

# Physics and Logic Often Conflict

Rowland D

*Independent Researcher registered with ORCID, Member of Royal Astronomical Society of Canada and Affiliated by Canadian Institute of Physics*

**Corresponding Author:** David Rowland, Independent Researcher registered with ORCID, Member of Royal Astronomical Society of Canada, Canadian Association of Physicists. E-mail: david222@hush.com

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## Abstract

Physics is the science that deals with the properties and interactions of matter and energy. Logic is the science of reasoning, proof, and validity. Unfortunately, theoretical physics includes many hypotheses (suppositions) that fail the test of logic. This study exposes the multiple false assumptions, faulty reasoning, and mathematical oversights that invalidate eight currently accepted cosmological theories.

## Introduction

Physics is the science that deals with the properties and interactions of matter and energy. Logic is the science of reasoning, proof, and validity. Theoretical physics includes many hypotheses (suppositions) that fail the test of logic and in so doing are thereby invalidated.

## Logical Fallacies

Many theories of cosmology fail because they depend on one or more of the following fallacies:

**False assumptions.** Every conclusion based on false assumptions is necessarily invalid.

**Circular reasoning.** Inadvertently including the conclusion in the assumption, then using the assumption to prove the conclusion.

**Selection bias.** Including data that supports the hypothesis while excluding data that refutes it.

**Statistical insignificance.** Using a sample size that is too small from which to project meaningful information.

**Mathematical irrelevance.** Elaborate equations and geometric depictions that are unrelated to what really happens.

## The Impossible Big Bang

Big bang theory presupposes that somehow the universe spontaneously created itself from nothing, a notion that defies both physics and logic. Nothing cannot be the cause of something. The universe is defined as everything which exists. Big bang theory falsely assumes (a) that there was a cause which pre-existed existence, and (b) that there was a point in time at which time began. Time is in the universe; the universe is not in time [1].

## Hubble's Failed Law

Hubble's law is the twofold presumption (1) that objects in deep space have a relative velocity away from Earth and (2) their velocities of recession are proportional to their distance from Earth. These imaginary velocities are based on the false assumption that the mythical big bang was an actual event [1].

In his calculations, Edwin Hubble made these false assumptions:

All galaxies are the same size, causing him to overestimate the distance of small galaxies and underestimate the distance of large galaxies;

The brightness of a Cepheid star is a function of its distance, whereas in fact this brightness is a function of this star's life cycle;

The dimness of a galaxy is a function of its motion away; and

The redshifting of light from distant galaxies is caused by rapid movement of these galaxies away from us, whereas in fact redshift is simply the tendency of light to attenuate (reduce in frequency) over extreme distances through space [1].

Hubble also used selection bias by including only those galaxies from which light is redshifted and excluding those from which light is blueshifted (presumably indicating motion towards) [1]. To include blueshifted galaxies would have exposed Hubble's false claim to have discovered a "law". It would be like saying there are exceptions to gravity whereby some objects fall upwards.

The most damning argument against Hubble's supposed law is circular reasoning. To justify his foregone conclusion, Edwin Hubble falsely assumed that galaxies are accelerating away from us, and then used contrived mathematics to estimate how fast they are presumably accelerating [1].

## Failure of General Relativity

General relativity (GR) is the geometric theory which presumes that gravity is the result of a geometric distortion of four-dimensional spacetime by massive objects. This alleged distortion supposedly changes the trajectory of objects moving through space and even the paths of light rays as they pass close by massive objects [2].

The fatal flaw in GR is that 4-D spacetime is a mathematical fiction that does not exist, does not curve, and does not interact with gravity [3]. Geometry is an abstract form of mathematics that cannot possibly impart a physical force (gravity) to massive objects. Geometry can describe what happens but cannot cause what happens.

Time is an abstract (nonphysical) measurement of motion and sequences of events that happen within the three physical dimensions. It is not possible to extract time from the 3-D and project it onto a fourth supposedly physical axis with an independent set of reference points [3].

The Solar Eclipse of 1919 made Einstein an overnight celebrity for his theory of general relativity. Both Newton and Einstein had predicted that light passing close by the Sun would be deflected slightly towards the Sun, but for different reasons. Newton's prediction was based on refraction as light passes through the dense photosphere of the Sun. Einstein's prediction was based on the mistaken notion that gravity can bend light. Einstein had predicted a degree of deflection that was twice as much as Newton's prediction. The results from the 1919 Solar Eclipse appeared to support Einstein's theory [3].

The measurements of deflection from this 1919 event were based on a statistically insignificant sample size of before-and-after readings from only five stars. The readings themselves were also questionable because of (a) errors in parallax from varying angles of measurement and atmospheric conditions at the respective points of observation, and (b) equipment failure. Results were inconclusive because the error factor was as large as the deviation the experimenters were trying to prove [3]. The experimenters' results were either good luck or a case of selecting data that supported their foregone conclusion.

## Absence of Gravitational Waves

Gravitational waves are alleged disturbances in the curvature of hypothetical spacetime supposedly generated by accelerated masses that propagate as waves outward from their source at the speed of light. Four-dimensional spacetime, however, is a mathematical fiction. Therefore, gravitational waves cannot possibly exist [4].

