwin, Mendel's theories were based on extensive research and experimentation, which began in 1856, three years before Darwin published his Origin of Species. Mendel carefully designed and meticulously executed experiments involving nearly 30,000 pea plants followed over eight generations.

In 1866, Mendel published his work on heredity in the Journal of the Brno Natural History Society. However, the importance of his work only gained wide understanding in the 1890s, after his death, when other scientists working on similar problems re-discovered his research. William Bateson, a proponent of Mendel's work, coined the word genetics in 1905.

With all of Mendel's qualifications and achievements, you'd think his version of evolution would have been the one to catch on. After all, archeological discoveries to this day show that Darwin's long progression of slow, incremental, evolutionary changes never happened; archeology could certainly not have supported evolution in those days. But, somehow, it was Darwin who received widespread recognition, not Mendel.

How did this happen?

Apparently, Darwin's theories had more political attraction than scientific substance. Here's an excerpt from the National Institutes of Health, nih.gov, from an article entitled "Theories of evolution shaping Victorian anthropology. The science-politics of the X-Club, 1860-1872:"

It refers to a paper that " ... discusses the role that a group of evolutionists, the X-Club, played in the epistemic and institutional transformation of Victorian anthropology in the 1860s. It analyses how anthropology has been brought into line with the theory of evolution, which gained currency at the same time. The X-Club was a highly influential pressure group in the Victorian scientific community. It campaigned for the theory of evolution in several fields of the natural sciences and had a considerable influence on the modernization of the sciences ... evolutionary anthropology emerged in the 1860s also as the result of science-politicking rather than just from the transmission of evolutionary concepts through discourse."

And, to this day, some of the strongest voices behind evolution argue not from a scientific perspective, but from personal conviction. If you look at evolution blogs you'll find that Darwinian evolution quite often (although not always) goes hand in hand with atheism. Evolution is regularly used by atheist as an intellectual tool for arguing that life took no intelligence to design.

Why attempt to use science to detract from life's obvious inherent design? Well, it's difficult to deny, especially in this day and age, that there is complexity and sophistication in nature. So to deny that life required an intelligent creator, no matter how desperately you'd like to, for whatever personal reasons, just seems illogical and downright idiotic.

But, what if you can come up with a "modern" idea that denies it for you, and, at the same time, makes you look like a "progressive?" Now that's something some people can sink their teeth into. Darwinian evolution is just that vehicle. Is it science? Absolutely not. But in the hands of an atheist, it's an armored tank. One well-known British evolutionary biologist is known more for his rants and lectures against the concept of God than for his discussions on science.

In the final analysis, all evidence points to order and harmony governing every aspect of the development of life. Random external forces may play a role in a new life form emerging, they may also play a role in bringing out certain features that will help an organism survive, but they do not design physical features or the genetic switches that control these features. New features are nothing more than expressions of dormant genetic traits.

Thus, not only is there nothing accidental about the development of life, but the genetic structure, as complex as we've already known it was, appears to be even more complex than anything we've imagined. For the genetic code to hold the key to an organism's current form and also to the forms of several new variations or species is truly mind-boggling. How serious does one's evolution delusion have to be to not see the design in all this?

What's interesting is that DE has more holes in it than the big bang. Yet, you'll occasionally hear scientists admit there are problems with the big bang and question whether it's the correct theory about the beginning of the universe. I even saw one scientist write that he believed in the big bang because "we have nothing better."

Not so with evolutionists. Just about every evolutionists I've encountered is absolutely convinced that DE, despite all evidence against it, is a solid, one-hundred-percent-correct theory. With all the obvious problems with DE, how can one be that sure? The answer is, DE has turned into a cult.

DE evolutionists, I believe, fall into two broad categories. Those who perpetuate the theory and know it has no legs to stand on, and those who don't know better and just rely on "the scientist."

One guy I spoke to recently had exactly that response. He admitted he knew little about science but said he believed in DE because he relied on scientists. Scientist, he reasoned, gave us things like cell phones, heart transplants, Ipads, etc., they must know what they're talking about.

The truth, however, is that the scientists who gave us all of life's conveniences are not necessarily the same ones who perpetuate DE. Scientists are human (even those who sound like they evolved from apes). Just like there are good doctors and quacks, good lawyers and shysters, good car mechanics and crooks, there are "good" scientists and "junk" scientists. DE evolutionists are the shysters of molecular biology.

