Should the Big Bang be thrown in the trash?

There is serious evidence that there never was a Big Bang!

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Introduction [1]

The big bang is the popular name for the cosmological theory that, based on the general theory of relativity, makes it plausible that 13.8 billion years ago the universe originated from an enormously hot point with an almost infinitely large density, a singularity. After the big bang, in which space and time also originated, the expansion of the universe began, which is still ongoing.

However, there are **many doubts and questions** about the big bang and how everything happened.

What was there before the big bang?
Did the universe originate from nothing?
What did the very beginning of the universe look like?
Have there been multiple (consecutive) big bangs?
Was there even a beginning?

The cosmological theory of the big bang had to be adjusted several times to the results of new research, calculations and insights. See further.

We want to increase the uncertainty in connection with the big bang. We are going to try to prove that there was no big bang.

"Imagination is more important than knowledge. For knowledge is limited, whereas imagination embraces the entire world, stimulating progress, giving birth to evolution." – Albert Einstein

Arguments for the origin of the universe from a big bang [2]

What are the most important arguments on which the big bang theory is based?

1. *Cosmic microwave background radiation CMB*. When the big bang theory took shape, various calculations were made and a number of predictions were made on the basis of these. One of these predictions was: if the universe had been very hot in the beginning, we should be able to measure the radiation from it today. And that happened: in 1965 Arno Penzias and Robert Wilson accidentally discovered the CMB.

2. *Expansion of the universe*. This expansion was discovered by the red shift of spectral lines in the spectrum of distant galaxies.

3. *Abundance of light elements*. The big bang theory predicted that the universe should be filled with an abundance of light elements (mainly hydrogen and helium). Current observations still confirm this.

4. *Distribution of matter in the universe*. The large-scale structure in the distribution of galaxies. If the matter in the universe were homogeneously distributed, then a big bang could be derived from Einstein's general theory of relativity.

Problems with the big bang theory [3]

The theory had to be adjusted several times.

When extrapolating the current universe model into the past, one arrived at a time 'zero', a point in time at which the universe had to have an infinitely high density and an infinitely high temperature. One therefore encountered a '*singularity*', and such situations always give cosmologists an uneasy feeling.

In order to be able to study the very beginning of the universe, when it was barely 10^{-43} seconds old (the Planck era), one would have to be able to appeal to quantum theory in addition to general relativity. In a very small universe that mainly consists of high-energy particles, the three other forces of nature (the weak and strong nuclear forces and the electromagnetic force) play an important role in addition to gravity. At present, these three forces *can only be treated with quantum theory*. However, science has still not succeeded in combining quantum theory and general relativity theory into a quantum gravitation theory.

So in the history of our universe we have hit an insurmountable wall, '*Planck's wall*'. What happened before this wall is inaccessible to us. Any mathematical formalism to be able to look beyond that boundary is lacking.

Although the theory of the big bang has been accepted by many cosmologists since the discovery of the cosmic background radiation as the theory that provides the best explanations for the origin and evolution of the universe, there were still a few important questions that the theory could not answer.

These problems were: [4]

1. the horizon problem;
2. the flatness problem;
3. the monopole problem.

These problems were solved in one fell swoop by extending the cosmological theory with a new concept: *cosmological inflation* (developed in 1979 by Alan Guth and Andrei Linde). Almost immediately after the big bang, the universe went through a phase of exponential expansion for 10^{-35} seconds.

The calculations of the gravity that holds the galaxies together and the discovery of the accelerated expansion of the universe led to the introduction of *dark matter and dark energy*. Here, the observations were adjusted instead of the theory!
Our universe therefore consists of 68% dark energy, 27% dark matter and 5% normal visible matter.
From this, it can be concluded that the universe consists of 95% of something that we know absolutely nothing about. Only from certain properties can we deduce that they should exist. For both dark energy and dark matter, science is in the dark, hence the names.

This is how the Standard Model of the big bang was arrived at: [5]
the **Λ-CDM model** (Lambda-Cold Dark Matter model) that can describe in detail the entire cosmic evolution after the inflationary period, when the universe was hot and compact.

It is a mathematical model of the big bang theory with three main components:

1. a cosmological constant denoted by lambda (Λ), associated with dark energy;
2. the postulated cold dark matter denoted by CDM;
3. ordinary matter.

Scientists agree that *Lambda-CDM is the most plausible theory*.

In recent weeks, it has been regularly claimed that the photographs of the most distant galaxies taken by the *James Webb Space Telescope* show that the big bang theory is maybe wrong. Some even claim that the photographs cause ‘panic’ among cosmologists.

Despite all the loose ends, the big bang theory is still the most popular theory today.

Should the big bang be thrown in the trash?

This book contains two booklets in the appendix.

