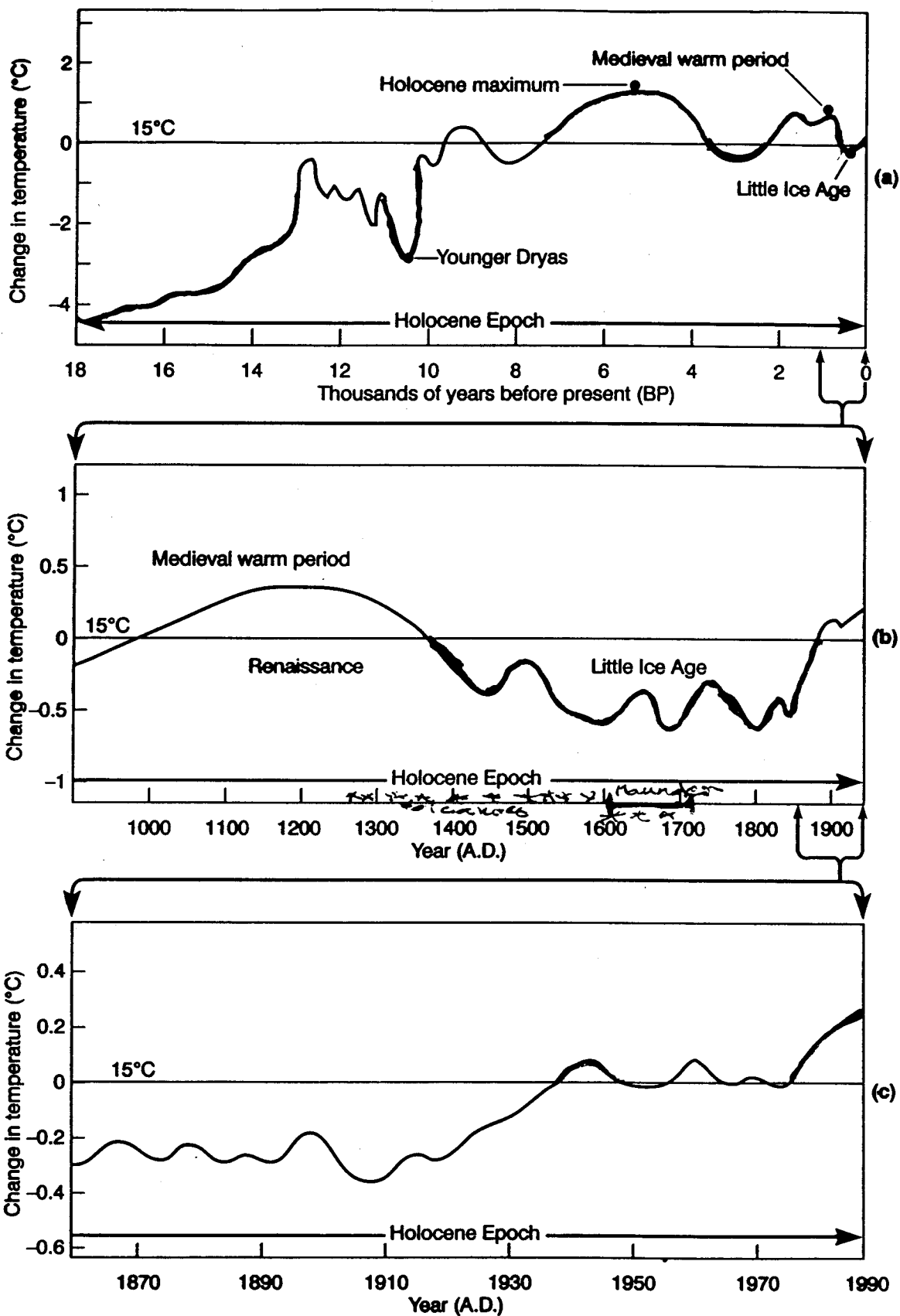


FIGURE 10.1

(a) is the temperature record of Earth during the past 180 million years; (b) is an expanded representation of the last one million years; and (c) is an expanded view of the last 160,000 years. (After UCAR/OIES, 1991a.)



