

# Letters

## Not with a Bang, but a Whisper

Isn't the metaphor "whispering cosmos" a more accurate and aesthetic description than "big bang" for the very cool microwave background radiation that permeates the entire universe?"

In 1949, astronomer Fred Hoyle coined the term big bang to deride Belgian priest George Lemaitre's prediction that the universe had originated from the expansion of a hot "primeval atom" in space-time. Lemaitre had based this on Einstein's equations of general relativity. Hoyle referred to Lemaitre's "primeval atom" sarcastically as "this big bang idea" during a program broadcast on March 28, 1949 on the BBC. Hoyle said this because it contradicted his own steady state theory, which postulated that matter was continually being created as the universe expanded in accordance with Edwin Hubble's measurements.

The cosmic microwave background noise or whisper comes from every direction of the cosmos. This rustling whisper is evident to us today as we tune between television and radio stations. In the early 1950s, Robert Dicke of Princeton had predicted, as had George Gamow, Ralph Alpher and Robert Herman in 1948, that Lemaitre's hot "primeval atom" should have cooled to a few degrees above absolute zero as it expanded to form the present universe. The radiation was discovered by Arno Penzias and Robert

Wilson in 1964, for which they received the Nobel Prize in 1978.

Fred Hoyle's continuous creation or steady state theory cannot explain the microwave background radiation or cosmic whisper, which has cooled from the expansion of a hot "primeval atom". Yet the term big bang persists. Big bang makes no physical sense, as there was no matter (or space) needed to carry the sound that Hoyle's term implies. The big bang is a hypothesis. There was no one there to observe it! Other hypotheses may be discovered that can predict the observed Whispering Cosmos as well as the nature and origin of dark matter and dark energy that still challenges physicists.

How can conservatives be faulted for rejecting the imprecise big-bang metaphor? I believe the Whispering Cosmos is more accurate, eternal, and beautiful. It is consonant with Astronomer Mario Livio's aesthetic cosmic principle (*The Accelerating Universe: Infinite Expansion, the Cosmological Constant, and the Beauty of the Cosmos*. New York, John Wiley & Sons, 2000). Since scientific theories express the harmonies found in nature, the theories themselves should be aesthetic. The Whispering Universe is cooler cosmology than the big bang.

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