I had one debate with someone on an atheist forum who was absolutely convinced about the veracity of DE and claimed he even had a paper by a molecular biologist that proved the correctness of DE. When I examined his paper, and saw that it made little sense, I asked him to explain what he understood about the paper. He couldn't explain any of it.

The paper I believe was written by a molecular biologist, and perhaps it somehow made some sense to him, or perhaps it was deliberately written to confuse, but it was presented as "proof" by someone who had no idea what it said. This approach, I believe, represents the majority of laymen who believe in evolution; they have little knowledge of science but simply take "scientists" word for it.

I later debated the molecular biologist who supposedly wrote this paper. His reasoning went in circles, he clarified nothing, but he had everyone on the forum convinced he was a "superstar" and knew why evolution worked.

The perpetuation of DE also has elements of intimidation. There's a documentary out by a famous actor/comedian who interviews scientists who have been harassed and even fired from universities for suggesting that life could not possibly have evolved without intelligence. Is this what they call a scientific debate? As I've mentioned before, DE is not at all about science. It's a cult with an agenda.

DE also gets much unwarranted traction from the media, which also relies on "the scientists." Here's an article that ran in the New

York Times on May 18, 2009:

"On Tuesday morning, researchers will unveil a 47-million-year-old fossil ['Ida'] they say could revolutionize the understanding of human evolution at a ceremony at the American Museum of Natural History.

"But the event, which will coincide with the publishing of a peer-reviewed article about the find, is the first stop in a coordinated, branded media event, orchestrated by the scientists and the History Channel, including a film detailing the secretive two-year study of the fossil, a book release, an exclusive arrangement with ABC News and an elaborate Web site.

"The specimen, designated Darwinius masillae, is of a monkeylike creature that is remarkably intact: even the contents of its stomach are preserved. The fossil was bought two years ago in Germany by the University of Oslo, and a team of scientists began work on their research. Some of the top paleontologists in the world were involved in the project, and it impressed the chief scientist at the Natural History museum enough to allow the press-conference.

"'We would not go forward with this, even in a hosting capacity, unless we had a sense of the scientific importance,' said Michael J. Novacek, the provost of science at the museum.

"'It's the most newsworthy and noteworthy special we've been a part of,' said Nancy Dubuc, the general manager of the History Channel. 'We made a commitment early on to get behind it in a big way: to see it through peer review, and see that it is the media event it should be.'"

This was my response, which was published in the New York Post on May 26, 2009:

"The fossil Ida is being used by scientists as an assault on a gullible public.

"One fossil does not represent a transitional species, any more than the remains of a two-headed snake represents a transition of snakes from one head to two heads. They're simply aberrations of nature.

"You'd need more than one fossil to represent a species, and you'd need many transitional aberrations that couldn't survive to show an evolutionary process was going on.

"Ida represents the fanciful speculations of a scientific community determined to publicize its biased agenda."

On October 22, 2009, the New York Post ran the following article detailing how scientists realized in the end that Ida was just one big mistake:

"Remember Ida, the fossil discovery announced last May with its own book and TV documentary?

"A publicity blitz called it 'the link' that would reveal the earliest evolutionary roots of monkeys, apes and humans. Experts protested that Ida wasn't even a close relative. And now a new analysis supports their reaction.

"In fact, Ida is as far removed from the monkey-ape-human ancestry as a primate could be, says an expert at Stony Brook University on Long Island.

"Professor Erik Seiffert and his colleagues compared 360 specific anatomical features of 117 living and extinct primate species to draw up a family tree. They report the results in today's issue of the journal Nature.

"Ida is a skeleton of a 47-million-year-old cat-sized creature found in Germany. It starred in a book, 'The Link: Uncovering Our Earliest Ancestor,' and a TV documentary narrated by David Attenborough.

"Ida represents a previously unknown primate species called Darwinius. The scientists who formally announced the finding said they weren't claiming Darwinius was a direct ancestor of monkeys, apes and humans. But they did argue that it belongs in the same major evolutionary grouping, and that it showed what an actual ancestor of that era might have looked like.

