

THE UNIVERSE

A proposed theory of beginnings and endings

1. INTRODUCTION

This paper seeks to introduce some new ideas about the following:

1. Black Holes and stellar material
2. What the Big Bang was
3. Black Holes at the centres of most galaxies
4. End point of Black Hole galaxies
5. Black Hole mergers
6. The end of the Universe

Other items for consideration are also included.

It is likely that the theories proposed here have not been put forward before. They have been thought out as a flow of logic and are not at present based in other mathematical calculations. Estimates provided here (time and distance) are simply stepping stones for the thought process.

2. SUMMARY

A summary of the ideas presented are as follows:

2.1 Black Holes and Stellar Material

Since a Black Hole has absorbed stellar material and it is therefore made of stellar material, I propose that a Black Hole is an “allotrope” of stellar matter. If Black Holes are subjected to a tremendously violent collision such as that between two giant Black Holes at extremely high velocity, circa speed of light, the Black Holes can turn back into stellar material.

2.2 The Big Bang

The Big Bang is the result of a collision of super-supermassive Black Holes holding between them all that there is in the universe today. The logic behind this is explained in the following sections.

All matter in the Universe is currently expanding outwards from the power of such a collision, which we call the Big Bang, with all entities subsequently remaining in a expanding shell of an orb (Universal orb).

2.3 Black Holes at the centres of most galaxies

It is likely that at least one massive Black Hole is in the centre of each galaxy that has a high mass and shows high spin velocity such as spiral galaxies (75%) and elliptical galaxies (20% of all galaxies). In spiral galaxies, it is the Black Hole centre drawing in material from the surrounding galaxy matter in all directions that causes the galaxy to spin as if into a vortex.

Irregular galaxies are the only types that do not fit this description, and they make up only 5% of all galaxies.

2.4 End point of Black Hole galaxies

Each Black Hole galaxy centre is sucking in its orbiting galaxy and absorbing it. This activity will be exponential as the Black Hole becomes more and more powerful. The volume of galaxy matter shrinks as it becomes absorbed into its central Black Hole.

It is likely that every galaxy with a Black Hole centre will eventually be absorbed into its Black Hole completely, resulting in an extremely massive Black Hole.

2.5 Black Hole mergers

When two Black Holes get close enough, they orbit each other in a diminishing spiral and eventually merge. This applies regardless if either Black Hole has an orbiting galaxy of stellar matter or not.

2.6 The end of the Universe

I propose that in the end situation of the Universe, almost all galaxies will have become total Black Holes. They have been attracting each other laterally across the Universal Orb, thus slowly contracting the Orb.

Black Holes will eventually all laterally connect to each other in a shell formation (like a hollow chocolate egg) which I call a “pelt”. This pelt will contain the sum total of the Universe’s matter.

This pelt of Black Holes will contract as the gravitational attraction between them pulls the pelt laterally together. Finally, the inner event horizons will eventually meet at the centre of the “hollow egg” and the whole pelt will crumble to the centre. The end result is when all the shattered Black Hole parts reach the centre, resulting in a terrific collision that is a new Big Bang.

I estimate this to take place about 20 billion years from our original Big Bang, when the diameter of the Universal Orb will be around 136 billion light years.

The detail around how this occurs is discussed in Section 3.

3. DETAIL

Each of the points above are discussed in further detail in this section.

3.1 Black Holes and Stellar Materials

The Black Hole is probably the strangest thing in the whole Universe. A Black Hole can be considered a 3D object even though it is technically a singularity. A Black Hole has an event horizon like a balloon around it.

The Black Hole has the power to convert any matter that happens to come sufficiently close, into near-zero volume and tuck it inside. Should our solar system enter the event horizon of a Black Hole, it would be converted into near-zero volume and be tucked inside. The event horizon will increase in size proportionate to the intake of stellar material and that Black Hole will then have greater reach to grab even more stellar material.

