

# The Second Law of Thermodynamics and Entropy

by Jim Schicatano

There are some Creationists that attribute all physical death in our universe to Adam and Eve's original sin. They do not limit this absence of physical death to only human beings, but expand the concept to include all living creatures. Essentially, they believe that nothing died before Adam and Eve's infamous transgression. Generally, young-Earth Creationists embrace this belief, since life on planet Earth could not be sustained for millions of years before sin entered our universe.

Some Creationists even associate a scientific process to help explain their rationale for this claim. They believe that Adam and Eve's sin initiated the Second Law of Thermodynamics. Under this law, the concept of "entropy" was formed.

In the context that entropy is employed in this belief, what is being recognized is that all things tend to move from a state of "order" to a state of "disorder." Although this is neither the primary nor precise definition of entropy, it is an acceptable extrapolation of entropy's influence in nature. It is evident that virtually everything in nature does tend to "run down"; things do tend to move from a state of order to a state of disorder. All life on Earth ages over time; the sun is slowly consuming its fuel by radiating energy; the universe disperses its finite energy as it continues to expand. In a sense, these Creationists believe that when sin was introduced everything within our universe then began to move in a particular direction – that of increasing entropy (or "disorder") over time.

It is true that any natural process contained within a closed system will distribute its energy in such a manner that its entropy will increase over time. This is essentially what the Second Law of Thermodynamics attempts to define. However, what these Creationists are attempting to associate with entropy is overstating and incorrectly applying this accepted scientific process.

Entropy is a very difficult concept to understand. The most basic example of entropy is the transfer of heat from something that is hot to something that is cold. If we take a hot coal and place it in cold water, then the heat from the coal will transfer to the water and warm it. Eventually, the temperature of the coal and the water will reach equilibrium – the coal will be cooler and the water will be a bit warmer. In any natural closed system, energy always moves in such a direction – transferring energy from the hotter object to the cooler

object. And in every case where this occurs, the entropy of the overall system will increase.

Entropy has been in existence since the beginning of time. It was not initiated by original sin and was not part of God's judgment on humanity. Energy or heat has always flowed to objects that are cooler. This is true everywhere in the universe, including planet Earth.

The simplest example to prove that the process of entropy existed before original sin is to observe what has been occurring each and every day since the sun first radiated its warmth to our planet. All Creationists, regardless of their interpretations, place the sun's creation before the creation of Adam and Eve. Whether they believe that the sun was created on the First Day or the Fourth Day, it is clear that the sun illuminated and heated the Earth since its creation – before mankind existed. This process illustrates the most basic concept of entropy in action. Since the hot sun heated the cold Earth before Adam and Eve were created, we can be sure that the natural process of entropy, and the Second Law of Thermodynamics, was in action before sin entered our universe. Without the fundamental principle of entropy, energy radiating from the sun would not warm and illuminate the cold, dark Earth. Consequently, by placing the sun's creation before the creation of human beings, the Bible has confirmed that the natural process of entropy existed long before sin had entered the universe.