"The new analysis says Darwinius does not belong in the same primate category as monkeys, apes and humans. Instead, the analysis concluded, it falls into the other major grouping, which includes lemurs.

"The primate skeleton 'Ida,' once called 'the link' to an evolutionary ancestor of humans and apes, turns out not to be even close."

So, that Ida was a link in the evolutionary chain was trumpeted with a ceremony at the American Museum of Natural History, peer-review articles, the History Channel, a film, ABC News, an elaborate Website, some of the top paleontologists in the world and the chief scientist at the Museum of Natural History. In the end, it turned out to be not even close.

What happened in the case of Ida is similar to what happens with many evolutionary claims. The initial claim gets widespread publicity, while the refutations barely make the news.

Ida's demise as an evolutionary link ran in a few articles here and there, but got nowhere near the publicity that Ida's unveiling got. How many people do you think still believe the original hype about Ida? Probably anyone who read or heard the hype but never got wind of the retractions. That's a heck of a lot people. This is how such an empty theory can have such a wide following.

And how did so many "experts" get fooled by a fossil that had no relevance to their claim? Were they all really fooled? They can't all be that incompetent. I don't think they are. Some of them are downright dishonest.

Here's one response I saw on an online forum to my statement that one fossil does not represent a transitional species: " ... scientists have many transitional fossils ... "

Right. Is that why they made such a big deal out of Ida? Do they normally hail the five-thousandth "discovery" of the same thing?

Do we have a record of who "discovered" Florida for the five thousandth time? Do we know who "invented" the engine even for the five hundredth time?

Ida received such accolades because scientists knew they had nothing like what they believed Ida represented. If scientists believed they already had evidence of Darwinian evolution, what was the big deal about Ida?

Ida was a big deal because there was no empirical evidence to support Darwinian evolution as late as 2009. And now that Ida has been debunked, DE remains a figment of the imagination, based on no science whatsoever.

(Needless to say, the guy on the forum never presented even one of the many fossils he claimed proved Darwinian evolution.)

In the final analysis, it's not the job of scientists to tell us what science is. It's their job to investigate nature and present their findings. And it is these -- provable -- findings that constitute science.

For scientists to ignore the obvious because it may lead to what in their view is unscientific, is grossly disingenuous and simply not their call. To ignore the obvious fact that life was not the result of accidental events -- a fact supported by almost every fossil ever found -- because the concept of God is not scientific, is really jumping the gun. Scientists do not have to talk about God, if they prefer not too. But they do have an obligation to put forth their honest findings, and let the public decide whether they want to talk about God.

That life shows no signs of being an accident is a simple conclusion and, at that level, does not constitute religion. Not reporting such an obvious conclusion, however, is nothing short of bias and deception.

The sad part is that in this day and age Darwinian evolution is still being taught in school as science. Unfortunately, most of our legislators and school board members are, when it comes to science, laymen. So when evolutionists, some of whom may have accredited degrees, argue in favor of teaching DE in school, how can legislators and school board members argue against it? They really don't have much of a choice.

I'm convinced that if the argument presented in the last chapter, that the fossil record shows absolutely no signs of an accidental evolutionary process, is presented to legislators and educators, and evolutionists are challenged to produce fossils that show otherwise, this cult called Darwinian evolution can be eliminated from the classroom.

Abiogenesis: Is It Even possible?

In the beginning the Earth was almost formed but void of life, and a primordial soup comprised of water, hydrocarbons and ammonia was upon the face of the deep; and the spirit of abiogeneses hovered over the face of the waters. And a lightning bolt struck the soup, and, behold, the building blocks of life were created.

And there was soup in the evening and lightning in the morning, and this was one theory. And scientists saw that this theory was good and called it science.

Is it me, or does this sound like Creation? The only thing missing is God.

The "scientific" theory of lightning creating the first Amino-acids is as close as science has ever gotten to explaining the initial appearance of the building blocks of life on Earth. How inanimate matter than came to life (abiogenesis), nobody knows.

Nobody knows because no one has ever reproduced abiogenesis and there is no evidence of it ever occurring. So if no one's ever reproduced it and there's no evidence of it occurring, what makes it science? And what makes it better than Creation? That is, if you say that God caused inanimate matter to come to life, that's not science because you can't prove it. But if you say that inanimate matter came to life through some other unprovable process, a process that some scientists even believe may never be possible to prove, that is science. Why?

