

Discovery of the Big Bang *Timeline*

Mois Navon
(from R. Kelleman, Permission to Believe)

1913 Slipher – discovers a galaxy moving away from earth.
 1915 Einstein – Theory of General Relativity
 1916 de Sitter – General Relativity only works if universe exploding
 1917 Friedman – General Relativity only works if universe exploding

Universe described according to ONE of three possible models:

- **Static:** never changing
- **Closed:** “Balloon” constantly expanding and contracting
- **Open:** “Balloon” exploding

1925 Hubble – Finds every galaxy in the universe receding
 1965 Penzias & Wilson – detect 3K “hum” accidentally using microwave detector
 (later win Nobel Prize for discovery)

1978 Jastrow (Director of NASA Goddard Space Center):
 “The third ‘Open’ model of the universe probably correct”

“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 the heavens and the earth.” 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; he pulls himself over the final rock where he is greeted by a band of theologians who have been sitting there for centuries” (Jastrow, NY Times, “Have Astronomers found God”).

1988 Hawking – confirms Jastrow’s experiments
 “Many people do not like the idea that time has a beginning probably because it smacks of divine intervention, but present evidence suggests that the universe will probably expand forever.”

1990 Mather – Columbia Physicist presents dramatic support for Open Universe
 After being greeted by thunderous applause, Dr. Burbridge exclaimed,
 “It seems clear that the audience is in favor of the book of Genesis, at least the first verse, which seems to have been confirmed.”