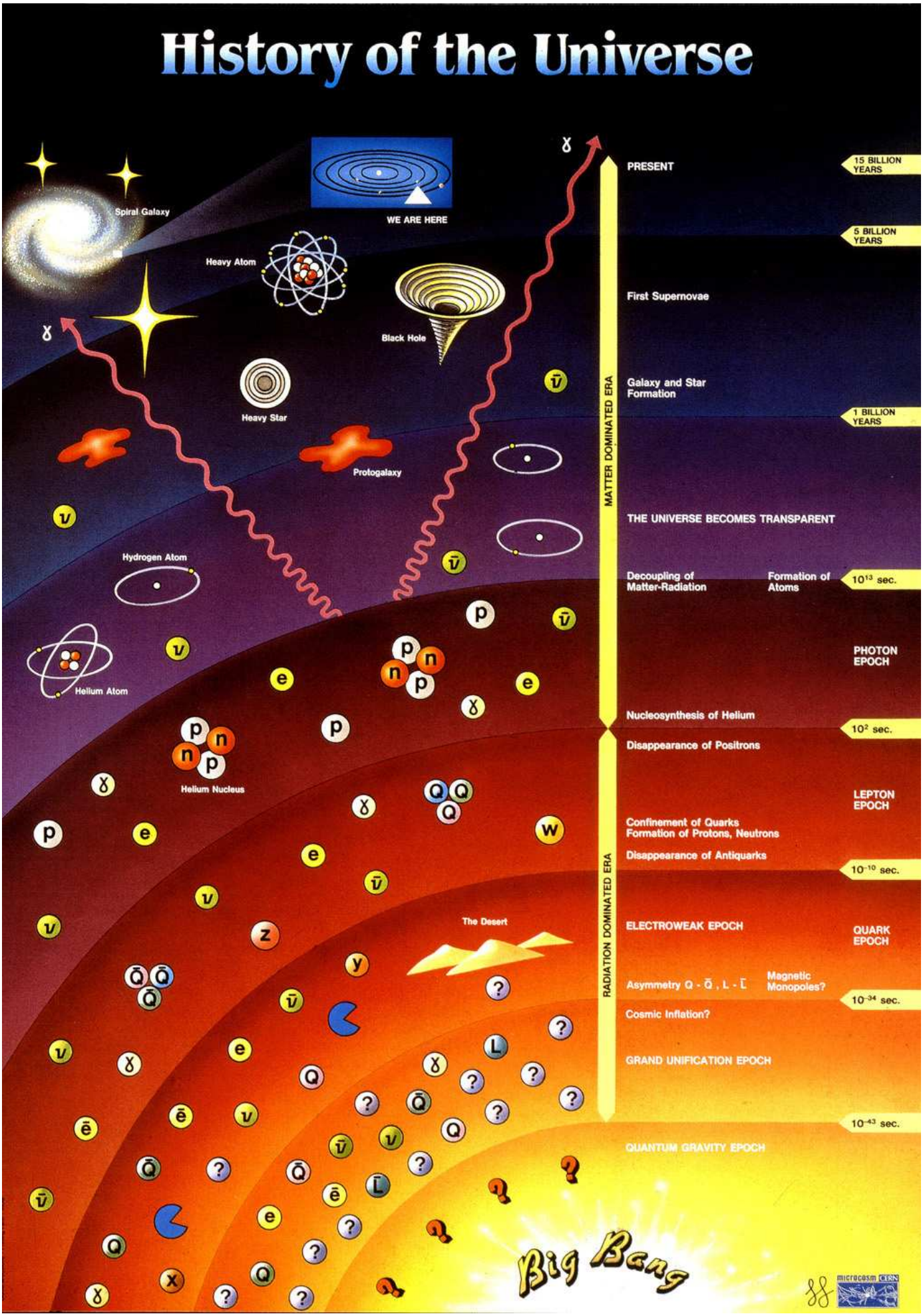
History of the Universe
Spiral Galaxy
WE ARE HERE
Heavy Atom
Black Hole
Heavy Star
Protogalaxy
Hydrogen Atom
Helium Atom
Helium Nucleus
The Desert
PRESENT
15 BILLION YEARS
5 BILLION YEARS
First Supernovae
Galaxy and Star Formation
1 BILLION YEARS
THE UNIVERSE BECOMES TRANSPARENT
Decoupling of Matter-Radiation
Formation of Atoms
10^13 sec.
PHOTON EPOCH
Nucleosynthesis of Helium
10^2 sec.
Disappearance of Positrons
LEPTON EPOCH
Confinement of Quarks
Formation of Protons, Neutrons
Disappearance of Antiquarks
10^-10 sec.
ELECTROWEAK EPOCH
QUARK EPOCH
Asymmetry Q - Q̄ , L - L̄
Magnetic Monopoles?
10^-34 sec.
Cosmic Inflation?
GRAND UNIFICATION EPOCH
10^-43 sec.
QUANTUM GRAVITY EPOCH
MATTER DOMINATED ERA
RADIATION DOMINATED ERA
Big Bang
microcosm CERN