From the euphoria displayed by scientists every time there is the slightest hint that evidence of abiogenesis is about to be uncovered, and the disappointments that invariably follow, it seems scientists' faith in abiogenesis is based more on emotional expectations rather than meaningful facts.

In April 2007 a team of European astronomers announced that, using a telescope in La Silla in the Chilean Andes, they discovered an Earth-like planet (named Gliese 581c) 20.5 light years away that could be covered in oceans and may support life.

An article on DailyMail.co.uk. reporting on this discovery, using a tactic typical of science writing, begins with, "[Gliese 581c has] got the same climate as Earth, plus water and gravity. [This] newly discovered planet is the most stunning evidence that life -- just like us -- might be out there." The article then admits, "We don't yet know much about this planet," but goes on to say, "This remarkable discovery appears to confirm the suspicions of most astronomers that the universe is swarming with Earth-like worlds."

Stunning evidence that life just like us might be out there? The universe is swarming with Earth-like worlds? Does this discovery really say all this?

Only a month later, dismay set in over Gliese 581c having been erroneously touted as an Earth-like planet. As one website put it: "...the source of so much press speculation about terrestrial worlds, turns out to be far too hot to support life ... it's closer to its star than Venus is to ours." And that was the "end of life" on this "Earth-like" planet.

The practice of publicizing discoveries along with wishful interpretations before facts are checked is common in scientific circles. Then, when facts that contradict initial assumptions come out, they are often not given the same urgency and publicity as the original announcements. The public is thus left with perceptions that coincide with what scientists would like to believe rather than with the way things really are.

Another planet discovered quite close to us in space was described by NASA in April 2004 as follows: "The similarities [to Earth] are striking. Each planet has roughly the same amount of land surface area. Atmospheric chemistry is relatively similar, at least as Earth is compared to ... other planets in [our] solar system. Both planets have large, sustained polar caps and the current thinking is that they're both largely made of water ice. The ... planets also show a similar tilt in their rotational axises, affording each of them strong seasonal variability. [They] also present strong historic evidence of changes in climate."

This planet is Mars.

If we had found a planet so similar to Earth several billion light-years away, scientists would have been screaming with euphoria that we've just about found life on another planet. In fact, at one point we did entertain the thought that Mars may contain life, and the word Martians became a staple of science fiction for many years.

Then what happened? We explored Mars. Suddenly, the Martians disappeared, and we're now down to dredging up soil to find microorganisms. The disappointments in exploring Mars go far beyond bruised egos; they've shaken the very foundation of abiogenesis.

In December of 2007, scientists at the Carnegie Institution's Geophysical Laboratory had shown, by analyzing organic material and minerals in the Martian meteorite Allan Hills 84001, that building blocks of life (organic compounds containing carbon and hydrogen) did form on Mars early in its history.

The Phoenix lander's May 31st, 2008, transmission of photos of ice on Mars was hailed as a possible breakthrough in our search for life on other planets. By July, the Phoenix lander had detected water in the Martian soil. "We have water," proclaimed William Boynton of the University of Arizona, lead scientist for the Thermal and Evolved-Gas Analyzer (TEGA). "We've seen evidence for this water ice before in observations by the Mars Odyssey orbiter and in disappearing chunks observed by Phoenix last month, but this is the first time martian water has been touched and tasted."

So, after finding the building blocks of life and water, have we found life on Mars? No, we haven't. Why not? The answers you get usually go along the lines of, "We have to dig some more," or, "We've only explored a small portion of Mars."

If you were an alien visiting Earth's vicinity, how many orbits around Earth would you have to make before discovering life? Not even an entire orbit. Half way around Earth you'd discover a plethora of life. Would you even have to land? Of course not; any half decent telescope in orbit would detect life on Earth. And you certainly wouldn't have to dig.

We do know one thing about Mars for just about certain; there is no life on the surface. This alone is a serious problem, as far as biogenesis is concerned. Earth and Mars, according to scientists, were formed in roughly the same period of time and from the same stuff in space, 4.5 billion years ago. During that time Earth has produced literally billions and billions of life forms, some as huge as dinosaurs, some as advanced as humans. Mars, however, in a staggering 4.5 billion years, has produced absolutely no life that we can discern -- not even small ants! How's this possible?

