

Infinite Universe Theory

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The inevitable rejection of the Big Bang Theory (BBT) will lead to a more enlightened and more logical theory, but what will it be? The BBT will be replaced by the Infinite Universe Theory (IUT). It will produce the greatest revolution in science since Copernicus. A change of this magnitude will not come easily, probably not for decades, but it will come. The outlines of IUT can be seen by examining the logical defects of the BBT. A side-by-side comparison of the two theories not only shows the logical superiority of IUT, but it points the way to fertile fields of research and experimentation while rejecting still others. Among the predictions of IUT: time is motion; there is an ether; light is wave motion; the galactic redshift is due primarily to absorption; gravity involves a push, not a pull; there is a complement to the Second Law of Thermodynamics; light bending near massive bodies is refraction due to a dense ethersphere; galactic ages will not correlate with distance from Earth; the universe is Euclidean and not expanding; empty space and solid matter are ideas, not reality; matter has only three dimensions. Among the illegitimate pursuits: cosmogony, non-Euclidean mathematics; unification of physics via a single equation; objectification of time; and energy viewed as matterless motion. Welcome to the infinite universe!

Introduction

The previous paper [1], as well as the book it summarized [2], demonstrated the societal appeal of Einstein's relativity and the Big Bang Theory. Almost everyone harbors preconceived notions that consider matterless motion and creation from nothing to be logical possibilities. We cannot see the motion of the tiniest particles; everything we know seems to have a beginning. Why hypothesize undetected, infinitely small particles? Why not hypothesize a beginning for the universe? Ultimately, we are faced with a fantastic philosophical choice: either the universe is finite or it is infinite. There is no way one could travel to the "end of the universe" to provide a final test of what must forever remain an assumption.

At present, however, most cosmologists are pretty certain that the universe is finite, expanding from a point easily calculated from well-established measurements. But what if we adopt the opposite point of view: that the universe is infinite in three dimensions and eternal? This paper explores that possibility by contrasting the Big Bang Theory (BBT) with its logical opposite, the Infinite Universe Theory (IUT) (Table 1). Many other cosmologies have been advanced in the past, of course, in attempts to handle contradictions within the BBT. The steady state theory of Hoyle [3], for example, was an attempt to rescue the BBT from its unprecedented rejection of conservation by proposing just enough creation to keep up with expansion. The idea of an alternating expanding and collapsing universe keeps cropping up [4]. It is currently popular, once again, to hypothesize "multiverses," each of which gets to explode from nothing in its own oxymoronic way [5]. The comparison begins with a few critical assumptions:

Assumptions

All ten assumptions of science [6] are important in comparing the BBT and IUT, but we will focus on five that are especially critical (Table 1).

Infinity. As is well-known, the BBT was devised and is maintained by mathematicians. Mathematics really cannot yield a satisfactory treatment of infinity, so an assumption of finity comes natural. The problem is that, if one assumes finity at the

beginning, one will end up with finity at the end. The argument becomes circular no matter which assumption one uses. I chose infinity (microcosmic and macrocosmic) here because the resulting logical argument avoids the many contradictions inherent in the BBT.

Causality. The assumption of finite universal causality was the foundation of Newton's mechanics, classical determinism, and today's mathematical physics. But, as argued in [1], there is no logical way to advance IUT without using Bohm's assumption of infinite universal causality. With all things in the infinite universe being bathed in an infinity of particles, all causal relations have an infinite number of terms. In practice, all we can hope for is to determine the most important and ignore the rest.

Conservation. Conservation, the First Law of Thermodynamics, assumes that matter and the motion of matter neither can be created nor destroyed. The BBT, of course, is the most blatant violation of conservation ever devised. The creation of something from nothing is clearly a religious assumption, not a scientific one. Special pleading generally involves the idea that the calculated "beginning" really was not a beginning, but that something, perhaps a tiny "singularity," existed "before" the beginning. Another plea involves the claim that conservation could not be violated because there could be no fundamental laws or assumptions before the universe existed.

Inseparability. According to Hegel, "Just as there is no motion without matter, so there is no matter without motion." In other words, all phenomena may be classified as either matter or the motion of matter. The opposing assumption is separability, the popular idea that motion could occur without matter. Matterless motion is especially popular among logical positivists and theologians.

Mathematics

From the foregoing it is obvious that the IUT can be only partly compliant to a mathematical approach (Table 1). Like the classical mechanics before it, the BBT claims to be fully compliant with mathematics. As mentioned in the discussion of infinite universal causality, math never can give a completely accurate picture of reality. Mathematics forever must be a slave to science; science should not be a slave to mathematics.

But to a hammer, all the world is a nail. The best mathematicians realize that the idealism underlying calculation is just that: idealism, a representation of reality, not reality itself. Nonetheless, it is easy to forget this simple fact if all one does is mathematics. The idealism must be treated as an occupational disease. Einstein, for example, had many choices in preparing relativity theory. The equation said that mass would increase as velocities approached the speed of light. There is, of course, no physical reason for the mass of an object to increase simply because it is travelling at a high velocity through empty space. Either the math was wrong, or the physics was wrong. Einstein discarded the physics and kept the math. Any relativistic effects found in subsequent tests only proved that space was not really empty.

