

ORIGIN AND STRUCTURE OF THE EARTH





***WHERE DOES THE
UNIVERSE COME
FROM?***

THEORIES ON THE ORIGIN OF THE UNIVERSE

□ Beliefs According to Religion

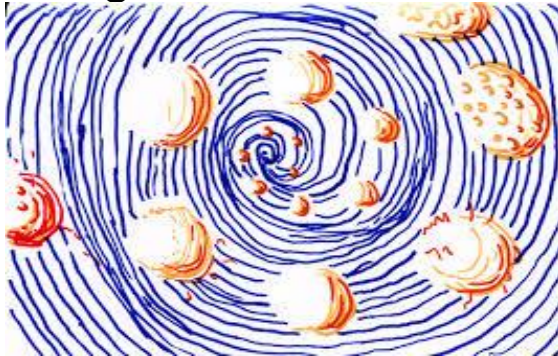
- believed that God separated light from darkness, and created sky, land, sea, moon, stars, and every living creature in a span of six days.



GREEK PHILOSOPHERS

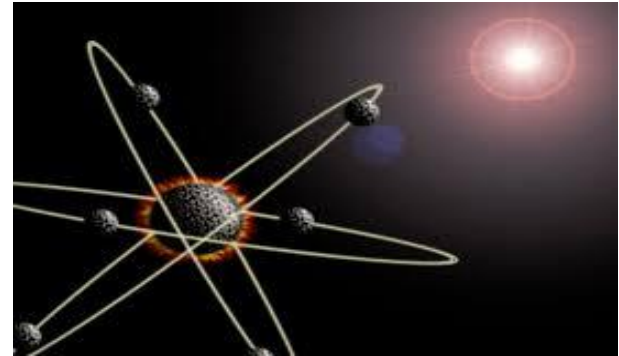
Anaxagoras

- “primordial universe”
- According to him, the universe is made up of different mixtures of all ingredients in a small fragment.



Leucippus and Democritus

- “atomic universe”
- They stated that universe is composed of very small, indivisible and indestructible atoms.



MODERN PHILOSOPHERS

Isaac Newton

- Described the universe as a static, steady-state infinite universe. (Principia book)

Albert Einstein

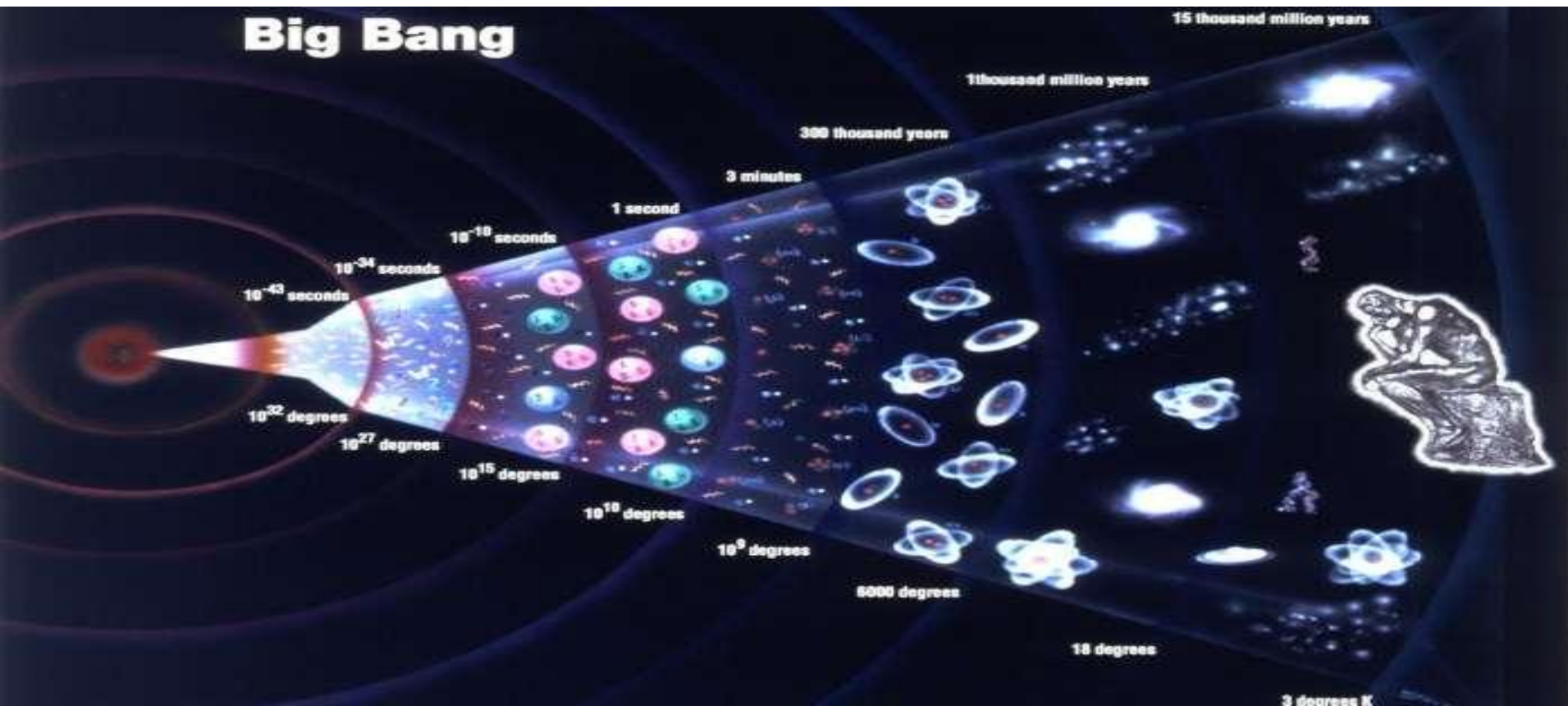
- Explained the universe by his theory of relativity which has the same thought as Isaac Newton.

