

## THE RELIGION OF SCIENCE

– Robert Jastrow PhD

(Robert Jastrow was an agnostic "rocket scientist", director of the Goddard Institute for Space Studies for NASA 1961-1981, who was famous for his work in space science and for writing about the apparent contradiction between scientific evidence for a creation event and the "faith in the power of reason". He saw the scientific evidence for a beginning of the universe aligning with the "concept of creation", and he wrote about how this challenged the rationalist views of many scientists of that time.)

### One of Jastrow's commentaries:

Now THREE LINES of evidence —the motions of the galaxies, the laws of thermodynamics, and the life story of the stars —pointed to one conclusion; all indicated that the Universe had a beginning. A few scientists bit the bullet and dared to ask "What came before the beginning?" Edmund Whittaker, a British physicist, wrote a book on religion and the new astronomy called *The Beginning and End of the World*, in which he said, "There is no ground for supposing that matter and energy existed before and was suddenly galvanized into action. For what could distinguish that moment from all other moments in eternity?" Whittaker concluded, "It is simpler to postulate creation 'ex nihilo'—Divine will be constituting Nature from nothingness." Some were even bolder, and asked "Who was the Prime Mover?" The British theorist, Edward Milne, wrote a mathematical treatise on relativity which concluded by saying, "As to the first cause of the Universe, in the context of expansion, that is left for the reader to insert, but our picture is incomplete without Him."

But the views of most physicists and astronomers are closer to that of Saint Augustine, who, asking himself what God was doing before he made Heaven and Earth, gave the reply, "He was creating Hell for people who asked questions like that." In fact, some prominent scientists began to feel the same irritation over the expanding Universe that Einstein had expressed earlier. Eddington wrote in 1931, "I have no incredible axe to grind in this discussion," but "the notion of a beginning is repugnant to me ... I simply do not believe that the present order of things started off with a bang . . . the expanding Universe is preposterous it leaves me cold," The German chemist, Walter Nernst, wrote, "To deny the infinite duration of time would be to betray the very foundations of science." More recently, Phillip Morrison of MIT said in a BBC film on cosmology, "I find it hard to accept the Big Bang theory; would like to rejection And Allan Sandage of Palomar Observatory, who established the uniformity of the expansion of the Universe out to nearly ten billion light years, said, 'It is such a strange conclusion it cannot really be true.

There is a strange ring of feeling and emotion in these reactions. They come from the heart, whereas you would expect the judgments to come from the brain. Why?

I think part of the answer is that scientists cannot bear the thought of a natural phenomenon which cannot be explained, even with unlimited time and money. There is a kind of religion in science; it is the religion of a person who believes there is order and harmony in the Universe, and every event can be explained in a rational way as the product of some previous event; every

effect must have its cause; there is no First Cause. Einstein wrote, "The scientist is possessed by the sense of universal causation."

This religious faith of the scientist is violated by the discovery that the world had a beginning under conditions in which the known laws of physics are not valid, and as a product of forces or circumstances we cannot discover. When that happens, the scientist has lost control. If he really examined the implications, he would be traumatized. As usual when faced with trauma, the mind reacts by ignoring the implications—in science this is known as "refusing to speculate"—or trivializing the origin of the world by calling it the Big Bang, as if the Universe were a firecracker.

Consider the enormity of the problem. Science has proven that the Universe exploded into being at a certain moment. It asks, what cause produced this effect? Who or what put the matter and energy into the Universe? Was the Universe created out of nothing, or was it gathered together out of pre-existing materials? And science cannot answer these questions, because, according to the astronomers, in the first moments of its existence the Universe was compressed to an extraordinary degree and consumed by the heat of a fire beyond human imagination. The shock of that instant must have destroyed every particle of evidence that could have yielded a clue to the cause of the great explosion. An entire world, rich in structure and history, may have existed before our Universe appeared; but if it did, science cannot tell what kind of world it was. A sound explanation may exist for the explosive birth of our Universe; but if it does, science cannot find out what the explanation is. The scientist's pursuit of the past ends in the moment of creation.

This is an exceedingly strange development, unexpected by all but the theologians. They have always accepted the word of the Bible: In the beginning God created heaven and earth. To which St. Augustine added, "Who can understand this mystery or explain it to others? " It is unexpected because science has had such extraordinary success in tracing the chain of cause and effect backward in time. We have been able to connect the appearance of man on this planet to the crossing of the threshold of life, the manufacture of the chemical ingredients of life within stars that have long since expired, the formation of those stars out of the primal mists, and the expansion and cooling of the parent cloud of gases out of the cosmic fireball.

"Now we would like to pursue that inquiry farther back in time, but the barrier to further progress seems insurmountable. It is not a matter of another year, another decade of work, another measurement, or another theory; at this moment it seems as though science will never be able to raise the curtain on the mystery of creation.

**"For the scientist who has lived by his faith in the power of reason, the story ends like a bad dream. He has scaled the mountains of ignorance; he is about to conquer the highest peak; as he pulls himself over the final rock, he is greeted by a band of theologians who have been sitting there for centuries."**