**FIGURE 10.1** (continued)

(a) Temperature history of Earth during the last 18,000 years. (b) and (c) are expanded versions of the period 1000 to 1900 A.D. and 1870 to 1990 A.D., respectively. Notice the change in scale for temperature in (a), (b), and (c).

(After UCAR/OIES, 1991a, and Houghton, et al., 1990.)

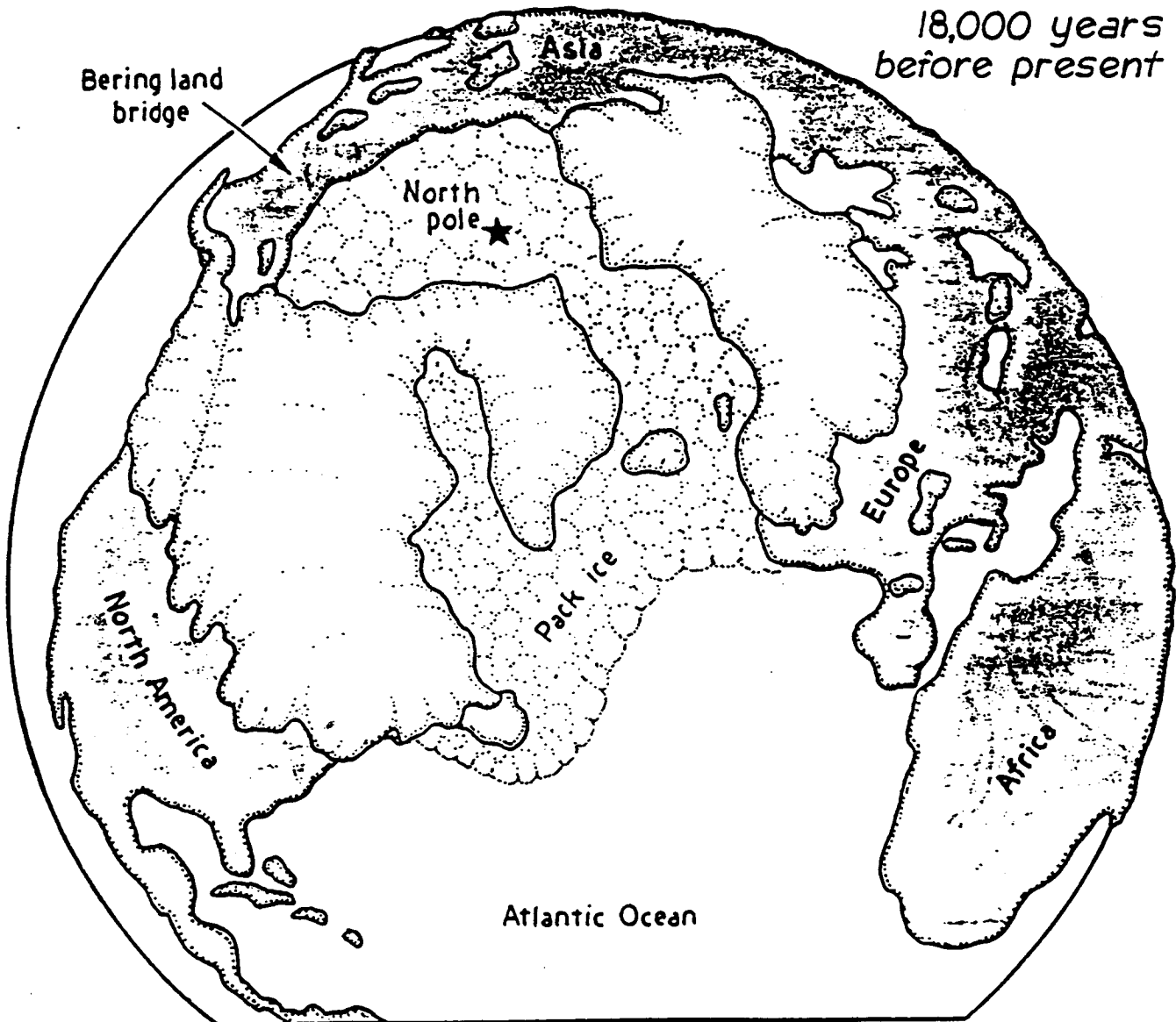
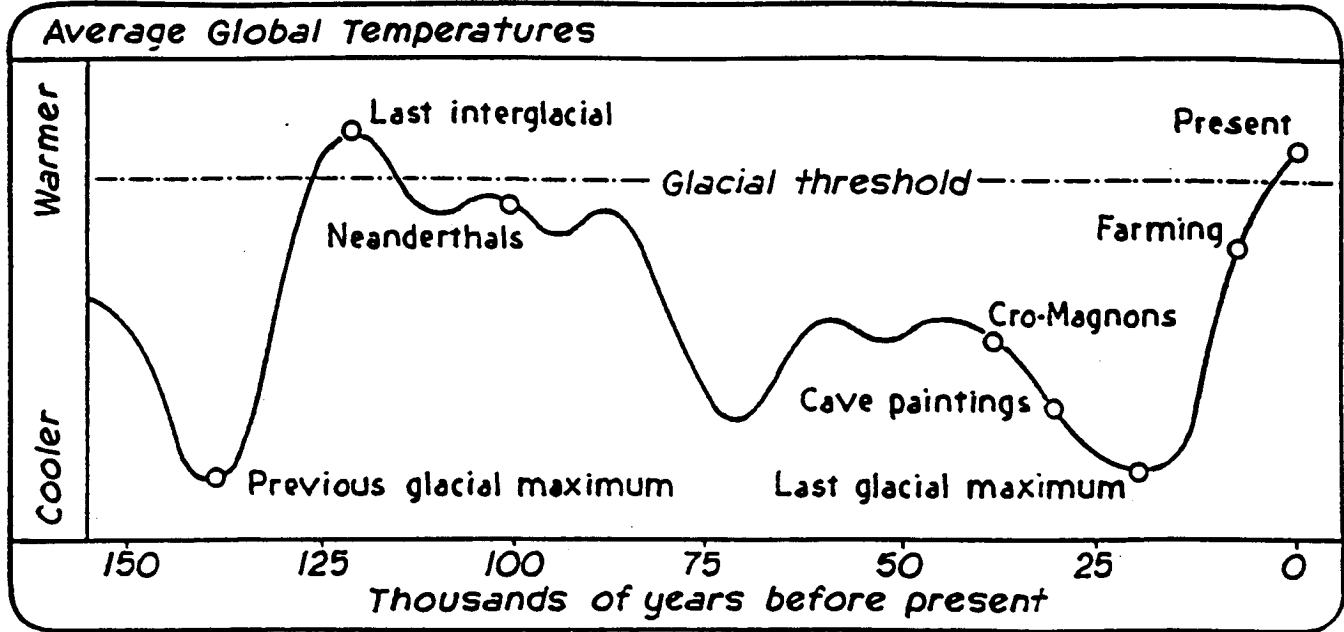