Edwin Hubble

- showed that the universe was not static through his telescope. The galaxies are moving away from each other at high speeds.



Big Bang



BIG BANG THEORY

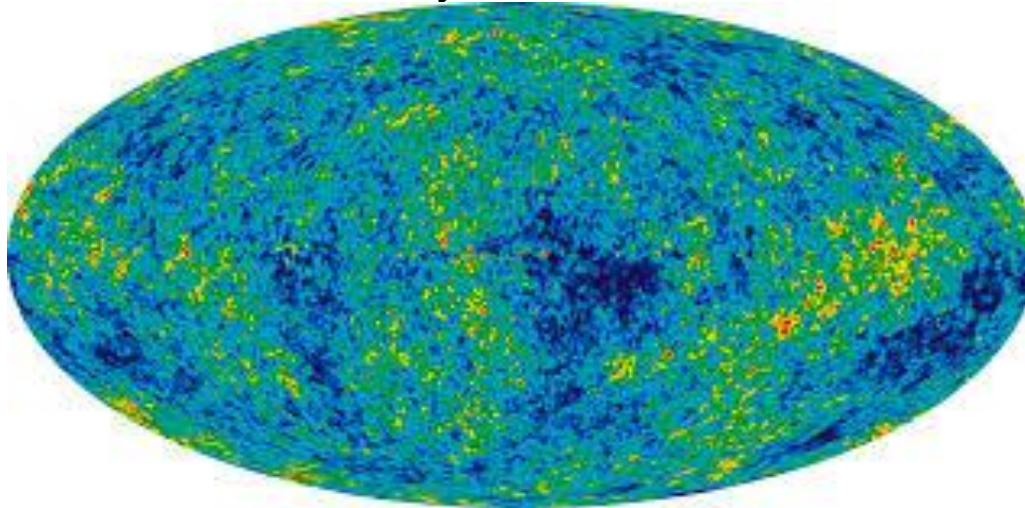
BIG BANG THEORY

- The Big Bang is the event about 13.7 billion years ago when time, space, matter, and energy came into existence.
- The idea of the Big Bang started in 1927 by Georges Lemaitre.
- He deduced that if Einstein's theory of relativity was true, the universe must have been expanding.
- He also used Hubble's discovery to support his theory.