On the false assumption that gravitational waves are a form of electromagnetic radiation, the elaborate Laser Interferometer Gravitational Wave Observatory (LIGO) was built to detect them. In 2015, LIGO measured a momentary increase of 0.0000000001% in X-ray frequencies generated for a fraction of a second by two black holes colliding [5-8]. This was simply an insignificant increase in frictional temperature caused by the collision of the accretion disks surrounding these binary black holes [4].

## The Dark Matter Illusion

Dark matter is hypothetical matter that supposedly suffuses the entire universe, filling the dark spaces between stars and galaxies. It is inferred to exist only because of a falsely presumed gravitational pull it appears to have on visible matter.

Dark matter cannot be seen by telescopes nor detected by other means. Light passes right through dark matter, which neither absorbs nor emits light nor any other electromagnetic radiation. Dark matter does not interact with normal matter and does not participate in nuclear fusion [7]. Dark matter does not have any properties of actual matter. Dark matter does not have any properties at all, because dark matter is a fiction that does not exist [5].

Dark matter theory depends entirely on these two false assumptions: (1) the mythical big bang was an actual event, and (2) Hubble's law is valid.

## Dark Energy is Zero Energy

Dark matter was postulated to explain why the universe's presumed rate of expansion appeared to be slowing down. Dark energy was postulated to explain why recalculations seemed to indicate that expansion may be speeding up [6]. In other words, dark energy was imagined to be a mysterious force that opposes the supposed gravitational attraction of dark matter.

The alleged big bang never happened and the universe is not expanding [1]. There are no mysterious forces playing tug-of-war with its rate of non-expansion, no dark matter and no dark energy opposing dark matter [5].

## Cosmic Microwave Background

Cosmic microwave background (CMB) radiation is detected by telescope in every direction as a patchy background about  $13.4 \times 10^9$  light-years away. The CMB is falsely assumed to be thermal radiation left over from presumed "recombination", the epoch during which charged electrons and protons supposedly first became bound to form electrically neutral hydrogen shortly after the alleged "big bang". The mythical big bang never happened. Therefore, there must be another explanation for the CMB.

NASA confirms that the CMB follows the precise curve for blackbody radiation [1]. A blackbody is an opaque object in space that absorbs radiation of all wavelengths that fall on it. Then, when the blackbody is at a hot and uniform temperature, it emits its own radiation that is outside the visible spectrum of light. NASA's measurements show that this blackbody curve peaks at 0.3 cm wavelength and 100 GHz frequency, which is at the high end of the microwave spectrum. The blackbodies in question could simply be interstellar dust [1].

## The Higgs Boson Myth

The Higgs boson is the hypothetical particle of the alleged Higgs field that supposedly permeates space and endows all elementary subatomic particle with mass through its interactions with them [9, 10]. This field and particle is a hypothesis for the origin of mass in elementary particles. In popu-

lar culture, the Higgs boson is often called the “God particle.”

As the theory goes, energy released from the alleged big bang first became a singular kind of massless particle that acquired mass as it passed through an energy grid spread throughout the entire universe and then instantly deteriorated into other elementary particles. “Particle” literally means “a tiny bit of matter.” Thus, a massless particle is a contradiction in terms.

In its convoluted attempt to trace all matter in the universe back to a single origin, Higgs theory depends on three false assumptions:

1. The mythical big bang was an actual event;
2. The alleged big bang produced only Higgs bosons
3. These imaginary particles then passed through a universal grid that somehow pre-existed existence [9].

### The Redshift Misconception

There is a fundamental cosmological error that underlies most of the above invalid theories. This is the error of falsely assuming that redshift is a Doppler effect. Redshift is the attenuation of light, whereas Doppler is the distortion of sound [2].

Light waves are transverse (i.e., oscillate perpendicular to their path) and do not require any medium through which to travel. Sound waves are longitudinal (i.e., vibrate parallel to their path) and can only propagate by compression and rarefaction of the elastic medium through which they travel (e.g., air, water, solids) [2].

For over 100 years, astrophysicists have been falsely presuming that redshift measures velocity of the light source away from the observer. They have not understood how light attenuates over extreme distances through space, i.e., how its frequency gradually diminishes while its wavelength correspondingly increases. They have mistaken the increasing wavelength of light for an apparent (but illusory) increase in wavelength of sound as its source moves away from the observer. The wavelength of any given sound is always constant. However, as the source of this sound moves rapidly away from you, waves of the identical length hit your ear less frequently, thus creating the illusion of a decrease in frequency [2].

Redshift and Doppler are two distinctively different phenomena. One applies only to light travelling through outer space. The other applies only to sound travelling through an elastic atmosphere. To refer to them both as Doppler-redshift is rather like referring to a line in geometry as a straight-curve.

### Conclusion

Big bang theory, Hubble’s law, general relativity, gravitational wave theory, dark matter theory, dark energy theory, Higgs boson theory, and Doppler-redshift theory are hereby invalidated. That which is logically impossible is also physically impossible.

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