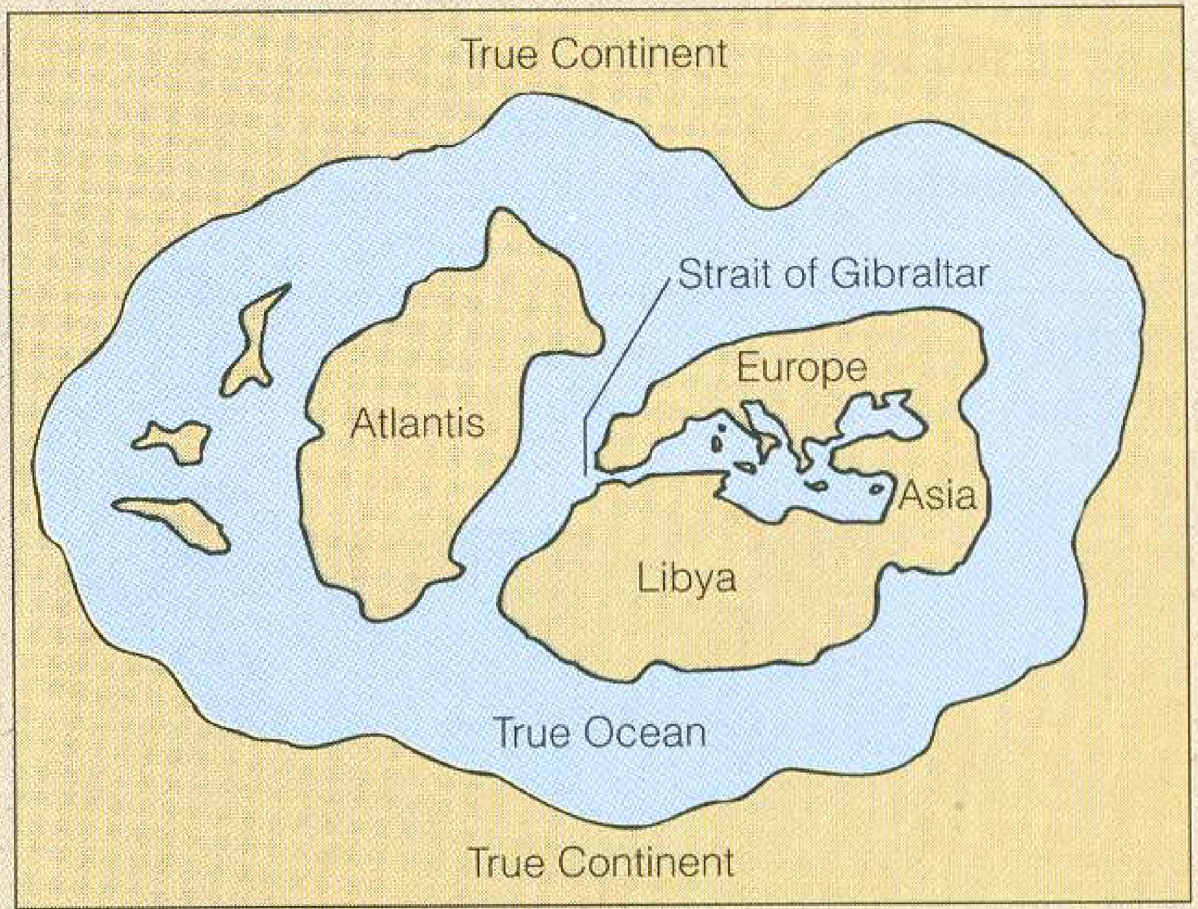
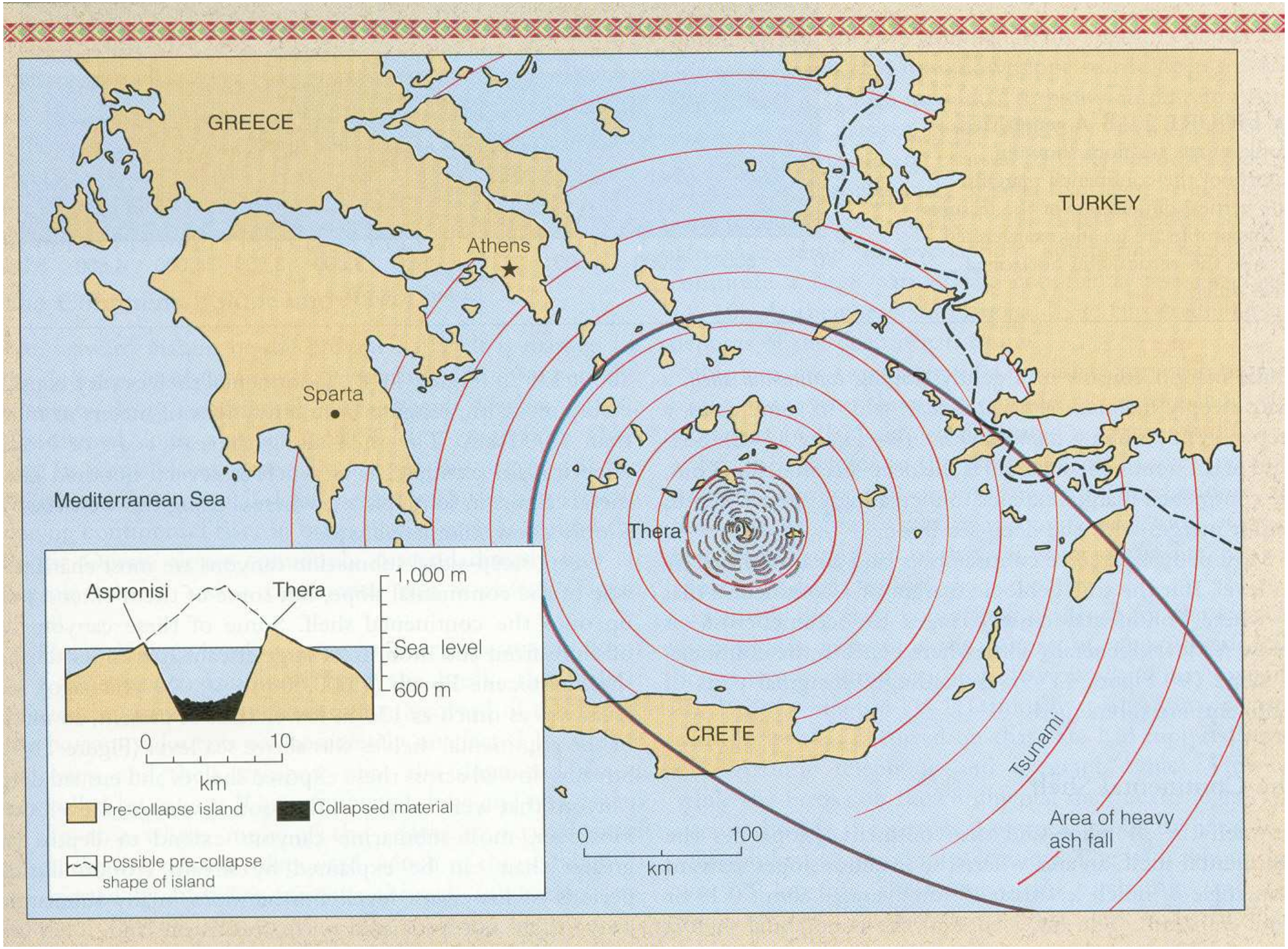
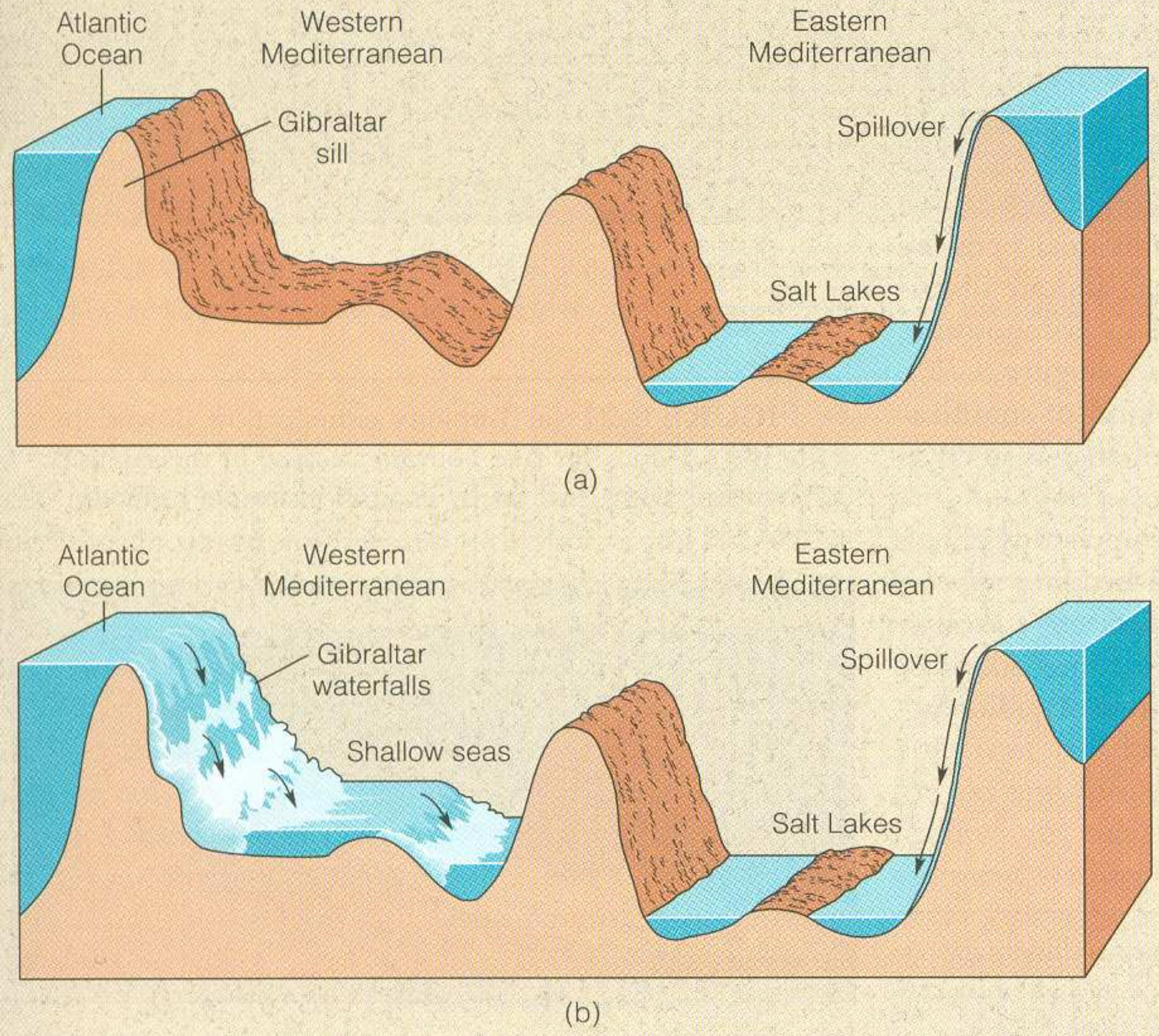
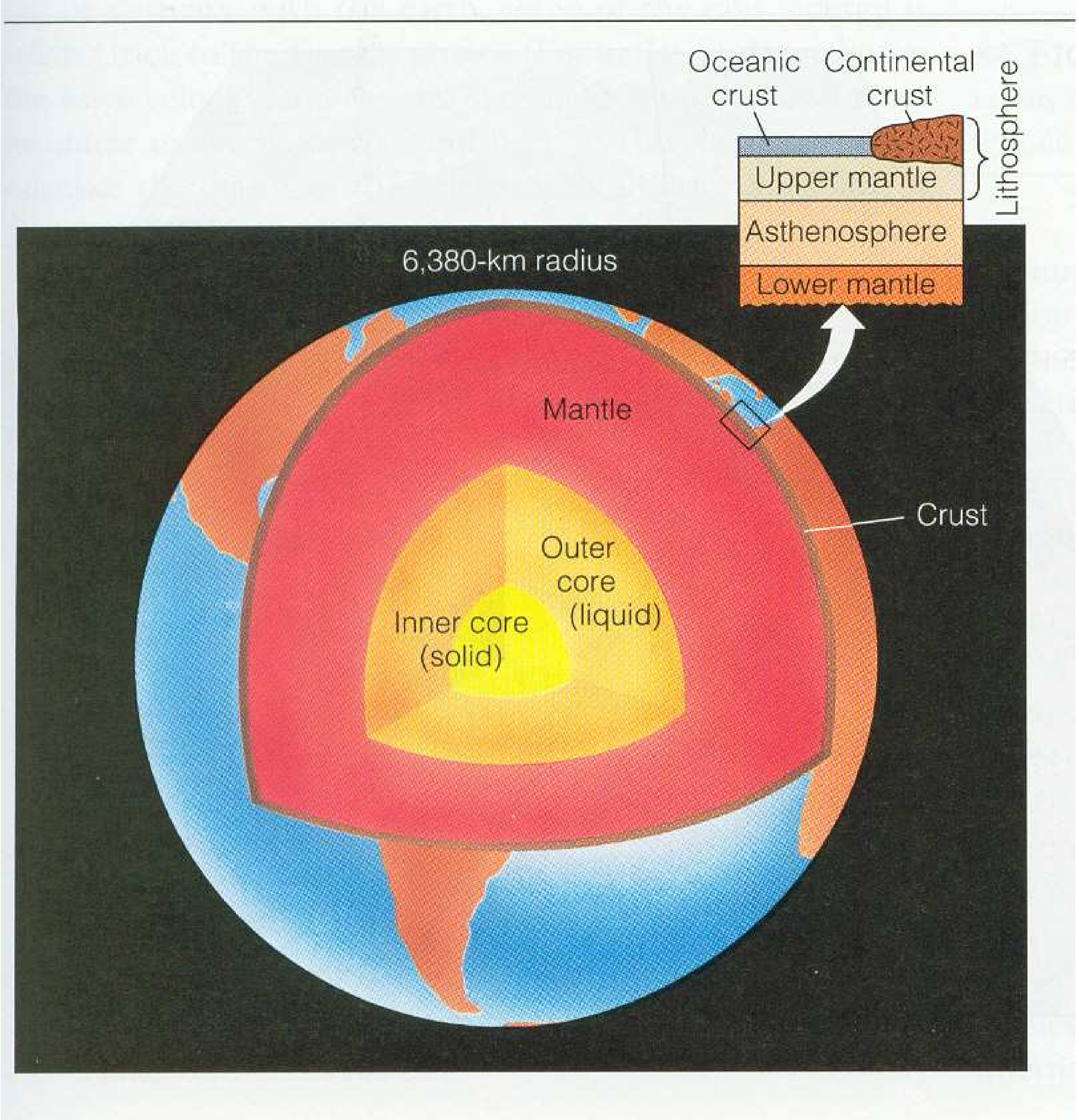
FIGURE 1 According to Plato, Atlantis was a large continent west of the Pillars of Hercules, which we now call the Strait of Gibraltar.