So, in a Black Hole there must be matter. Matter can be compressed. Our whole solar system can be compressed into a little dot. That little dot will be an equivalent or an “allotrope” of our solar system. It will have the mass and gravity of our whole solar system. A very high level of matter compression can occur within

a Black Hole. There is no known size, mass or density limit to a Black Hole.

If a Black Hole is subjected to a tremendously violent collision such as that between two giant Black Holes at extremely high velocity, circa speed of light, it can turn back into stellar material. This stellar material is likely to be ejected at around light speed.

3.2 The Big Bang

A Black Hole is the only single entity in the Universe that could potentially contain the entire Universe itself.

From a logical perspective, no single Black Hole will explode on its own since the pull of the Black Hole is always an inward pull.

I propose that the Big Bang is the result of several super-supermassive Black Holes, collapsing into each other at around the speed of light, containing between them all that is in the Universe today.

The Big Bang was the most powerful explosion in the Universe. Black Holes ripped one another open and when the the tighest of tightest bindings in the Universe were lost, nearly all the trapped matter

became converted back to ordinary stellar matter that flew out in a balloon fashion.

However, it is not just stellar matter that could escape such a collision. I propose that “splinter” Black Holes were also ejected together with all the trapped matter.

These splinter Black Holes, will most probably be from the outer surface of the super-supermassive Black Hole collision, which had escaped being converted into ordinary stellar material.

Since the Big Bang, all matter and Black Holes in the Universe have been expanding outwards from the power of this original collision, with all entities remaining in a expanding shell of an orb (the Universal orb). There is no other opposing force and so this outwards motion remains unchanged.

3.3 Black Holes at the centres of most galaxies

The splinter Black Holes had such powerful binding ability that they attracted any ejected ordinary stellar material into colonies and these colonies became the galaxies we have today.

These splinter Black Holes became the nuclei of most of the galaxies there are in the universe today.

If not for these splinter Black Holes, there would be few galaxies today as we know them. All the stellar material would have gone into the cosmos as individual pieces, as though they were each riding on a ray from the centre, and only loose connections might occur between them, forming perhaps only irregular galaxies. However most matter would have gone into the void, unconnected.

3.4 End point of Black Hole galaxies

Over time, it is logical to assume that every galaxy with a Black Hole centre will eventually be absorbed into its Black Hole completely, resulting in a super massive Black Hole.

Such a resulting Black Hole will have a very large event horizon and will have no more remaining stellar material around it (from its original galaxy matter).

It may already have begun to devour other neighbouring clusters of stars, including other galaxies.

3.5 Black Hole mergers

Galaxies which are large enough can have orbiting galaxies. These are actually galaxies on a spiral collision course. It is the central Black Holes of these galaxies that are primarily drawing into each other. Two as yet unconsumed galaxies could merge into one another, with their Black Hole centres drawing ever closer to each other.

Alternatively there could be a solo Black Hole, already having fully consumed its surrounding galaxy, which is drawn towards and into another nearby galaxy. This second galaxy could appear then to have two Black Holes.

Regardless of the motion of every entity away from the centre of the Universe, Black Holes will nevertheless attract each other due to their immense gravitational power.

When two Black Holes get close enough, they merge, likely across the shortest possible distance between them. This gives them a motion across a secant of the Universal orb which slightly offsets the original expansion velocity.

These movements described above create two new situations:

- a. They will reduce the size of the Universal orb;
and
- b. Change the direction and velocity of the Black Holes from the original vector they had at the Big Bang.

Black Hole merger motion is likely the first independent motion to arise since the beginning of the Universe, that could counteract the original movement away from the centre of the Universe.

3.6 The end of the Universe

Mergers will happen more and more as Black Holes become larger and larger and gain more power to be connected to adjacent galaxies. Eventually, all the Black Holes could connect to each other in a strange formation that I call a Black Hole pelt, which is actually the new Universal Orb. The centre of this Orb is empty of matter but there will be event horizons all around the pelt, like a sheath. As a rough estimate, the Black Hole pelt will be approximately 50 billion light years in diameter when it first forms.

