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## *The Problem of Absolute Reality*

How can the truth be found? How can we determine what is the objective reality, what is the absolute truth?

By starting at the beginning, having first eliminated all pre-conceived ideas, then relying only on unchallengeable postulates and sound logic, testing the results for conformity with observation and experience. That is the only course available to us. It is also a course that cannot fail if rigorously pursued.

There is only one postulate needed, and it is the only one available: An infinity is impossible in material reality. The reason for this is that the existence of any real infinity results in contradictions. The contradictions (e.g. the irresistible force encounters the immovable object) are impossible therefore infinity is impossible, except as a non-material theoretical concept.

A corollary to this is: Conservation must be maintained. The inputs and outputs, the amounts at the start, any intermediate stages, and the finish must reconcile. There can be no overall loss nor gain, no something from nothing (nor nothing from something).

To account for existence it is necessary to show why it is as compared to the alternative, nothing. Thus one must begin at the beginning, "nothing". The starting point is absolute nothing -- the state before there was anything, before everything. It is the only state that requires no explanation nor accounting for its existence. It is naturally what one would expect before anything started.

But, starting from *nothing* and maintaining conservation would appear to preclude any further progress, any universe at all. Yet, paraphrasing Descartes, "I (part of the universe) think, therefore the universe is."

The resolution of this dilemma is simple and leads directly to the proven physics of our contemporary universe:

The primal *nothing* changed into *something* and a conservation-maintaining equal-but-opposite *un-something*.

That initial event was so unstable that it exploded too immediately for the two opposites to recombine and cancel. That explosion was an immense shower of matter particles and energy now referred to as the "big bang".

The development from that event, a logical and mathematical derivation of all of the fundamental laws of physics (Coulomb's Law, Ampere's Law, Newton's Laws of Motion, Newton's Law of Gravitation, relativity, radiation, fields, photons, atomic structure, nuclear structure, ..., all of the physics of the contemporary universe) shows that our universe is the joint operation of the *something* and the *un-something*, which together result in the universe's fundamental particles.

Thus was the origin of the universe.

*THE PROBLEM OF EFFICIENT CAUSE  
(THAT WHICH CAUSED IT TO HAPPEN)*

Observation and experience teach that everything has a cause, and logic dictates that nothing happens without some reason, some cause. Over two millennia ago Plato addressed and Aristotle elaborated the phenomenon of cause and the problem of the origin of the universe. In order to avoid an infinite string of prior causes, with no actual beginning, Plato concluded that the beginning had to be something that was its own cause.

And, if something is its own cause then it must have always existed and never had a beginning.

From that time on all of the monotheistic religions and philosophies that address the problem of origin have accepted Plato's

concept that the beginning was something that was its own cause, that something being deemed some form of infinite, omnipotent creator God.

But, for something to cause itself an insuperable dilemma must be overcome:

- The something must exist in order to cause itself,  
and
- It must cause itself in order to exist.

For something to be a cause does not require that it occur or exist before the thing caused in the time sense. However, it does require precedence of the cause-er in the sense of being an extant condition that is independent of the state of the cause-ee.

There is no way to overcome the dilemma that something cannot be its own cause. Consequently, this problem has always been ignored or deemed an "unknowable mystery of God", which actually is merely an avoiding or ignoring of the problem.

But, if the beginning cannot be a self-caused something it must be an un-caused something -- what could that be? What it could be, what it is, is whatever the postulating of a self-caused beginning was trying to avoid. Without Plato's self-caused beginning there is no beginning at all; there is only simply *nothing*.

That, absolute *nothing*, is the un-caused beginning,  
or if one prefers, the self-caused beginning.

### *THE PROBLEM OF FORMAL CAUSE AND MATERIAL CAUSE (THAT WHICH DETERMINED ITS CHARACTERISTICS)*

Aristotle recognized that the cause of something is not merely the initiating action (referred to as the efficient cause) but also the source of the nature and characteristics (called the formal cause) and the substance (called the material cause) of that which is caused.

The experienced universe having a tremendous variety of forms, natures, and characteristics, it was necessary for Aristotle (and for the religions that adapted Plato's and Aristotle's concepts of God - Judaism, Christianity, and Islam) to deem his self-caused first cause as being infinite in all characteristics. That is, in order to be the formal cause of all, the self-caused first cause must be the perfection, the maximum of all. It must contain every form and substance and those to the ultimate.