GREECE
TURKEY
Athens
Sparta
Mediterranean Sea
Thera
CRETE
Tsunami
Area of heavy ash fall
0
100
km
Asproniisi
Thera
1,000 m
Sea level
600 m
0
10
km
Pre-collapse island
Collapsed material
Possible pre-collapse shape of island



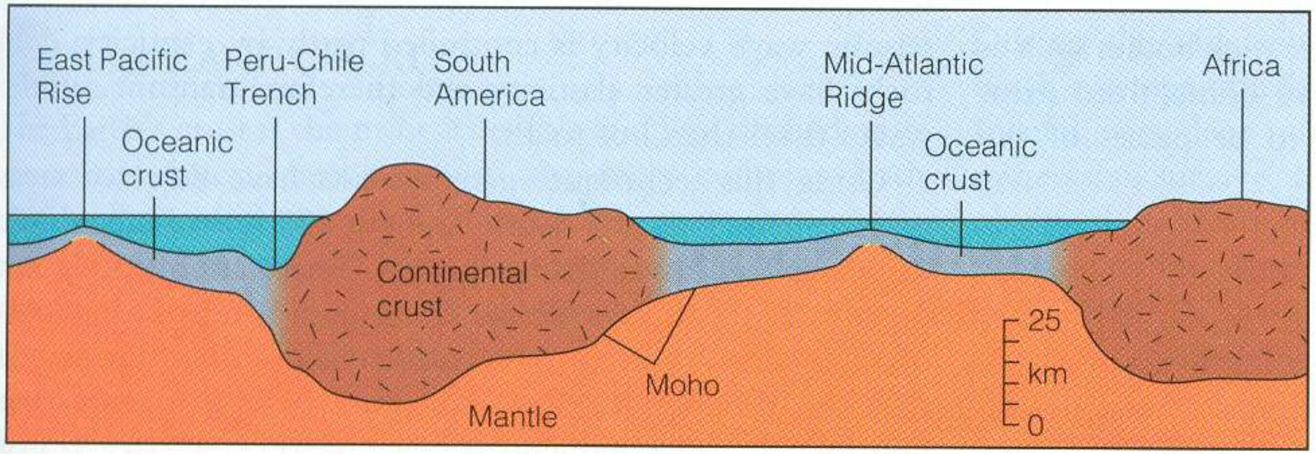
➢ **FIGURE 2** Proposed model to explain the deposition of thick evaporites in the Mediterranean Basin. (*a*) Isolation of the Mediterranean and evaporation to near dryness. (*b*) The refilling stage. To account for the thick evaporites beneath the basin, this cycle of isolation, evaporation, and refilling must have occurred many times. The vertical scale is greatly exaggerated here.