1. Is there really a cosmic background radiation?
2. Where did the antimatter go?

Based on the conclusions of these two booklets, we attempt to demonstrate that there never was a big bang.

1. Is there really a cosmic background radiation?

[Appendix 1]

What is measured may be a property of the dark energy, in particular the cosmic foreground radiation!

In this booklet we will thoroughly analyze the cosmic background radiation and propose another phenomenon that is responsible for what is measured.

*** The most important argument on which the big bang theory rests is the cosmic background radiation CMB. If we can disprove this argument, the big bang can most likely be thrown out the window.

The predictions of the cosmic background radiation and the measurements by Penzias and Wilson were enthusiastically linked together, which entails *a redshift of z = 1,100 for the CMB*. This has resulted in a new type of redshift being introduced, the cosmological redshift. This is caused by the expansion of space itself.

The light source of the cosmic background radiation was the plasma present everywhere in the universe that was cooling down and deionizing, while still radiating glowing light. The emitted light could gradually move more freely and eventually it could move unhindered throughout the universe. The transition phase of the universe from opaque to transparent was relatively short (in terms of cosmological time scales) and occurred everywhere at the same time. The end result was therefore a universe filled with neutral transparent gas, mainly hydrogen, and a lot of residual light, which had originated everywhere and radiated in various directions.

We can make the following interesting observations:

1. 380,000 years after the big bang the universe became transparent;
2. the universe was then filled with decoupled photons that radiated in various directions;
3. the decoupled photons were decoupled from their light sources (ions and electrons);
4. the universe expanded further, the neutral atoms moved further away from each other;
5. the decoupled photons did not expand with it, they continued on their path.

And after critically examining how the four types of redshift (Doppler effect, relativistic Doppler effect, cosmological redshift, gravitational redshift) have affected the CMB, we could conclude:

The CMB redshift cannot be 1,100. That is, by the way, a huge difference with the redshifts of most galaxies and stars, all of which are smaller than 14, including those of the most distant galaxies measured.

What is measured is therefore not the CMB. Even more striking: **there is no cosmic microwave background!**

As for the other arguments for the big bang, we will look at them after we have proposed another phenomenon.

*** What phenomenon is responsible for the radiations measured by Penzias and Wilson, COBE, WMAP and Planck?

The measured spectrum, which corresponds almost perfectly with that of a black body of 2.7 K, is in our opinion a property of the dark, or rather cosmic energy.

And that cosmic energy is more specifically the **3A energy**, or in English **3C energy**.

3A stands for: **All-encompassing, All-powerful, All-knowing**.
3C stands for: **Cosmic, Creative, Conscious**.

The 3C energy **is** everything, **can do** everything and **knows** everything.

The 3C energy consists of energy particles: **3C-bits** and **3C-bytes**.

The **very, very smallest particle in the universe is a 3C-bit**, a quantum cloud in superposition with dimensions that are even much smaller than the Planck length ($l^P = 1.616199 \times 10^{-35}$ m), hence invisible and undetectable.

All elementary particles, both the bosons and the fermions (quarks and leptons) consist of 3C-bytes and each **3C-byte consists of eight 3C-bits**.

The universe consists of 5% of normal visible matter with the following structure:
3C-bits → 3C-bytes → quarks and electrons → protons, neutrons and electrons → atoms → molecules … and so on.
The remaining 95% consists of *something*! We now know what that something is: an ocean of 3C-bits.

So there is no such thing as a real vacuum, in the sense of complete emptiness. Incidentally, quantum mechanics forbids nothingness. The ‘quantum vacuum’ of the universe is full of quantum energy in its lowest possible energy state, the ground state.

The energy of the ground state can fluctuate with particles and antiparticles (3C bits → 3C bytes) that appear for a very short time and then disappear again. Unlike normal matter, however, they do not create energy when they annihilate each other, but instead create an imaginary, virtual photon. This process repeats itself continuously and this does not happen in one place but everywhere, throughout the universe.

The strange signals that are emitted in this process, the **quantum fluctuations**, can be picked up as electromagnetic background radiation.

And these are the signals that researchers wrongly call the cosmic background radiation.

We would rather call that radiation the **Cosmic Foreground Radiation**. **Cosmic Microwave Foreground (CMF)** instead of Cosmic Microwave Background (**CMB**).

As for the other arguments of the big bang, we can conclude that they also support the CMF.

1. Expansion of the universe: the universe goes cyclically, it breathes in and out, in and out, … (no big bang and no big crunch).

2. Abundance of light elements: the first formed elements via the 3C-bits and the 3C-bytes, the protons, neutrons and electrons, the lightest elements are hydrogen, deuterium, tritium, helium, …
3. Distribution of matter in the universe: the 5% normal visible matter floats in the ocean of 3C-bits.

Based on this, it is not difficult to consign certain generally accepted positions in physics to the wastebasket. First of all the big bang!