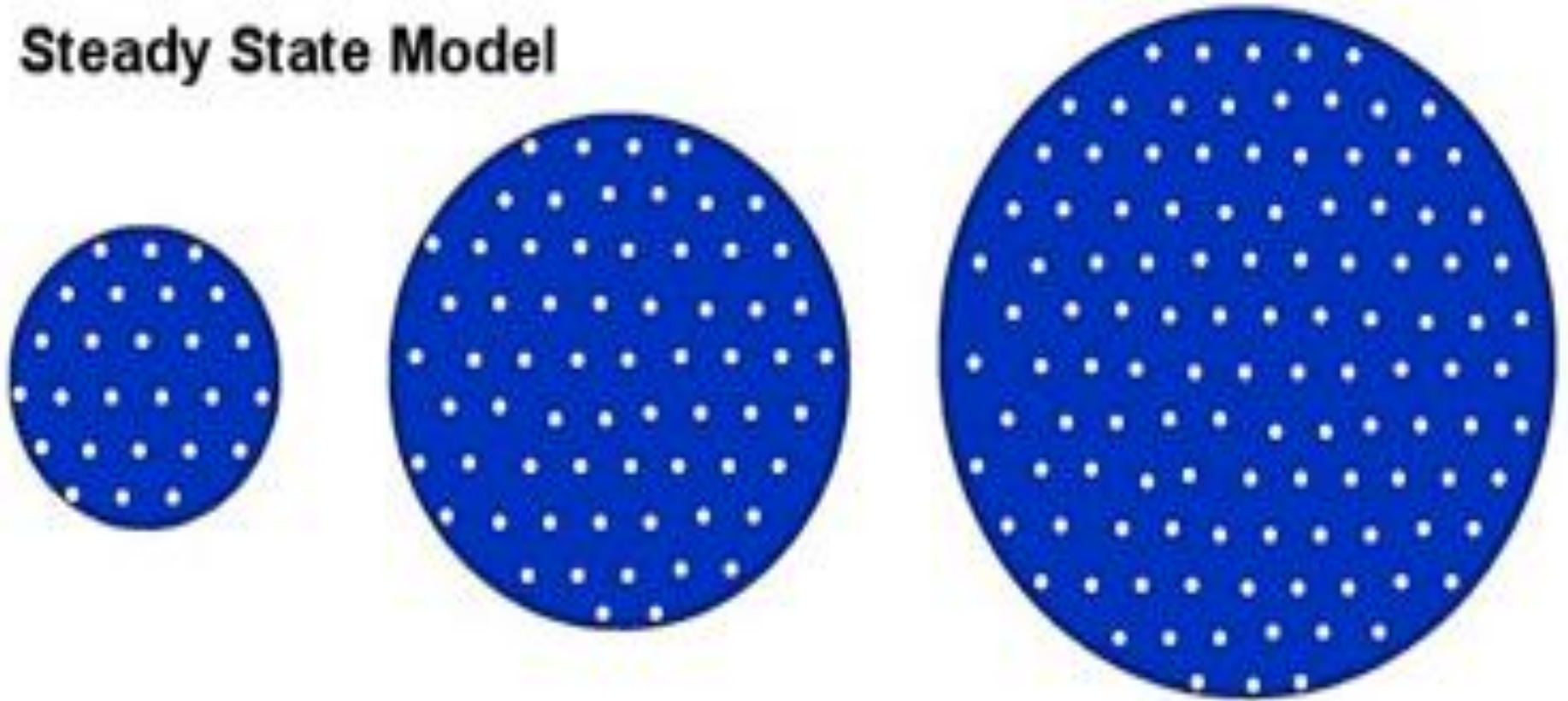


BIG BANG THEORY

- George Gamow's study on the chemical elements supported the Big Bang Theory. He hypothesized that the Big Bang produced helium and other heavier elements.
- He also predicted the existence of cosmic wave background radiation, the afterglow of the big bang that cooled after billion years ago which was proven upon by its accidental discovery of Arno Penzias and Robert Wilson.



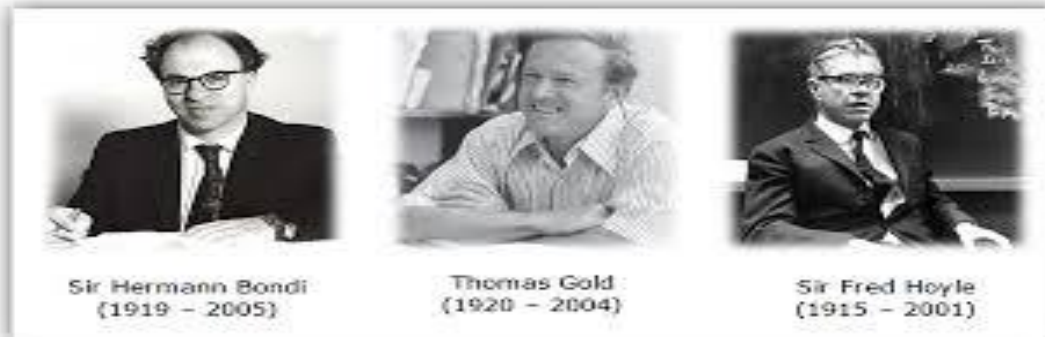
Steady State Model



***STEADY STATE
THEORY***

STEADY STATE THEORY

- Proposed by Fred Hoyle, Thomas Gold, and Herman Bondi.
- The steady state theory assumes that the universe has always been and will always be the same.
- This theory believes in an unchanging universe, implied that the universe contains a mixture of young and old galaxies, while the big bang theory suggested that the galaxies age over time.

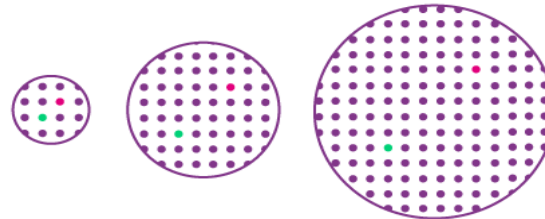


STEADY STATE THEORY

- It was compared to Big Bang theory. One of its advantages is the calculation of the age of the universe.
- According to this theory, scientists initially calculated the universe is only few a billion years old – almost as old as the Solar Systems which is not possible.