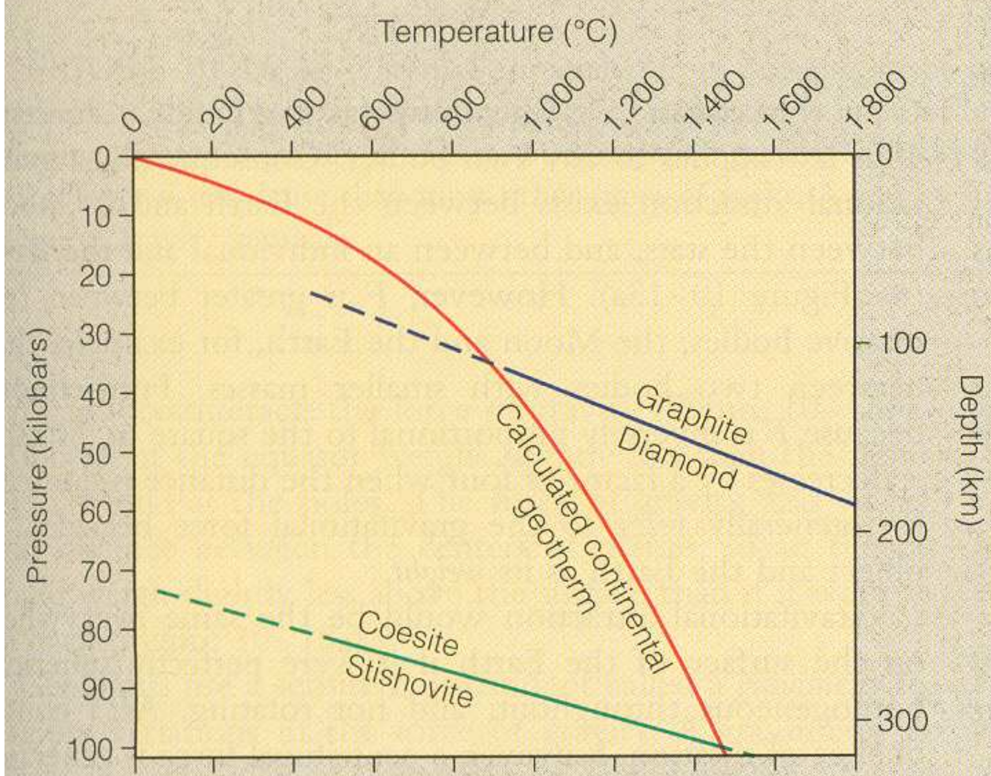
Oceanic crust
Continental crust
Lithosphere
Upper mantle
Asthenosphere
Lower mantle
6,380-km radius
Mantle
Crust
Outer core (liquid)
Inner core (solid)

TABLE 10-2 Composition and Density of the Earth

	Composition	Density (g/cm^3)
Inner core	Iron with 10 to 20% nickel	12.6–13.0
Outer core	Iron with perhaps 12% sulfur, silicon, oxygen, nickel, and potassium	9.9–12.2
Mantle	Peridotite (composed mostly of ferrogmagnesian silicates)	3.3–5.7
Oceanic crust	Upper part basalt, lower part gabbro	~3.0
Continental crust	Average composition of granodiorite	~2.7