As a Black Hole is a 3D object, the event horizon of each Black Hole in the Black Hole pelt extends towards the centre of the Universal Orb in one direction and away from it in the other direction. The Black Hole pelt therefore has a thickness equivalent to the event horizon width, as a football has a skin that has some tangible thickness.

The event horizons in the inner part of the pelt, extend both laterally and towards the centre. The inner edges of event horizons that are attracting each other laterally across secant planes will tend to squeeze the pelt, making the Universal Orb smaller and smaller. This will take a long time.

By the time the Black Hole pelt is about 30 billion light years in outer diameter, nothing much has really happened, except that the Universal Orb is still being squeezed.

Further squeezing of the Universal Orb and further stretching of the event horizons pointing towards the centre will continue until the internal event horizons connect to one another at the centre of the Universal Orb, when the Universal Orb is about 20 billion light years in diameter. This is the time when all parts of the Black Hole pelt will be ripped up and the whole

structure will crumble and fly towards the centre. This will be the most powerful implosion in the Universe.

But the centre of the Universal Orb is far away – 10 billion light years away from the outside of the pelt. What speed the crumbling Black Hole pelt will achieve is anybody's guess, the speed of light or some speed far beyond.

When all the parts of the Black Hole pelt meet at the centre, this will result in the most powerful explosion in the Universe – the Big Bang.

4 OTHER PROPOSALS

Other items to consider are:

4.1 The number of galaxies in the Universe

I propose there are twice the number of galaxies so far counted by astronomers. My reasoning is as follows:

Any two points directly opposite one another on the expanding orb of stellar material after the Big Bang, (assuming the stellar material was flying out at the speed of light or even less), will be travelling away from one another at a relative velocity of nearly twice the speed of light. As such the light from one side will never be seen from the other side. The expansion of the Universal orb is still going on unabated. As such, we cannot see the other half of the Universe from our side.

So, whatever galaxies we can count will be only half the number of galaxies in the Universe.

4.2 Black Hole volume

We cannot see inside a Black Hole but we can measure its mass by measuring the size of its event horizon and say how many sols it contains. If a particular Black Hole contains a million sols, we cannot say what volume the object inside would be since matter can be

compressed and further compressed. Volume does not matter. How many sols the Black Hole contains will determine its mass and gravity, and this can be calculated by our star-gazing scientists.

As previously stated, a Black Hole is an 'allotrope' of stellar material, since it is composed of the stellar material that it has absorbed. When the allotrope grows heavier and heavier due to the amount of mass absorbed, the gravitational power will be so great that the whole thing can collapse again into a little dot. This little dot can be a thousand times heavier than the first dot. This can be a second stage allotrope.

There can be more and more stages.

4.3 Spinning galaxies

Spiral galaxies especially, look like a giant whirlpool. This is due to a massive Black Hole in the centre, sucking stellar material in as if into a vortex. The act of drawing the large amount of material in causes the spiral, whirling shape to occur.

4.3 Alternate models for the end of the Universe

ALTERNATE MODEL A

Another possible model is that all Black Holes combine with other Black Holes in a different pattern. At the end of this process, the result is two remaining extremely massive Black Holes, which contain the sum total of half the Universe's matter each. These Black Holes are likely to be on opposite sides of the Universal orb.

The shortest distance between them is now through the centre of the universal orb, and they will have sufficient power to attract each other across the vast distances and will eventually collide and create a Big Bang.

ALTERNATE MODEL B

Yet another model is that instead of just two remaining, there are several extremely massive Black Holes at the end that are now so big that they all rush towards each other into a Big Bang.

ALTERNATE MODEL C

All of these theories are just theories. These theories could have holes in them. There are many alternative theories possible. There is a possibility that at the end of the Universe, the remaining material being too close to one another, does not have the force required to collide strongly enough to forge a new Universe. Then, that will be the end of time for the Universe.