That creates a problem that would appear to mean that *nothing* cannot be the un-caused first cause, a problem that appears to be insuperable: *nothing* would appear to have no form nor substance at all and thus to be completely incapable of being the formal cause and the material cause of all else.

However, just the opposite is the case. *Nothing* is the only "thing" capable of being the formal and material cause of an unlimited variety of forms, natures, characteristics and substances.

- *Nothing* can be divided into *anything* and an equal-except-opposite *un-anything*.
- Its perfect "nothingness" makes it more perfectly able to divide into a limitless variety of forms and their opposites than would any other thing.
- *Nothing* contains within itself every possible, every conceivable form.
- It does so without getting involved in the problem of infinity, a concept incapable of meaning in reality.

The Platonic (and religious) self-caused first cause requires that, as formal cause and material cause, it contain and be an infinity of forms, natures, characteristics, and substances each realized to

infinite degree. The actual first cause, *nothing*, involves no infinities at all yet it exceeds the performance of that of Plato and Aristotle:

- It is able to exist, unlike that of Plato and Aristotle, and
- It does not require infinity, which is not really possible (not even for a God).

The origin of all, the First Cause, was the primal *nothing*, that which seems natural as the alternative to any existence, that which seems natural as what was the state prior to the beginning of the universe.

That the origin of the universe was as just described has been comprehensively validated. From the same premises that lead to the described origin, the mechanics, the physics, of the world and the universe that we know today have all been derived and developed. All of the heretofore empirical laws of physics (that is laws deduced from observation of behavior) have been placed on the much more fundamental basis of derived theorems, similar to the development of Euclidean Geometry. Such a derivation and development is much too massive for this brief paper, but it exists and is valid. [See the book, "The Origin and Its Meaning" or see <http://www.The-Origin.org> .

But, why did the initial event happen, why did the universe begin? It would seem much more reasonable that an original primal *nothing* simply remain that way, simply continue being just *nothing* forever.

### *THE PROBLEM OF WHY THE ORIGIN OCCURRED*

It turns out, startling as it may seem, that the primal *absolute nothing*, the "existence" of which is unavoidable at the beginning, inevitably must give rise to something else. Some change, "sometime", had to happen to the primal *absolute nothing*. The reason has to do with time, duration, and the impossibility of infinity.

A *change* is one set of conditions being replaced by some different set of conditions. The direction of the change is inherent in the definition: the *replacing* set comes after the *replaced* set.

*Duration* is that which is until the next change. Our human experience is that durations begin and end with change; however, for a duration to be it is only necessary that its terminating change has not occurred. A *duration* need not be measurable. Measurement is merely the comparison of something against a defined standard quantity with the drawing of a conclusion as to the relative amounts of the two.

*Time* in the abstract is the potentiality or capability to exhibit duration. *Time* is latent *duration* so to speak. Realized time, the actualization instead of latency, is the exhibiting of duration.

Before the start of the universe, when only the primal *absolute nothing* was, there was no change. A *duration* was in process. A change was required to prevent that duration from being infinite by providing a termination of that primal duration. (Time was realized, therefore, even before the start of the universe. Although it was unmeasurable, a duration was going on. Time has always been realized. The origin of the universe made time become measurable.)

It is now possible to present two causes for the origin of the universe happening, causes for the universe to arise from *absolute nothing*, causes for that arising being inevitable. These two causes can be viewed as two different points of view of one cause, the impossibility of infinity. Their statement is as follows.

First

The original *absolute nothing* was, naturally, finite; but, were it to "exist" "forever", that would constitute an infinity, an infinite duration, which is impossible. Even *nothing* cannot have infinite duration; the "zeroness" of nothing does not avoid the "infiniteness" of forever. Therefore there had to be an

interruption of the original *nothing's* duration, which interruption was the origin of the universe.

#### Second

In an infinite duration the opportunity or possibility of a change, even a change in absolute nothing, is a certainty (mathematical probability of  $1.0$ ). Put another way, in an infinite duration even an infinitesimally small probability of some change operates on so much (infinite) opportunity that the probabilistic expectation of an interruption of some kind is a certainty. Such was the origin of the universe from the primal *absolute nothing*.

In a sense, the first of these statements is explanation of why it happened and the second is of how, namely a chance event. We need not be disturbed by our universe's existence being a rare and random chance occurrence. After all, the universe does exist and it was inevitable.