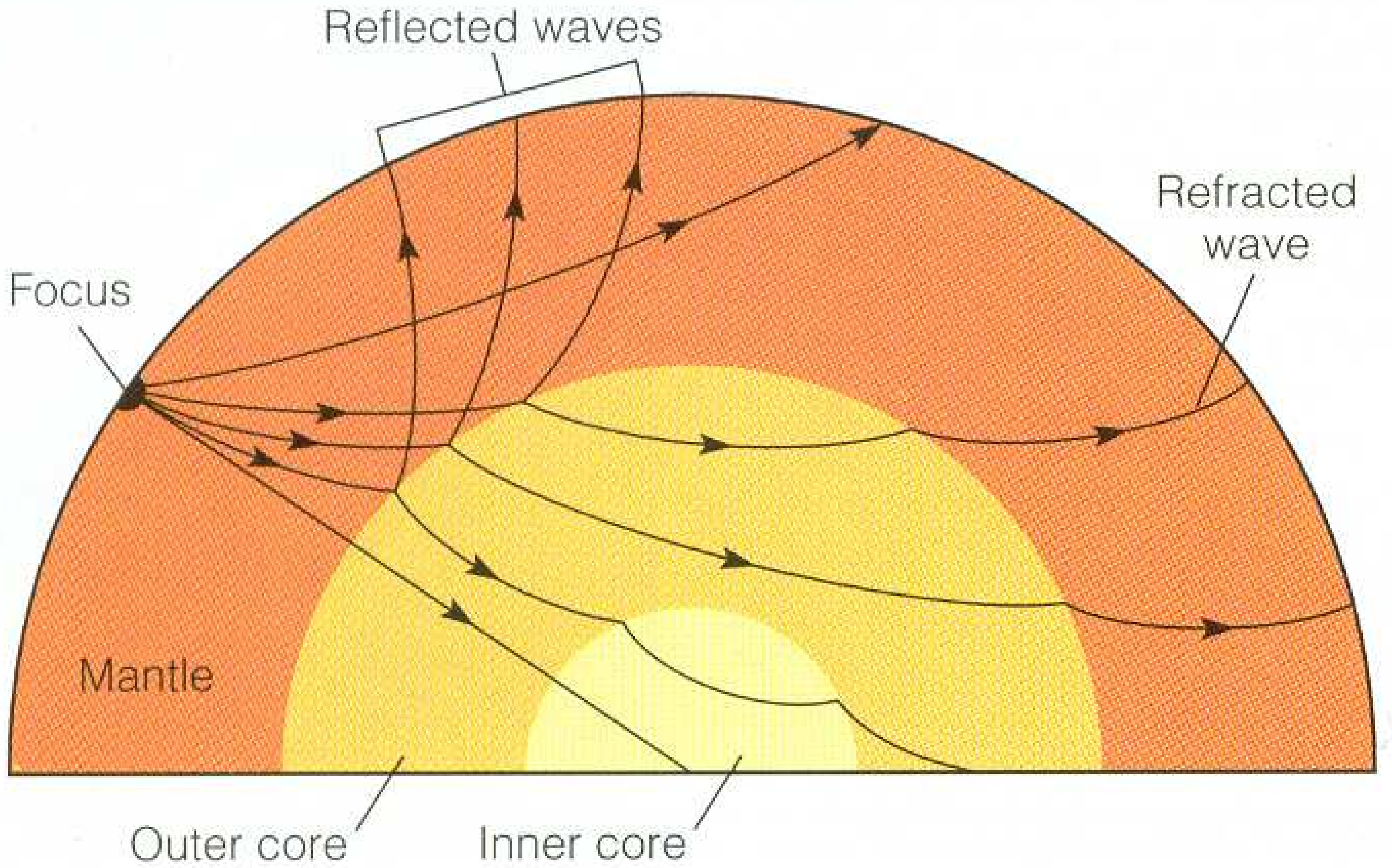


➢ **FIGURE 10-11** The Moho is present everywhere except beneath spreading ridges such as the East Pacific Rise and the Mid-Atlantic Ridge. However, the depth of the Moho varies considerably.