Fig. 10.2



# "North Atlantic Oscillator"

Younger Dryas Event ~ 11,000 YBP

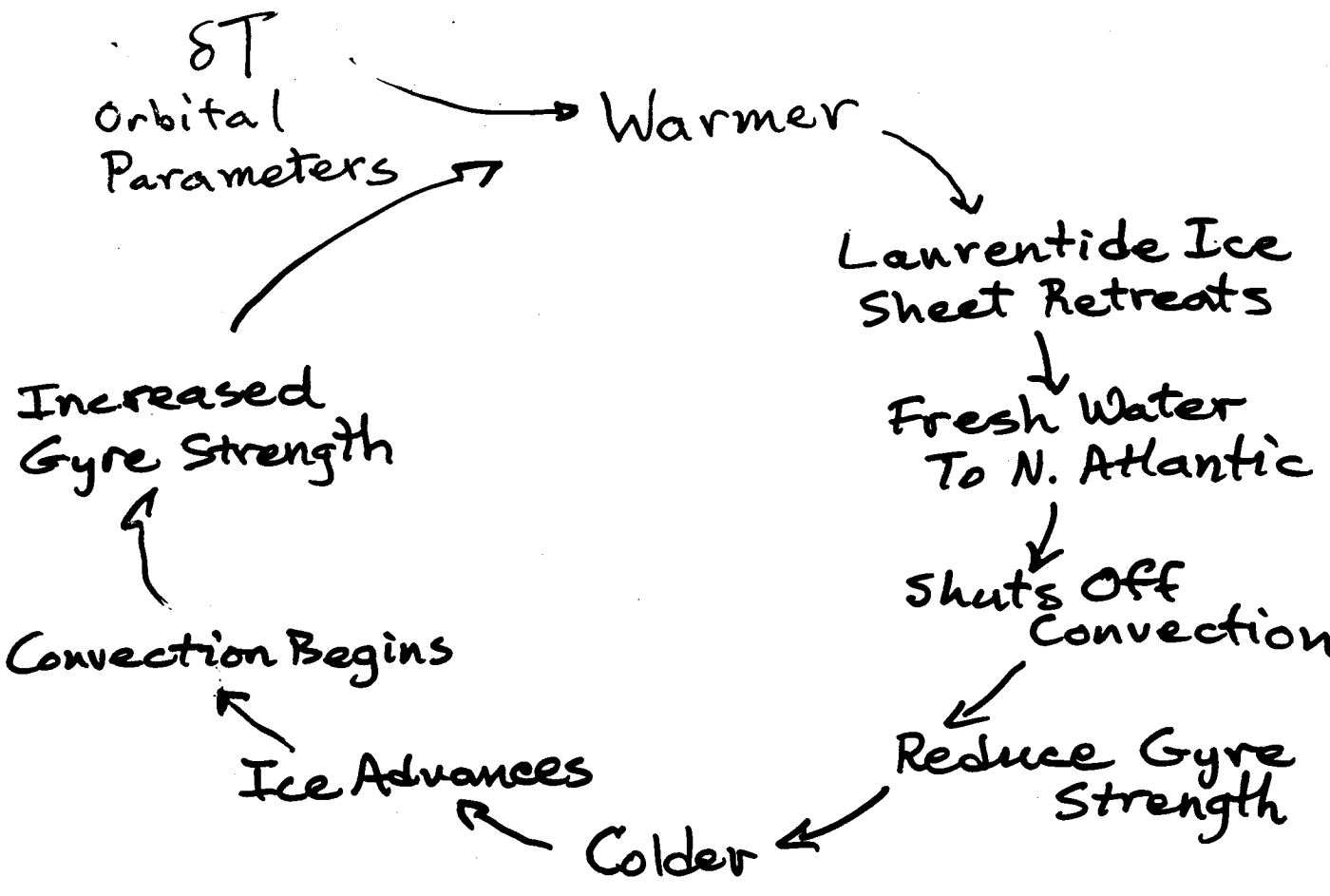
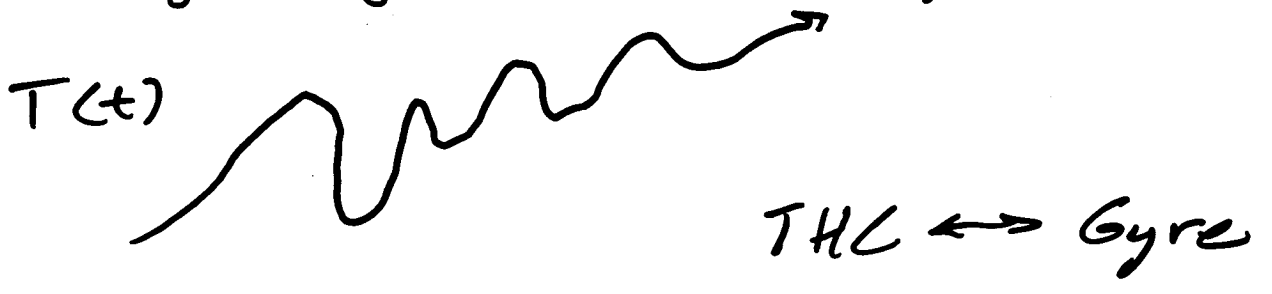
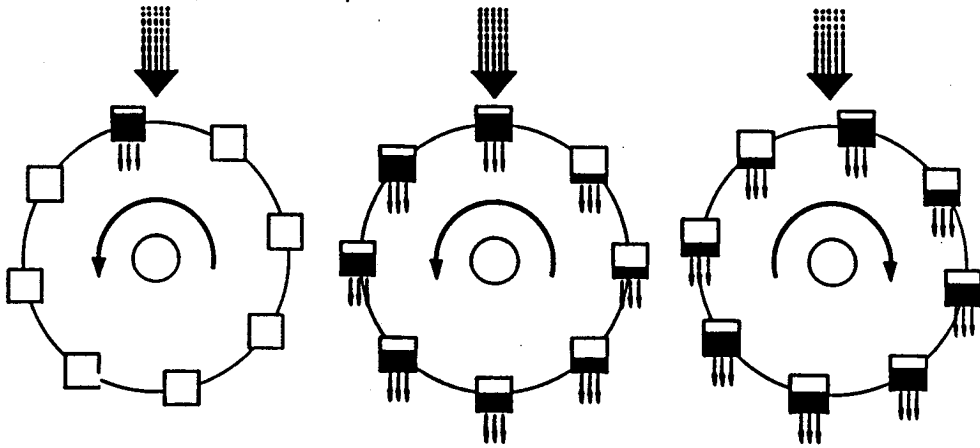


