Black Hole Explosion and the Heterogeneity of our Universe

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In another essay I wrote about the heterogeneity of the universe. In there I noted that my interpretation of the variances of the CMBR (Cosmic Microwave Background Radiation) indicates that the universe was heterogeneous rather than homogeneous.

This may have a number of rather important ramifications in our thoughts about the early universe and its beginnings. If it is true that the early, very early universe was not at all homogenous, then this opens the door to thoughts and conjectures of many different possibilities of the beginnings.

I have watched many documentaries about how we think the universe was began and evolved. The big bang theory states that it began from a singularity, an infinitely tiny speck of nothing. It was a time when there was no place, and belying the opening phrase, where there was no time. Then all at once, without warning, the universe exploded into existence.

Being somewhere facetious: No warning? What? Do the scientists think someone or something should have sent a post card warning about the pending event of creation? Maybe a news bulletin? Maybe there was a warning, but no one was there to observe the warning. Or maybe someone was there and saw the warning, but they haven't told anyone about it.

While a bit flippant, the question leads to deeper thought. If there was indeed nothing, then what precipitated the big bang? To every event, there is a cause. Can something that does not exist just pop itself into existence? That concept is absurd on its face, yet that is exactly what many proponents of the big bang would have us think. And there are many conjuring up theories to explain or rationalize just that.

At least one theory conceptualizes two or more universes in different planes of existence collide or cross at some point and the result is the creation of what we know. Maybe what we see just leaked in from some other parallel universe and became what we know.

But that just begs the question. Where did those universes come from? How did they come to exist?

Lets consider the concepts raised so far and allow me to present a new possible theory for the creation of our universe.

As we examine our universe we now see indications that there is a super massive black hole at the center of every galaxy. Observations of the center of our galaxy show that stars near the center are orbiting at incredible speeds. One documentary presents an observation that scientists have calculated an orbital velocity of stars near the center of the galaxy to reach some 11,000,000 miles per hour. But there is nothing we can see for the stars to orbit. Se we have made the perfectly rational conclusion that there is a super massive black hole in there. And there appears to be one in the center of all the galaxies. In some of them, there appears to be two or more orbiting each other while the stars of the galaxy are busy orbiting them. Quite intriguing.

We also have concluded that black holes can merge to become even larger black holes. This is even more intriguing. This begs the question: How large, or maybe, how massive can a black hole get? Could there be a point where a black hole cannot be any more massive?

Explore that thought for a moment. While we have many calculations, I suspect that we do not truly know what shape or form matter takes once it passes the event horizon of a black hole. Can it really be compressed down to essentially nothing? To become a singularity, that would have to happen.

What does is mean if matter is greatly compressed within a black hole, but yet continues to have some dimension. What might happen if the black hole at the center of a galaxy eventually consumes all or maybe just most of the stars and other matter in the galaxy?

Consider the possibility that at some time in the past, and maybe in the future, black holes had consumed the majority of the matter in their galaxies. To continue, imagine that most of the galactic black holes had combined into a few truly enormous black holes. Maybe any one black hole contains the mass from millions or billions of galaxies.

In what state would that matter exist? Let's assume that what ever is in this enormous black hole is some form of matter. If this black hole is so massive as to contain the matter of billions of galaxies, how extreme would be that environment?

Maybe, matter just cannot exist in those conditions. Maybe there is an upper limit to the conditions under which it exists? Let's suppose a universe is composed of mostly black holes, and just a relative few of them, maybe a couple thousand, maybe a billion, but few in contrast to the number of galaxies we can see today, and the galaxies we might estimate that exist, but we cannot detect. Each of these black holes contains the mass of many billions of galaxies. And they continue to combine down to just a few black holes. Somewhere along the line, with maybe a postcard for a warning, a pair of black holes combine and the resultant black hole exceeds the upper limit. The conditions within the joined black hole are too extreme for matter to exist. What might happen to matter if it just could not exist? The matter cannot be destroyed.

The answer is in $E = mc^2$. When two hydrogen atoms to combine to make a helium atom plus a few extra particles and some energy, the sum of the particles is less than the two hydrogen atoms. The lost mass is translated into energy. I am not sure, but suspect that we do not know the methods by which the lost matter was translated into energy. But for our discussion, let us presume that there is some mechanism for matter to translate to energy. Let us also presume that that mechanism will suffice for massive amounts of matter.