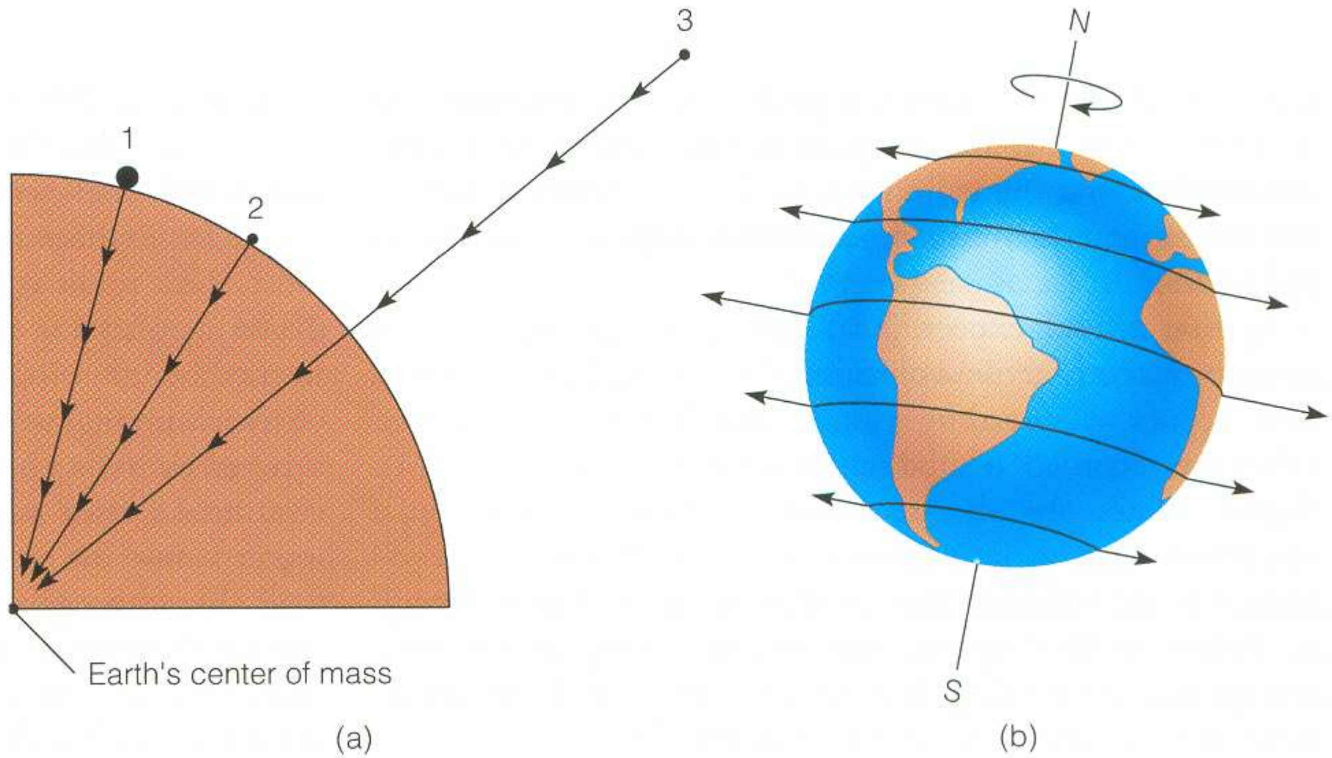


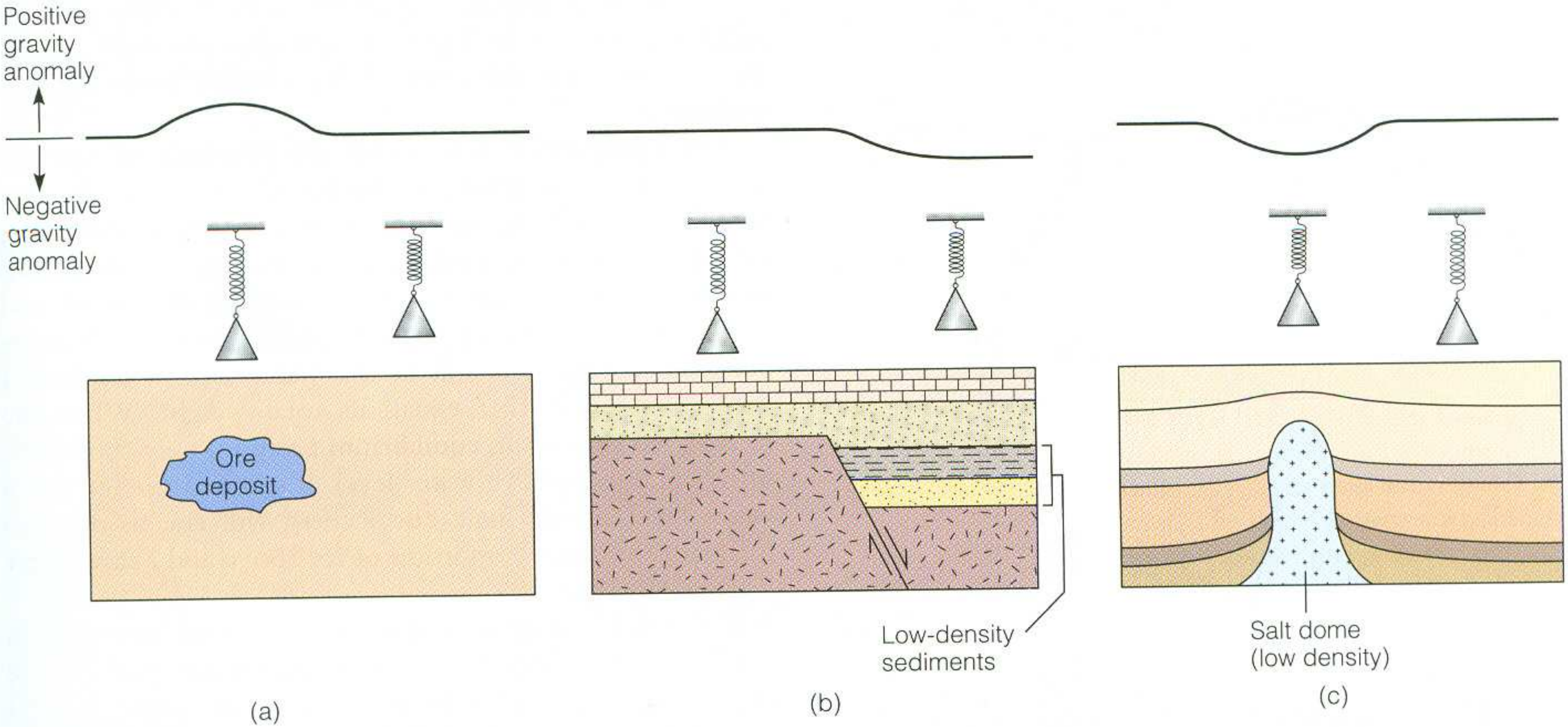
➢ **FIGURE 2** The forms of carbon and silica in kimberlite pipes provide information on the depth at which the magma formed. The presence of diamond and coesite in kimberlite indicates that the magma probably formed between 100 and 300 km as shown by the intersection of the calculated continental geotherm with the graphite-diamond and coesite-stishovite inversion curves.

FIGURE 10-5 Refraction and reflection of P-waves. When seismic waves pass through a boundary separating Earth materials of different density or elasticity, they are refracted, and some of their energy is reflected back to the surface.

