

## **TRUTH AND REALITY** **THE LOGIC OF "THE ORIGIN"**

Then: How can the truth be found? How can we overcome the difficulty and determine what is the objective reality, what is the absolute truth?

The answer is: 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.

Since that time 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 a "mystery of the unknowable 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)

Plato and 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 Plato and Aristotle (and for the religions that adapted their concepts of God -- Judaism, Christianity, and Islam) to deem the 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 an infinite 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:

- It is able to exist, unlike that of Plato, 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.

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. 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 only 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 "zerness" 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.

#### *THE PROBLEM OF OUR BIOLOGICAL HERITAGE*

All biologically evolved life, all presently existing life, is various forms of competitors, combatants, fighters in a life and death, "no holds barred" struggle for survival. The battlefield is deep with the remains of the vanquished and the remorseless contest continues this very day and utterly without mercy.

This "eat or be eaten" animal behavior is not because of some heavenly, nor natural, mandate nor are the contestants, whether the vanquished or the victors, mean, evil or otherwise to be condemned for their behavior. They are merely natural. They are merely behaving naturally.

Change pervades nature and change constantly produces new variations. Animals appear having changed characteristics and environments change requiring adaptation. In most cases changes prove to be disadvantageous and the individuals involved fail to survive. But, sometimes a change results in a significant enough advantage that the individuals involved are able to out-compete, to out-survive their fellows.

All life forms depend on a supply of certain sustaining conditions and materials from their environment: appropriate temperature, light, air, water, food or whatever, specific to the life form. If the supply of those necessities is abundant the life form increases in size or number until the supply becomes no longer sufficient to maintain that increased size or number. When the supply is not sufficient then those individuals most adept at securing enough to meet their needs survive. The others tend to fail, to be eliminated, to die out.

Life forms tend to reproduce their characteristics in their offspring. The types that better survive the competition for individual survival because of their having more advantageous characteristics are more likely to populate the next generation than the types that cannot as successfully compete, that cannot obtain enough to maintain their own life let alone reproduce it.

Thus the next generation will tend to have a greater proportion of individuals having those advantageous characteristics. Inevitably the process selects and improves the characteristics of those life forms that are most successful at acquiring from the environment that which they need and at reproducing in their offspring those same improved characteristics.

And we humans stand at the end of a very long chain of this process. We are refined and re-refined champion pursuers of our own self interest as we perceive it -- personal welfare and survival. We reproduce those same characteristics in our offspring.

The more advanced life forms, the higher animals, can learn from experience to some extent, but it apparently requires a mental level only reached by we humans (at least in our planet's environment) to reason abstractly and to apply that process to learning. Thus we humans have learned to benefit from the longer term effects of adhering to short term constraints.

This has led to a decreased tendency to murder, steal, and so forth, acts which might produce immediate instantaneous increase in short term personal survival and material welfare but which bode poorly for the long term because of the danger, and even likelihood, of being victim rather than perpetrator.

There are two different potential modes of application by humans of their relatively new characteristic of intelligence. These are illustrated in the table below.

<u>Natural</u>	<u>Rational</u>
Increased competition for limited resources.	Cooperation increasing the resources for everyone.
Less security because of preying on each other.	More security because of helping each other.
Exploitations: slavery autocracy, oligarchy.	Freedom and control over one's own life.
Relatively slow progress in environmental control and quality of life.	Enhanced development of control over the environment and the quality of life.

### *THE PROBLEM OF OUR SOCIOLOGICAL HERITAGE*

Because of our biological heritage we tend to take the left path above, that of greater competition. It is natural and instinctive to us. That path, largely with us to this day, can produce a high quality of life and survival for only a small group of the most successful competitors. It produces misery for the majority of society and it wastes resources and inhibits overall progress.

The overall thesis of this paper is that, as a principle naturally and inevitably resulting from the universe as it is, all persons should treat each other as they themselves would wish to be treated.

This mode of social behavior is not a new concept, but, old as it is, it has been and is more frequently violated than adhered to. Throughout most of the history of human civilization a small portion of the population has lived a life of relative material abundance, luxury and power at the expense of the majority. The affluence of these few comes only at the expense of deprivation of the many. There is nowhere else for the wealthy, the rulers (the terms are, in effect, causally synonymous), to obtain their abundance except by taking some of what would otherwise go to the benefit of the rest of the population.

Thus those at the material apex of the human economic pyramid are exploiters, deriving their enjoyment of "the good life" by the exploitation of the mass of the people. This has been the case throughout recorded history and is largely the case today. The small number of wealthy-powerful enjoy their status by exploitation.

While that appropriation by the wealthy-powerful of part of the social economic product to their personal luxury is significant, much greater is the amount that they appropriate to create and operate the controlling and repressive structures they erect to maintain their power: massive armed forces, massive

government and police, and equally massive commercial-legal-financial overhead.

Not only do the exploited suffer the loss of the material values taken by the exploiters; but, far worse, the actual lives of the exploited are destroyed or maimed by the wars, semi-slavery, starvation and malnutrition, disease, lack of education and the terror imposed on them by the exploiters as part of the exploitation and to maintain those privileged few in power.

### *THE PROBLEM OF CIVILIZATION*

What is civilization ? Civilization is the state of condition of persons living and functioning together, jointly, cooperatively so that they produce and experience the benefits of so living and functioning jointly and cooperatively. The word "civilization" derives from the Roman word for "city". It implies a society involving cities, and cities involve people living and acting together, jointly, cooperatively, interactively.

That as counter-posed to people living singly or in very small units, on their own, individually, independently.

Thus civilization involves social cooperation, the opposite of individualism's "rugged independence" and its competitive survival of the fittest. Civilization involves joint survival via joint action. Only civilization is capable of providing improved quality of life: security, material abundance, the arts, culture, the possibility of individual fulfillment and of happiness.

Individualism pursues return to the original state, the opposite of civilization, the consequent survival competition, the state of the animals unable to function in any mode other than the competition for survival.

The future of mankind is civilization. Civilization builds on our only real biological advantage -- intelligence and rationality. Civilization implies, means, requires: society, communal action, social sharing, "socialism" and, ultimately, communism, the full cooperative sharing with our fellow persons. Human society must, and it therefore will, so become or we will regress to the animals from which we came.

To support the development of civilization is to be a civilized person. To oppose it is to be primitive, barbarian, essentially an animal.

But, what is the purpose of civilization ? What is the purpose of the social structure that we create ? Certainly the structure is not an end in itself.

To we humans what matters is our personal and individual security, fulfillment and happiness. Therefore, the purpose of civilization must be to promote and achieve that goal.

- The society exists for its individual members --  
not the individual members existing for the society.
- The economy exists for society's individual members --  
not the members existing for the economy.
- The government exists for the members of society --  
not the members existing for the government.

*THEN WHAT IS TO BE DONE ?*

Love, the humane society of social love, true civilization, must be achieved, must be brought into being. But how ?