Regarding our enormous black hole containing the mass of billions of galaxies, suppose that matter cannot exist under such extreme conditions. Then when two black holes combine, the total of which makes a black hole so large it cannot exist, then by some mechanism, all the matter within the black hole translates into energy. It could happen instantaneously, or more likely, over some finite period of time. Short as compared to the existence of a universe, but finite just the same.

Now we have the energy from the matter of hundreds of billions of galaxies concentrated in a relatively small location. Where just a short time ago there were two black holes in the process of combining into one, now there exists an incredible amount of energy. Instead of a black hole, there is energy, but no long any matter, and no longer any mass. An incredibly large amount of pure energy, in a relatively small place. That would be a huge explosion. A big bang!

Now that explosion could be so massive and so complete that the explosion and everything thing within it (Presuming that energy can be thought of as some thing.) is completely homogenous. The temperature and energy density might be the same every where within the confines of the explosion. And indeed, that much energy would probably distort time and space, as certainly the parent black hole did. But that would not mean that time and space did not exist before the black hole(s) exploded.

Indeed, there may be other black holes and galaxies relatively near the one that exploded. Maybe one or more of the nearby black hole was close to its upper mass limit and ready to explode itself. The shock wave from the first one might just set it off into its own translation into energy and its own explosion. Maybe even a chain reaction of multiple similar explosions. There could be other stars and galaxies in the region that would be swept up in the explosion. This would generate multiple regions of differing pressures, temperatures and densities. That universe, or more correctly, that section of the universe, would not be homogenous.

As the expansion continues to expand for some billions of years, what is destined to become our part of the universe would cool down and the temperatures would fall, moving towards absolute zero. As there is no temperature less than absolute zero, the temperature of everything would begin to close in on that limit. Approaching but never reaching absolute zero. Maybe it would all cool down to the condition where the difference between the hottest and the coldest points would be only a few hundredths or a few thousandths of a degree. After some billions of years of expansion, it might even appear as our observable universe appears to us now.

One of the requirements for a theory is that it be testable. This theory is testable. It is testable in today's universe, at least in theory.

As we observe the various galaxies in our universe, we note that, with some exceptions, all are moving away from us. We detect this by measuring the red shift of the light from

almost all of the galaxies. A red shift indicates the object is moving away, a blue shift indicates it is moving towards us.
But this is not just a binary concept. Consider a train on railroad tracks. As it approaches us there is an upshift in the frequency of its horn, and a downshift as it moves away. But clearly that does not mean the train is moving directly away from us, or directly towards us. In the same manner, other galaxies in the universe may not be moving directly away from us. If we could see the larger picture, they are moving directly away from the origin.

Return to the analogy of the train. If we were looking from above we can draw the observer and the train on a two dimensional graph. Presume the train is moving only along the X axis and the person is standing in the middle of the tracks. The train would have velocity only in the X axis. This holds for both approaching and departing trains.

But move the observer off the tracks, and, with respect to the observer, the train now has velocity along both X and Y axes. This is easy to see from our perspective above the two dimensional train graph.

Further, imagine that the observer in our graph can detect the train only by its whistle and the pitch of that whistle. If the train is approaching or departing, the observer can detect the closing or opening velocity, but not the direction. However, for example, if the observer could detect the position of the train relative to other objects, then the observer could check for angular motion and determine if the train were moving on a course other than directly toward or away.

At the current time, we can only observe the wavelengths of the light. This provides opening or closing velocities. However, if we can observe positional change of near or distant galaxies with respect to other objects, then we may be able to plot a complete vector of each galaxy's trajectory. I propose that if such vectors are discovered, they will not meet in a common point.

There is other supporting evidence that not all galaxies are not moving away from a single point of origin. There is compelling evidence that there have been many galactic collisions and that many galaxies have combined into larger galaxies. For a relatively local reference, the Andromeda Galaxy has a redshift of $z = 0.001$.
(reference: http://en.wikipedia.org/wiki/Andromeda_Galaxy) It is moving towards us, not away.

There appear to be two options. Either the Milky Way galaxy or the Andromeda made a significant turn in space, or they did not start from the same origins.

This paper concludes that the big bang origin was not from a single location, but from multiple locations. This implies that there was not a single big bang, but multiple bangs. Further, the probability is that multiple big bangs were separated in both time and in space.