

Eukaryotes are typically more complex in structure and thus are easier to study in the fossil record. The first eukaryotes appear about two billion years ago or so. Algae and other protistan eukaryotes diversified through the Precambrian; there are also fossils of uncertain taxonomic affinity that show appreciable evolutionary turnover through this time interval.

In the latest Precambrian, beginning about 570 million years ago, the earliest animals appear. These include such simple animals as sponges and cnidarians, as well as probable very primitive representatives of other phyla. Exact affinities of many of them are uncertain; this reflects the preservation (often relatively coarse) but may also indicate that the species have not yet differentiated into the familiar post-Cambrian phyla. Within the Cambrian itself (beginning about 544 million years ago), there are forms transitional between phyla as well as the earliest clear representatives of many phyla. Although assignable to modern phyla, these typically are relatively primitive, as expected evolutionarily. The Cambrian is neither as explosive nor as exceptional as commonly claimed, though there remains much to do in areas such as testing competing evolutionary hypotheses by better documenting the exact patterns.

Secondly, although "survival of the fittest" is a well-established popular description of evolution, often depicted (especially in nature TV shows) as fierce competition, in reality it only takes being fit enough to survive. Cooperation and competition both are possible paths to adequate fitness. Thus, symbioses such as that envisioned in the endosymbiosis model of organelle origination fit within a normal evolutionary paradigm. It does not increase one's fitness to kill a handy supply of food, shelter, transportation, etc.

David Campbell
ASA Member
425 Scientific Collections Building
Department of Biological Sciences
Biodiversity and Systematics
University of Alabama, Box 870345
Tuscaloosa, AL 35487-0345
amblema@bama.ua.edu

What the "Big Bang" Really Was!

The June 2005 issue of *Perspectives on Science and Christian Faith* contains an excellent article entitled "The Thrice Supported Big Bang" by Perry G. Phillips (PSCF 57, no. 2 [2005]: 82-96). It is a scholarly presentation covering fifteen pages, including references. In his opening paragraph, Phillips states: "One cannot dismiss ... the 'hot Big Bang' as the best model for the origin of the universe."

I found Phillip's article most interesting but his positive assumption that the universe came into being as the result of an unparalleled cosmic explosion troubled my finite mind. All explosions since then have been chaotic or destructive. How could anyone with any degree of intelligence come to a conclusion that this is the way the universe began? Yet the vast majority of scientists (astronomers, cosmologists, and astrophysicists) are in general agreement with this theory for its origin. I am one that does not accept it, although I do accept the theory that a "Big Bang" did occur—but not as the beginning or the

origin of the universe. Being a Christian, amateur astronomer, biochemist, nutritionist, food technologist and logician, I just could not accept the event called the "Big Bang" as a plausible explanation for anything as awesome as the origin of our magnificent universe!

On my office wall I have a picture taken with the Hubble Telescope in 1995 entitled "Hubble Deep Field." The inscription at the bottom is:

Nearly every object in this image is an entire galaxy, each composed of billions and billions of suns taken by the Hubble Space Telescope. It is a random patch of sky near the Big Dipper, less than 100th the area of the full moon. The telescope, above the blurring effects of the Earth's atmosphere, reveals colors, shapes and structures of galaxies to nearly 90% of the distance to the edge of the Universe.

I made a count of the galaxies within a one-inch width of several places on the picture and then computed from the average the number of galaxies on the picture and came up with 750. Thus, when extrapolated to cover the entire sky, the number of galaxies in existence at a relatively short time after the "Big Bang" was astronomical if I can choose a word to describe the number. How could this be? To me, a scientist who thinks scientifically, there is only one explanation—the universe was already in existence at the time of the "Big Bang" and that event was merely God's way of announcing that the work was finished and that now the curtain could be opened and the marvel of his creation could be viewed for the first time!

I am so excited about this revelation that was given to me just shortly after the turn of the year that I want to share it with other scientists, especially those who believe in God as the Creator, to see how they react to my theory which, to me, is far more plausible and believable than the one that is so widely accepted by the vast majority of scientists today.

Fred H. Hafner
ASA Member
Universe
12631 W. Limewood Drive
Sun City West, AZ 85375
fhafner1@cox.net



Errata

The cover of the June 2007 was inadvertently printed with the list of articles in the December 2006 issue. Replacement covers with the correct titles were mailed to everyone who received the June issue.

In the manuscript guidelines and on p. 167, the incoming editor's email address was published incorrectly. Please note Arie's correct email address below.

We apologize for the errors and confusion.

Change in Manuscript Submission

Please submit all manuscripts (except book reviews) to:

Arie Leegwater, Editor
Calvin College
De Vries Hall
1726 Knollcrest Cir SE
Grand Rapids, MI 49546-4403
E-mail: leeg@calvin.edu