Einstein's consideration of time as a dimension prepared the way for the BBT by removing the unlikely possibility of actually finding the point of origin. Time, of course, simply is motion, not matter. All measurements of time always involve measurements of the motions of one thing with respect to another thing. Universal time is the motion of each thing with respect to all other things. Plotting a time measurement on graph paper or using it in an equation does not make it a dimension. It turns out that, if you can believe in four dimensions, you can believe in 13 of them, as seen in the widely popular string theory that just now is being questioned by insiders [7]. Calculations for an imaginary object with 248 dimensions were performed recently [8]. Of course, all of this is math, not physics.

Space

The concept of perfectly empty space is dear to the hearts of logical positivists, Big Bang theorists, and other idealists. If empty space could be found, it would prove that non-existence is possible. The failure to produce an absolute vacuum, the universal presence of the cosmic microwave background (CMB), and measurements of ether drift (Fig. 1) support the opposing contention. As is typical of most prevailing theories, the BBT claims the CMB as its own; a kind of matterless motion left over from the Big Bang. Instead, the CMB actually is proof that matter in motion (ether) exists everywhere in outer space. Matter in motion is necessary for temperature to occur. Perfectly empty space would have no temperature at all; it would be 0°K and not the measured 2.7°K.

Radiation

Einstein popularized the idea that matter could be converted into energy. As a result, some have even claimed that the universe once contained no matter at all, only pure energy. Energy, of course, is the motion of matter, and per inseparability, it is nonsense to talk of energy without its material referent. According to neomechanics, the physical meaning of $E=mc^2$ merely involves the conversion of the microcosmic motion of matter to the macrocosmic motion of matter. The emission of motion could not occur in a macrocosm devoid of matter. There has to be a medium (ether) to transfer the motion to—perfectly empty space will not do. In the same way, increases in mass require the motion of matter to be absorbed by the microcosm. This is why a hot tea kettle has more mass than a cold one.

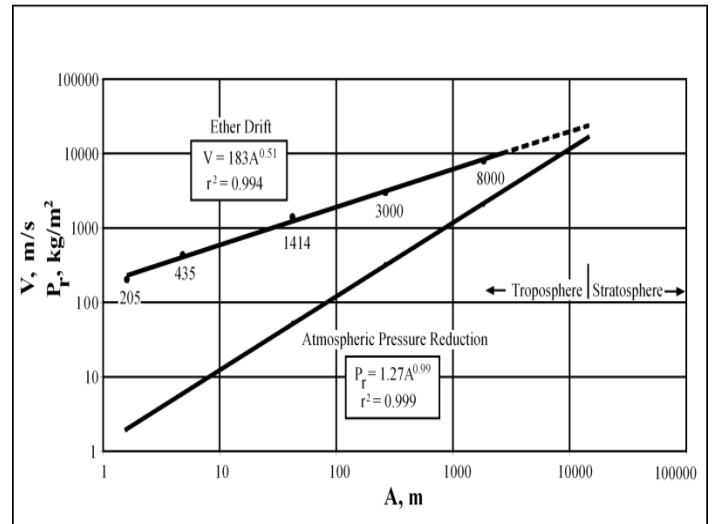


Figure 1. Ether drift and atmospheric pressure reduction versus altitude [2, p. 202] derived from the data of Galaev [9].

Light

The BBT stands or falls on a single interpretation: that the galactic redshift is solely the product of the Doppler Effect. Light, considered as a wave-particle is presumed to travel through empty space for up to 13.7 billion light years without significant changes other than the lengthening of its wave length due to Doppler Effects. This claim, of course, is unprecedented, for we know of no other phenomenon that behaves that way. The idea that a phenomenon could be both matter and motion at the same time violates inseparability—a violation unlikely to be rejected by the indeterministic establishment. But as explained in detail in [2], clear thinking requires that we maintain a *conceptual* distinction between matter and motion, while assuming that there can be no *physical* distinction between matter and motion. Matter *exists*; motion *occurs*.

The other possibility, that light is a wave within a particulate medium, is only common sense. All wave motion is redshifted with distance. The Doppler Effect, like all wave effects, must be a group effect. There is plenty of evidence for the hypothesized medium, as reviewed by Gift and shown in his calculations regarding measurements of the period of Jupiter's satellite, Io [10]. The infamous Michelson-Morley measurements cited by Einstein were poorly done, had too short a path length, were plagued by other instrumental problems, and did not consider the possibility that ether could be entrained by the earth. Miller [11] eventually obtained an ether drift of 3 km/s in Cleveland (265 m), only 10% of the value expected, which was Earth's orbital velocity, 30 km/s. His measurements at Mt Wilson (1830 m) were much greater, up to 10 km/s, suggesting the altitude function confirmed by Galaev [9] with measurements at elevations of 42, 4.75, and 1.6 m (Fig. 1). Galaev also pointed out that the supposed confirmations of the Michelson-Morley null result in the 1920's were done in hermetically sealed metallic chambers not amenable to drift. A plot of Galaev's data shows that ether drift follows a square root function of altitude instead of the direct gravitational function followed by air molecules (Fig. 1). This may to be a valuable clue to the nature of ether particles.