2. Where did the antimatter go? [Appendix 2]

Is baryogenesis a correct explanation for the fact that there is only matter in the universe?

In this booklet we analyze baryogenesis thoroughly and propose a twin universe with preservation of the symmetry between matter and antimatter.

*** One of the striking problems in modern physics is the asymmetry between matter and antimatter in the universe, the dominance of matter (baryons) over antimatter (antibaryons). We live in a universe full of matter and practically no antimatter.

This discrepancy is attempted to be explained by identifying conditions that promote the breaking of the symmetry and the creation of normal matter.

A number of theoretical mechanisms have been proposed to explain this discrepancy.
The two main interpretations of this inequality are:
either the universe began with a small preference for matter,
or the universe was originally perfectly symmetric, but somehow a series of phenomena contributed to a small imbalance in favor of matter.

The second view was favored: **baryogenesis**.

In 1967, Andrei Sakharov published an article in the Journal of Experimental Theoretical Physics on baryogenesis. In it, he argued that in some situations a violation of symmetry can occur.

He proposed three conditions that had to apply during the big bang in order to create matter and antimatter at different rates. But these conditions were problematic.

There have been many recent theoretical developments to address this asymmetry between matter and antimatter, including:
* perhaps antimatter began to travel back in time during the big bang and never encountered matter;
* perhaps there are mirror antimatter systems in distant parts of the universe;
* via a black hole we may be able to travel to a parallel universe, said Stephen Hawking.

The Standard Model of particle physics cannot explain the observed baryon asymmetry of the universe. This finding is a clear sign of a new physics that goes beyond the Standard Model.

*** We want to solve the asymmetry problem between matter and antimatter by imagining an anti-universe in its own space.

The fact is, the universe is very keen on symmetry.

Let's place the matter and the antimatter in different spaces: **the matter in our three-dimensional space, our universe, and the antimatter in another three-dimensional space, an anti-universe**.

Our universe has three spatial dimensions (1, 2, 3). The anti-universe has its own three spatial dimensions (4, 5, 6). In this way, there can be no annihilation and the symmetry in the universe is also nicely preserved.
Gravity can continue to work in possible higher dimensions in a universe, but not in another universe!

Every galaxy in our universe has a symmetrical counterpart in the anti-universe, an anti-galaxy.

Nice, but what about the supermassive black holes in both galaxies? These form only **one supermassive black hole and that must be in a seventh dimension**. In that sense, we can better speak of a **supermassive black wormhole**.

We should also add that neutron stars and stellar black holes (the remnants of supernova explosions) cannot make the crossing from the universe to the anti-universe or vice versa.

What is needed for this view? The existence of **extra dimensions**!

Various experimental techniques have been developed and are in use to investigate the existence of extra dimensions. These techniques range from high-energy particle colliders to precise measurements of gravity to astronomical observations of gravitational waves.

This is encouraging.

3. The anti-universe in its own space and the big bang?

Is the view of an anti-universe in its own space also to the detriment of the big bang theory?

Yes! How so?

Suppose there is a big bang. Matter is thrown into our universe and antimatter into the anti-universe. The only connection between the two universes is then the *super-super-supermassive black wormhole* at the point where the big bang took place.

And the other supermassive black wormholes, the connections between the various galaxies and the corresponding anti-galaxies?

They will never be able to arise because the black holes that are created during the formation of the galaxies and the anti-galaxies are stellar black holes that cannot make the crossing from the universe to the anti-universe or vice versa. They are bound to their own universe.

From this we can conclude that a twin universe of universe and anti-universe, necessary for the preservation of the symmetry between matter and antimatter, also excludes a big bang!

It should be noted that **dark matter does not exist**.
Via the supermassive black wormholes, all galaxies in the twin universe keep each other in balance and provide the necessary gravity so that the celestial bodies can move around the black holes with the correct rotation speed.

Conclusion

The most important argument on which the big bang theory rests is the cosmic background radiation CMB. We undermined this argument and so the big bang could be kicked out.

We proposed our own phenomenon that is responsible for the radiation that is measured: the cosmic foreground radiation CMF, the quantum fluctuations of the 3C energy.

One of the striking problems in modern physics is the asymmetry between matter and antimatter in the universe. Baryogenesis is insufficient to explain this.

We solved this problem by proposing a twin universe of universe and anti-universe, each in its own space, which implies the preservation of symmetry between matter and antimatter.

The twin universe view is also to the detriment of the big bang.

The big bang must be thrown in the trash!

<u>References</u>:

This document was created through extensive research on the internet and studying various scientific articles published in various journals (Eos Wetenschap, New Scientist, Wetenschap in Beeld, ...).

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(Appendices

1. Is there really a cosmic background radiation?

2. Where did the antimatter go?

are not included.)