Even if life on Mars had somehow gotten wiped out, we'd at least have to find some bones, carcasses or something. But nothing? What we've found is a planet that seems to be totally barren.

The mere fact that we have to dig in hopes of finding any traces of life on a planet with such strong similarities to and the same age as Earth says there's something wrong with the concept of biogenesis. Ironically, scientists see the discovery of the building blocks of life and water on Mars as hopeful signs of someday finding life there, when in fact the opposite is true. Being that these vital components of life do exist shows very clearly that inanimate matter does not come to life.

And the notion that the Martian environment is too harsh to support life rings pretty hollow. Harsh environments do not deter life here on Earth. Here's an idea of how harsh things can get here on Earth, and how life thrives in spite of it:

In 1977 we found the first hydrothermal vent, an opening where water heated by Earth's molten interior is released into the ocean. Closest to the vent, in the midst of water which sometimes exceeds 450 degrees Fahrenheit, were eight-foot long tube worms. Most animals need sunlight to survive; the area where these tube worms thrive receive no sunlight whatsoever.

Then, as if to laugh in the face of what's considered "normal" for biological life forms, these tube worms had no eyes, mouth, or intestinal tract. They get their nourishment from surrounding bacteria.

To add to this ecological mystery, these bacteria thrived on hydrogen sulphide, which is found in the water coming from the hot vent. To most higher animals, hydrogen sulphide is as poisonous as cyanide!

Since 1977 many more vents have been discovered on the ocean floors. Besides tube worms, other exotic animals have been found thriving in the immediate vicinity of the vents -- pink fish, snails, shrimp, sulphur-yellow mussels, and foot-long clams, to name a few. Similar animal populations have since been discovered in waters only a few degrees cooler than freezing. Talk about adapting to extreme and adverse conditions.

Cacti are known to survive the most difficult and unusual climates. Their ability to sustain themselves in areas of little rainfall, hot dry winds, low humidity, strong sunlight, and extreme fluctuations in temperature is nothing short of phenomenal. Some cacti can survive internal temperatures of near 145 degrees Fahrenheit. Most plants haven't got a chance where some cacti prosper.

Lichens, a combination of fungus and algae, have been found thriving in an area of Antarctica where temperatures sometimes get colder than 70 degrees below zero Fahrenheit. As far as hostile environments go, this seems to be the extreme opposite of deep, dark, hot waters.

Bacteria have been found growing an amazing 25 feet underground in Antarctica.

In the course of Earth's history, there have probably been over a half billion animal species in existence, from such monstrosities as whales and dinosaurs right down to microscopic life forms such as amoebas and viruses. That's a half billion before you even bring plant life into the picture.

The planets in our solar system, according to scientists, formed about four and a half billion years ago. The most primitive forms of life allegedly appeared on Earth as far back as three billion years ago. Huge creatures such as dinosaurs roamed our planet an alleged 200 million years ago, and ruled for an enormously long period of over 100 million years. Finally, scientists believe, humans appeared about two to three million years ago.

That is, something as complex as the human brain has allegedly been around for at least a staggering two million years. An optical instrument as sophisticated as the eye has been around even longer.

Yet, when we look at a planet formed at the same time and from the same stuff as Earth, right next to us in space, what do we find? We find a barren world with absolutely no traces of life. We have to dig in search of even the simplest organism, which we have not yet found. Is there something wrong with this picture?

Sure the Martian environment is hostile. But two miles down at the bottom of our oceans near vents which spew hot water mixed with hydrogen sulphide in total darkness is not exactly a summer vacation spot -- it's about as hostile as an environment can get! But life thrives there in complete defiance of what are normally considered ecological adversities.

So is 25 feet deep in the ice of Antarctica a hostile environment. So is the desert. Furthermore, in that alleged period of three and a half billion years ago, the entire Earth, according to scientists, was hostile. Life on Earth allegedly began in an environment which would be hostile to many of today's life forms. And many of today's life forms live in conditions which would have been intolerable to the organisms which allegedly brought life into existence billions of years ago. But life on Earth thrives in spite of it all.