As Fig. 1 shows, the entrained ether or “ethersphere” is about 13 km thick. The 30 km/s result would not be obtained before that elevation is reached—above the troposphere. It is likely that most, if not all, celestial bodies have an ethersphere that might produce the light refraction that supposedly proved Einstein’s specious claim that gravitation was due to “curved spacetime.”

Gravitation

Gravitation is either a pull or a push. Since none of Newton’s laws or any of the six neomechanical laws [2] involve a pull, it is clear that “gravitational attraction” as well as “curved spacetime” are mere myopic idealizations of systems philosophy and its cousin, logical positivism (Table 1). As long as finity remains its logical foundation, the true, physical mechanism of gravitation will remain a mystery. Although he failed to pursue it, we must agree with Einstein that gravitation and inertia are equivalent. In an infinite universe lacking empty space, the motion of one microcosm always affects the motions of other microcosms. In other words, it is impossible for an object to move from point A to point B without pushing other objects ahead of it. It is the motion of these objects, whether they be ether particles, gravitons, fluxions, “dark matter,” or some other constituent of so-called “empty space,” that produce the manifestations of gravitation via shadowing or some other mechanism [12]. This view of gravitation is inconceivable without an infinite universe and an infinite universe is inconceivable without this view of gravitation. The alternative view is that, contrary to the First Law of Motion, massive bodies create their own gravitational fields, as if reaching out anthropomorphically to embrace passing bodies, gathering them unto themselves for reasons known only to the mystically inclined.

The upshot is that the microcosmic search for enough “dark matter” to produce the “attraction” sufficient to counter the “expansion” of the universe is bound to fail. I predict that only enough “dark matter” (e.g., ether, gravitons, etc.) to satisfy the infinite universe theory will be found. Surprisingly, this view of gravitation is consistent with indirect observations of gravitational waves, although it denies that the mechanism predicted by Einstein (fluctuation in the curvature of spacetime) is responsible (Table 1).

Cosmogony

IUT denies that cosmogony, the study of the origin of the universe, is legitimate (Table 1). The word “cosmogony” has not seen popular use in cosmology. To do so would imply that an alternative view was possible. It would emphasize the horrible bias that has overtaken science with renewed vigor during the 20th century. In keeping with systems philosophy and its overemphasis on the system and neglect of the environment, we have devised a ludicrous cosmology nevertheless acceptable to the powers that be. Even the Pope has blessed the new cosmogony. It looks like there will be no complete pardon for Giordano Bruno any time soon.

Conclusions

As always, we have a choice to make between two critical assumptions for which there can be no final proof: Either the

universe is finite or it is infinite. The recent invention of the Big Bang Theory has forced us to choose between two fantastic possibilities: Either the universe exploded out of nothing, or it has always existed. This review of the two possibilities shows that the Infinite Universe Theory is, by far, the more logical of the two. The logical counterpart to macrocosmic infinity is microcosmic infinity. Both provide a framework for future scientific work that eschews the overt idealism of relativity and the BBT. The inference is that worldviews that use logical positivism and systems philosophy are no longer useful for advancing cosmology. We need to abandon the idea of empty space and the view that systems actually could exist in isolation. Any portion of the universe is a microcosm that could not exist without its macrocosm. Only a combination of the two—the univironment—can explain the motions of any microcosm. IUT is the logical culmination of univironmental determinism, the scientific worldview [2]. Finally, with IUT, we are able to advance beyond the pre-Copernican worldview in which we childishly and myopically see ourselves as the center of the universe. Nothing less would neither be scientific nor befitting our ultimate maturation as a species.

References

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Table 1. Comparison between the essential assumptions and characteristics of the two possible cosmologies.

Characteristics	Big Bang Theory	Infinite Universe Theory
Acronym	BBT	IUT
CRITICAL ASSUMPTIONS		
	finity	infinity
	finite universal causality	infinite universal causality
	creation	conservation
	separability	inseparability
MATHEMATICS		
Mathematical compliance	full	partial
Time	matter	motion
Number of dimensions	4 to 13	3
String theory legitimate?	yes	no
SPACE		
Empty?	yes	no
Microwave background evidence	proves BBT	proves ether
Nonexistence possible?	yes	no
LIGHT		
Character	wave-particle	wave
Light medium	none	ether
Is there an ethersphere?	no	yes
Solar light refraction	curved spacetime	ethersphere
Galactic redshift (universal)	Doppler Effect	absorption
Expansion?	yes	no
GRAVITATION		
Mechanism	pull	push
Gravitational waves possible?	yes	yes
COSMOLOGY		
Universe had an origin?	yes	no
Cosmogony legitimate?	yes	no
Worldview	systems philosophy	univironmental determinism
Mechanism of evolution	neo-Darwinism	univironmental determinism