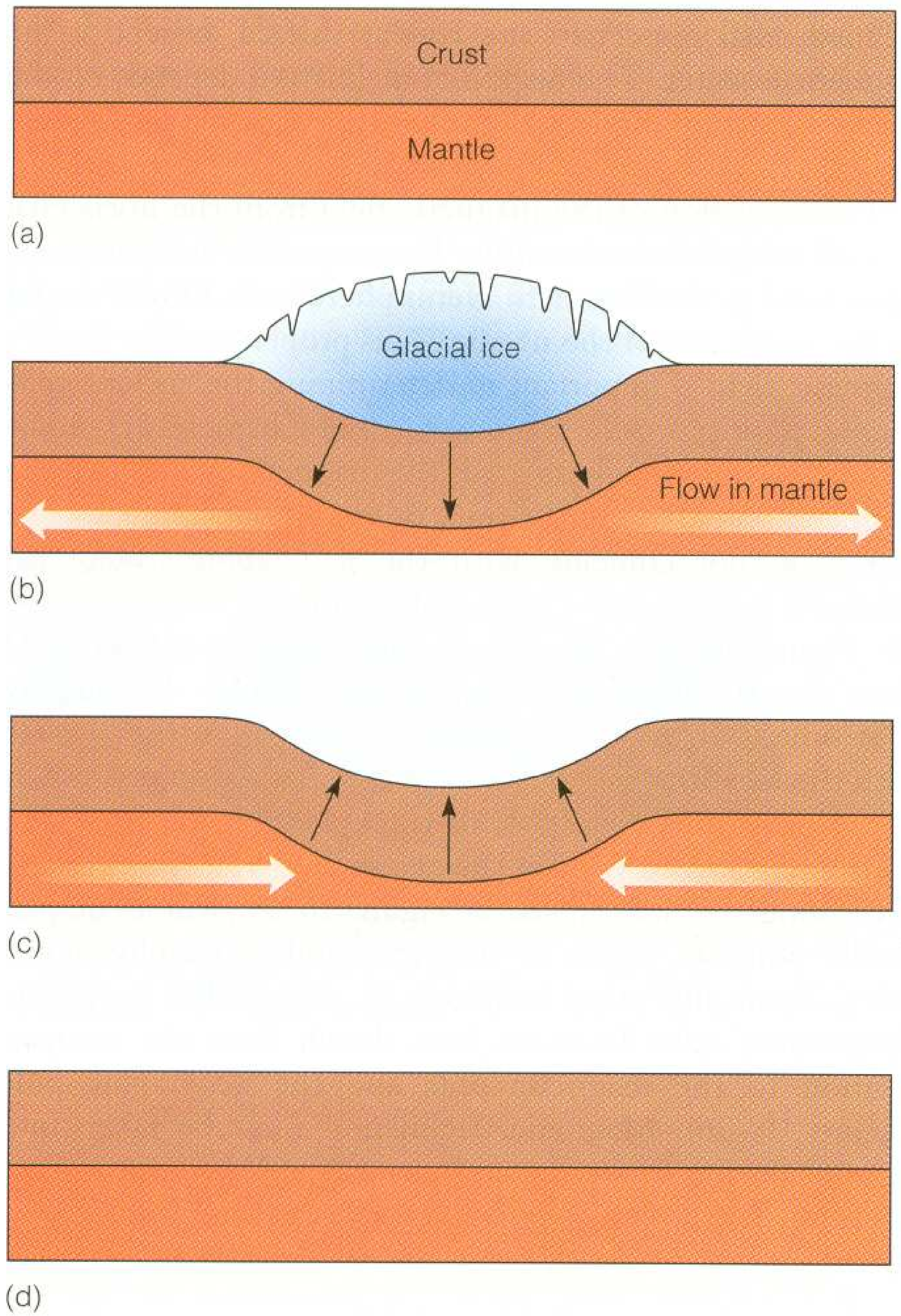


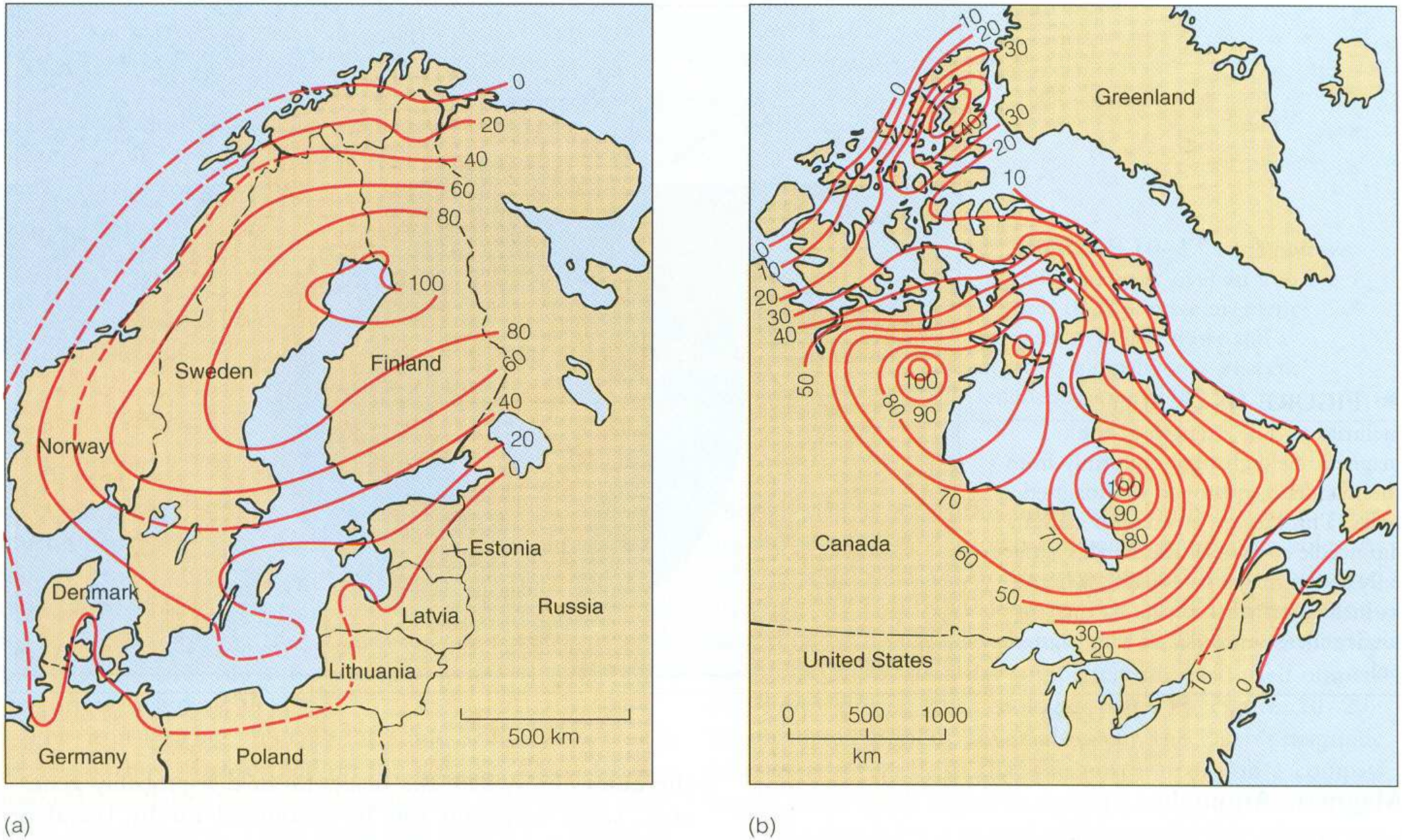
▶ FIGURE 10-15 (*a*) The gravitational attraction of the Earth pulls all objects toward its center of mass. Objects 1 and 2 are the same distance from the Earth's center of mass, but the gravitational attraction on 1 is greater because it is more massive. Objects 2 and 3 have the same mass, but the gravitational attraction on 3 is four times less than on 2 because it is twice as far from the Earth's center of mass. (*b*) The Earth's rotation generates a centrifugal force that partly counteracts the force of gravity. Centrifugal force is zero at the poles and maximum at the equator.