It's hard to imagine life on Earth being completely wiped out by any natural or manmade disaster. But somehow, life on Mars has either been completely wiped out (and the telltale traces mysteriously hidden) or life on Mars never came into existence. It's totally inconceivable that something as tenacious and as diversified as life has not left its mark on Mars.

Well, maybe there's no life on Mars because the notion of inanimate matter coming to life is a fantasy. It doesn't happen and it's never been proven to happen. Mars actually proves that given billions of years an entire planet will never produce even one single microscopic organism.

It follows logically that if abiogenesis does not work, we may very well be the only life, as we know it, in the universe, which I believe is the case. Again, it is scientists' job to give us honest conclusions based on facts, not interpretations based on biases.

I understand it must be a frightening thought to some scientists, if we're not just some "accident" or "probability" in a universe bursting with billions of civilizations, we may be here by design. But that's for the public to deal with, not for scientists to rule out.

Outdated Dating Methods

What are the methods used by scientists to date archeological finds? And do those methods tell the true age of buried organisms?

The method used by scientists to determine the age of archaeological finds is called radiometric dating. It involves measuring decayed radioactive elements and, by extrapolating backward in time, determining the age of an organism.

One element commonly used, in what's referred to as "radiocarbon dating" or "radiocarbon reading," is C-14, a radioactive isotope of carbon, which is formed in the atmosphere by cosmic rays. All living organisms absorb an equilibrium concentration of this radioactive carbon. When organisms die, C-14 decays and is not replaced. Since we know the concentration of radioactive carbon in the atmosphere, and we also know that it takes 5,730 years for half of C-14 to decay (called a "half-life cycle"), and another 5,730 years for half of what's left to decay, and so on, by measuring the remaining concentration of radiocarbon we can tell how long ago an organism died.

Since C-14 can only give dates in the thousands of years, elements with longer half-life cycles (such as Samarium-147, Rubidium-87, Rhenium-187, Lutetium-176, to name a few, with half-life cycles in the billions of years) are used to date what are believed to be older archaeological finds. The procedure is roughly the same; the amount of decay is measured against the initial amount of radioactive material, giving the object's supposed age.

One obvious flaw in this technique is that we don't really know the level of radioactive concentration acquired by an organism which lived before such recorded history. Scientists make a bold assumption that the atmospheric concentration of the radioactive material -- carbon or any other element -- being measured has not changed since the organism's death.

Another bold assumption made by scientists is that the rate of radioactive decay has remained constant throughout history.

Are these valid assumptions?

Hardly.

In 1994 Otto Reifenschweiler, a scientists at the Philips Research Laboratories in The Netherlands, showed that the radioactivity of tritium could be reduced by 40 per cent at temperatures between 115 and 275 Celsius. That is, under certain conditions, the environment can effect radioactive decay.

In 2006 Professor Claus Rolfs, leader of a group of scientists at Ruhr University in Bochum, Germany, in an effort to reduce nuclear waste radioactivity, has come up a with a technique to greatly speed up radioactive decay. Rolfs: "We are currently investigating radium-226, a hazardous component of spent nuclear fuel with a half-life of 1600 years. I calculate that using this technique could reduce the half-life to 100 years. At best, I have calculated that it could be reduced to as little as two years ... We are working on testing the hypothesis with a number of radioactive nuclei at the moment and early results are promising ... I don't think there will be any insurmountable technical barriers."

Reducing 1600 years to two years is a phenomenal 98 percent reduction. This means that an archeological find that has gone through environmental conditions similar to those in the lab could appear to be 300,000 years old when in fact it's only six thousand years old.

What's more, if scientists, with relatively limited resources, can speed up radioactive decay 800 times, the violent upheavals of earth's history could certainly have sped up radioactive decay by far greater numbers. Thus, if radioactive decay increased, say, 1 million fold, an organism thought to be 4 billion years old, based on today's rate of radioactive decay, would be no more than 4,000 years old.

What's interesting is that earth's history of cataclysmic events is not questioned by anyone -- neither scientist nor Biblical scholar. They may differ in their accounts of what occurred, but not necessarily in the severity of the events.

The Bible's account of The Flood, of course, would have been the mother of all catastrophes. It entailed heat, pressure, and an unimaginable mixture of elements. This would certainly have far exceeded any extreme conditions created by scientists in a lab.