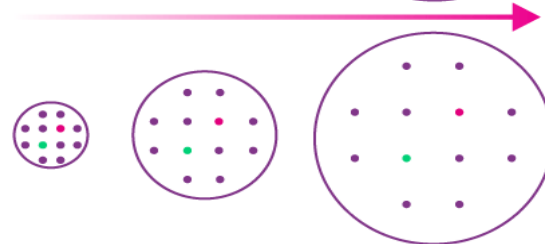
Steady-State Cosmology

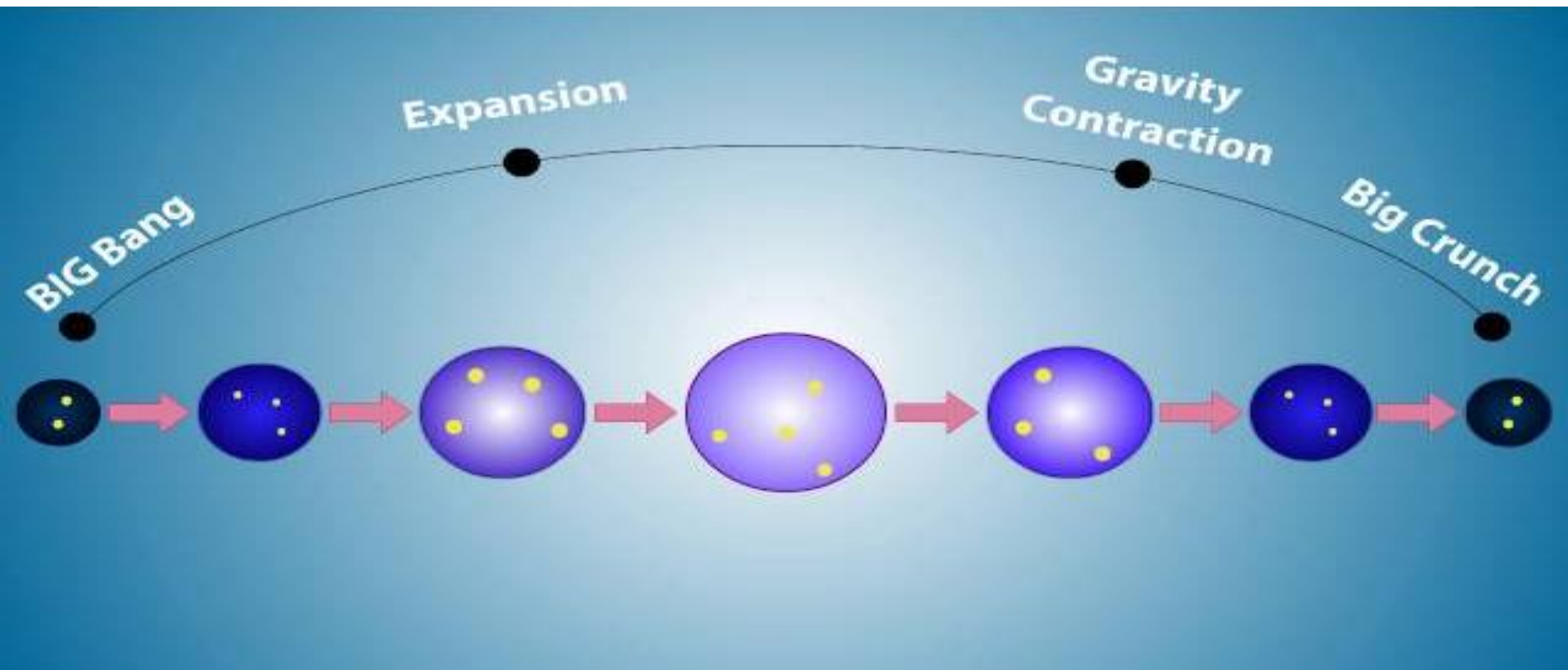
Matter is constantly created as the Universe expands



Big Bang Cosmology

Matter dilutes as the Universe expands





OSCILLATING UNIVERSE THEORY AND ETERNAL INFLATION THEORY

OSCILLATING THEORY & ETERNAL INFLATION THEORY

- The Oscillating Universe was developed by Russian Scientist Thomas Friedman.
- States the universe was created by the Big Bang but will eventually collapse in what it is called “Big Crunch”
- On the other hand, the Eternal Inflation theory supposes that instead of ending in a big crunch as the oscillating universe deemed, inflation never stops.

