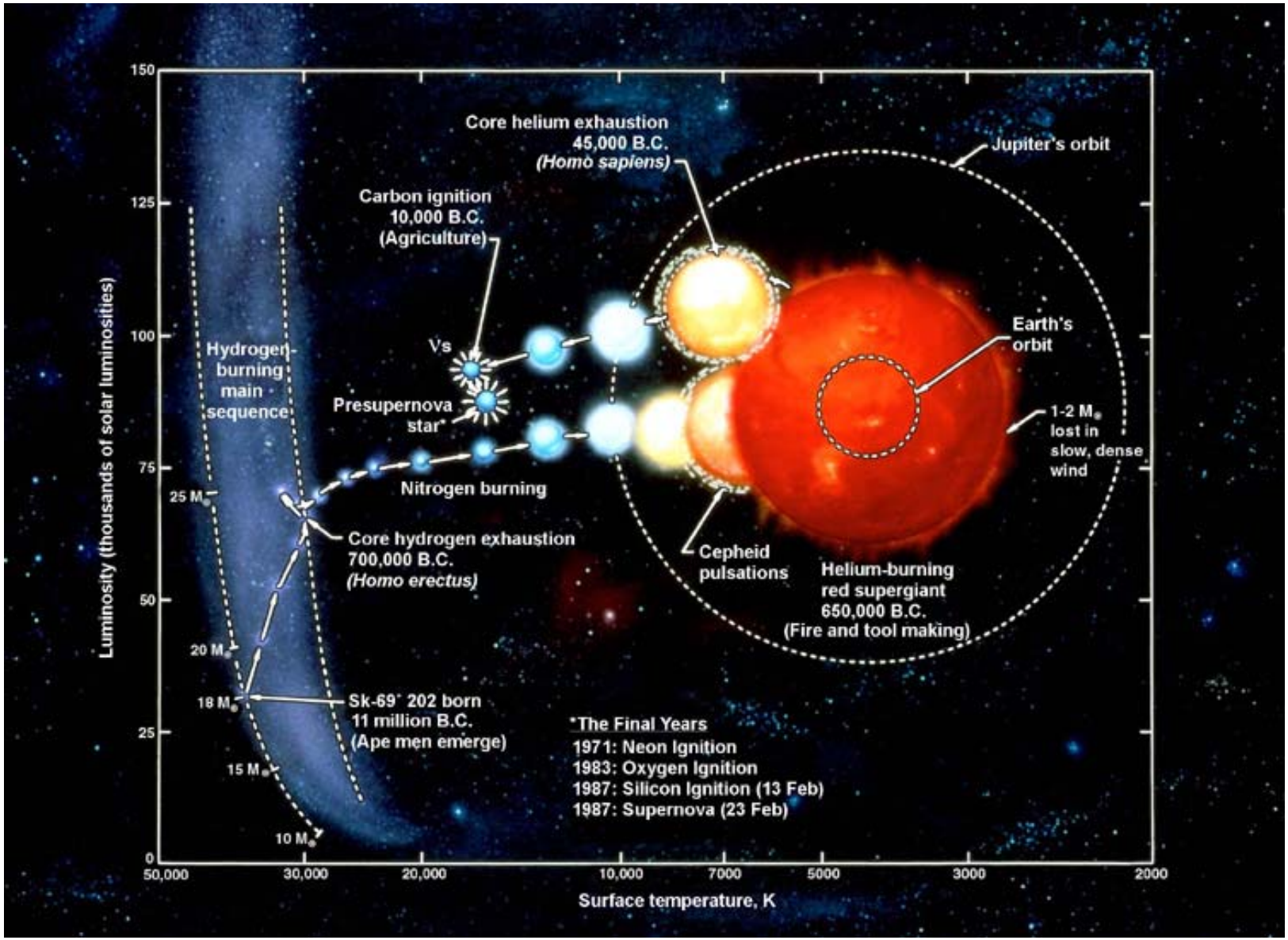
Luminosity (thousands of solar luminosities)
150
125
100
75
50
25
0
50,000
30,000
20,000
10,000
7000
5000
3000
2000
Surface temperature, K
Core helium exhaustion
45,000 B.C.
(Homo sapiens)
Jupiter's orbit
Carbon ignition
10,000 B.C.
(Agriculture)
Earth's orbit
Hydrogen-burning main sequence
Vs
Presupernova star*
1-2 M⊙ lost in slow, dense wind
Nitrogen burning
25 M⊙
Core hydrogen exhaustion
700,000 B.C.
(Homo erectus)
Cepheid pulsations
Helium-burning red supergiant
650,000 B.C.
(Fire and tool making)
20 M⊙
18 M⊙
Sk-69° 202 born
11 million B.C.
(Ape men emerge)
15 M⊙
10 M⊙
*The Final Years
1971: Neon Ignition
1983: Oxygen Ignition
1987: Silicon Ignition (13 Feb)
1987: Supernova (23 Feb)