The scientific account of earth's formation and development is no less catastrophic:

Earth formed of the debris flung off the sun's violent formation about 4.5 billions years ago. Being a molten planet in it's initial stages, earth's dense materials of molten nickel and iron flowed to the center, and its lighter materials, such as molten silicon, flowed to the top. Eventually, earth cooled and solidified into a core, mantle and crust.

Earth's original atmosphere consisted of Hydrogen and Helium. This atmosphere subsequently heated to escape-velocity by solar radiation and escaped into space. It took about 2 billion years for oxygen to appear in earth's atmosphere, eventually resulting in an atmosphere consisting of 78% Nitrogen and 20% Oxygen.

Our planet has been pounded by meteorites throughout history. One such impact, in Mexico, an alleged 65 million years ago, was so intense that it resulted in mass extinctions, including the extinction of the dinosaur.

Earth has gone through several ice ages. The last one ended around 10,000 years ago, after lasting roughly 60,000 years. At one point 97% of Canada was covered in ice.

The fact is we're detecting natural variations in the rate of radioactive decay even today, in a relative calm period of global and cosmological history. "Recent reports of periodic fluctuations in nuclear decay data of certain isotopes have led to the suggestion that nuclear decay rates are being influenced by the Sun ... " reported the Cornell University website (arxiv.org/abs/1007.3318) on July 20, 2010.

And they're not alone.

* The Atlantic: TheAtlantic.com

(August 25, 2010) "Radioactive elements on Earth are like geological watches. A radioactive isotope of carbon is used to date human civilizations, among other things, because we know that its half-life is precisely 5,730 years; count how much of the carbon 14 has decayed and you can get a pretty accurate measure of how old something is. (If half of the expected amount is left, you'd say, 'This thing is likely 5,730 years old.')

"But what if the rate of radioactive decay -- the watch -- was not constant? One minute, the second hand is moving at one speed, and the next it has sped up or slowed down. And what if what changed that rate of decay was solar activity on the sun, 93 million miles away?

"That's what recent research at Purdue University suggests. In a slate of recent papers, physicists Ephraim Fischbach and Jere Jenkins argue that measured differences in the decay rates of radioactive isotopes cannot be explained by experimental errors. Instead, they seem to vary with the earth's distance from the sun and periodic changes in solar activity."

Ephraim Fischbach is a professor of physics, with a B.A. in Physics from Columbia University and a Ph.D. and M.S. in Physics from the University of Pennsylvania. Jere Jenkins is Director of the Radiation Laboratories at the School of Nuclear Engineering.

* AstroEngine - AstroEngine.com

(September 26, 2008) The paper entitled 'Evidence for Correlations Between Nuclear Decay Rates and Earth-Sun Distance' by Jenkins et al. studied the link between nuclear decay rates of several independent silicon and radium isotopes. Decay data was accumulated over many years and a strange pattern emerged; radioactive decay rates fluctuated with the annual variation of Earth's distance from the Sun (throughout Earth's 365 day orbit, our planet fluctuates approximately 0.98 AU to 1.02 AU from the Sun)." [1 AU (Astronomical Unit) is approximately 93 million miles, the distance from earth to the sun.]

Further studies of radioactive material on board spacecrafts, as they moved away from the sun, showed that distance from the sun is not the culprit, and the cause of radioactive variations remains a mystery.

* Stanford University - news.stanford.edu

"It's a mystery that presented itself unexpectedly: The radioactive decay of some elements sitting quietly in laboratories on Earth seemed to be influenced by activities inside the sun, 93 million miles away.

"Is this possible?

"Researchers from Stanford and Purdue University believe it is. But their explanation of how it happens opens the door to yet another mystery.

"There is even an outside chance that this unexpected effect is brought about by a previously unknown particle emitted by the sun. 'That would be truly remarkable,' said Peter Sturrock, Stanford professor emeritus of applied physics and an expert on the inner workings of the sun. 'It's an effect that no one yet understands. Theorists are starting to say, "What's going on?" But that's what the evidence points to. It's a challenge for the physicists and a challenge for the solar people too.'"

Consequently, with a varying radioactive decay rate, there's no way to tell what the radioactive saturation level of any substance or organism was years ago and how long it took for that radioactivity to decay, rendering current dating methods inaccurate and unreliable.