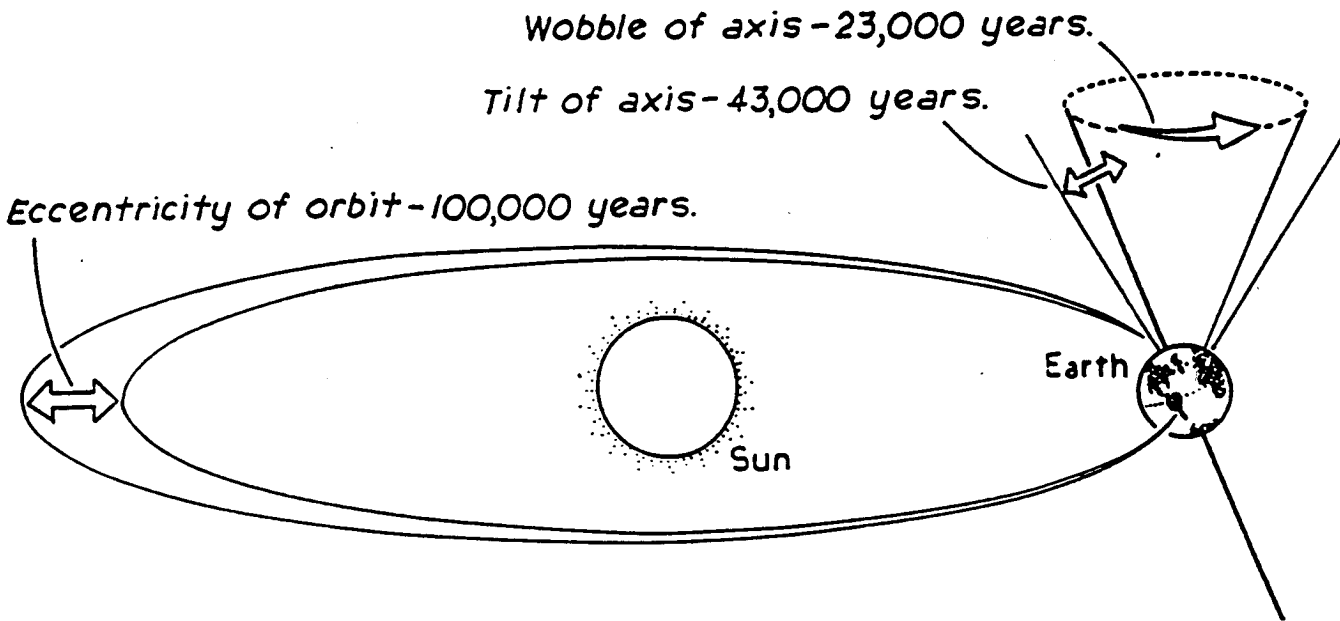
Fig. 10.5



Adolph E. Brotman

**THE LORENZIAN WATERWHEEL.** The first, famous chaotic system discovered by Edward Lorenz corresponds exactly to a mechanical device: a waterwheel. This simple device proves capable of surprisingly complicated behavior.

Fig. 10.6



Variations in Earth's Orbital Features

Fig 7