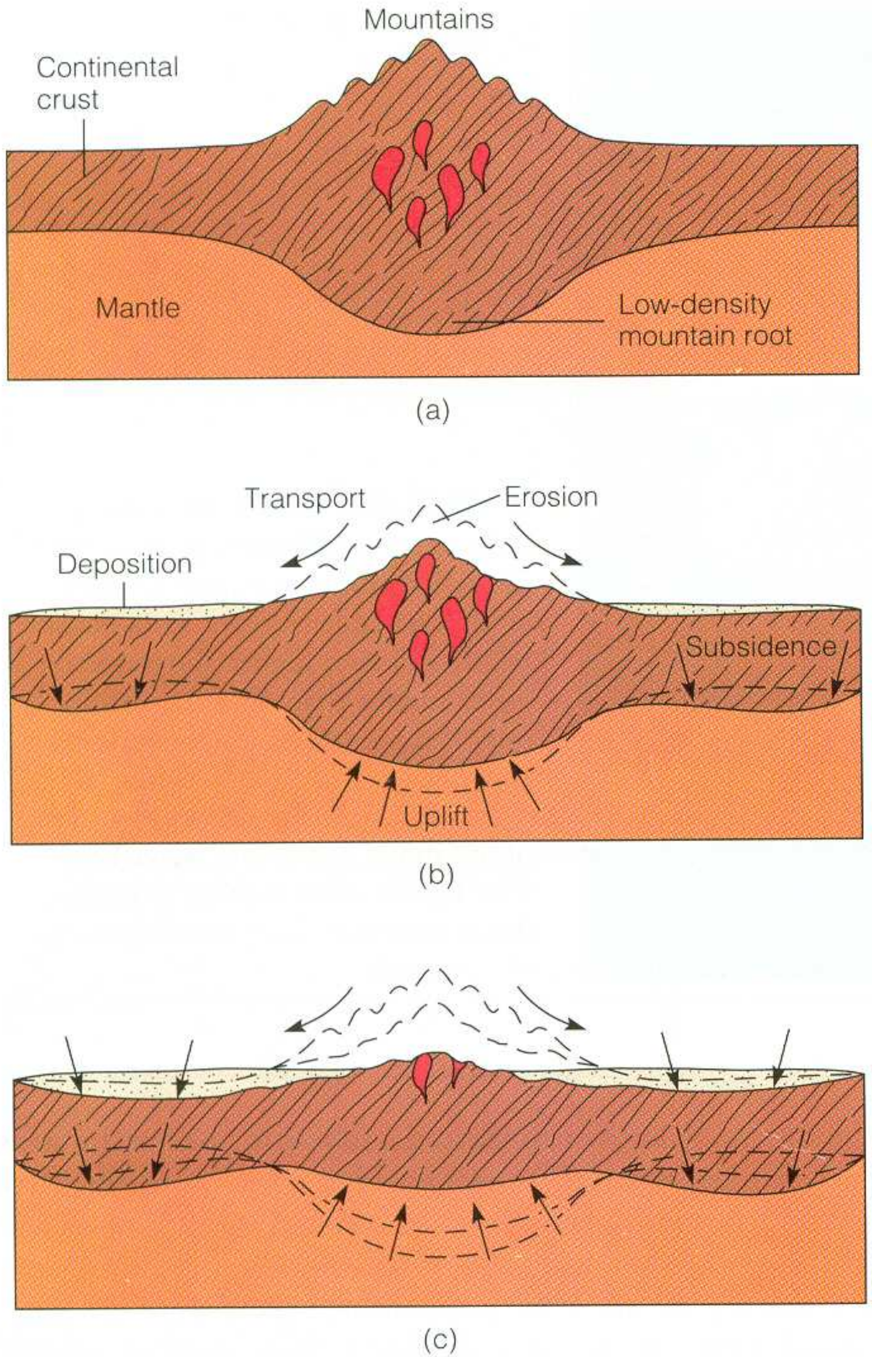


► **FIGURE 10-16** (*a*) The mass suspended from a spring in the gravimeter, shown diagrammatically, is pulled downward more over the dense body of ore than it is in adjacent areas, indicating a positive gravity anomaly. (*b*) A negative gravity anomaly over a buried structure. (*c*) Rock salt is less dense than most other types of rocks. A gravity survey over a salt dome shows a negative gravity anomaly.


Crust
Mantle
(a)
Glacial ice
Flow in mantle
(b)
(c)
(d)

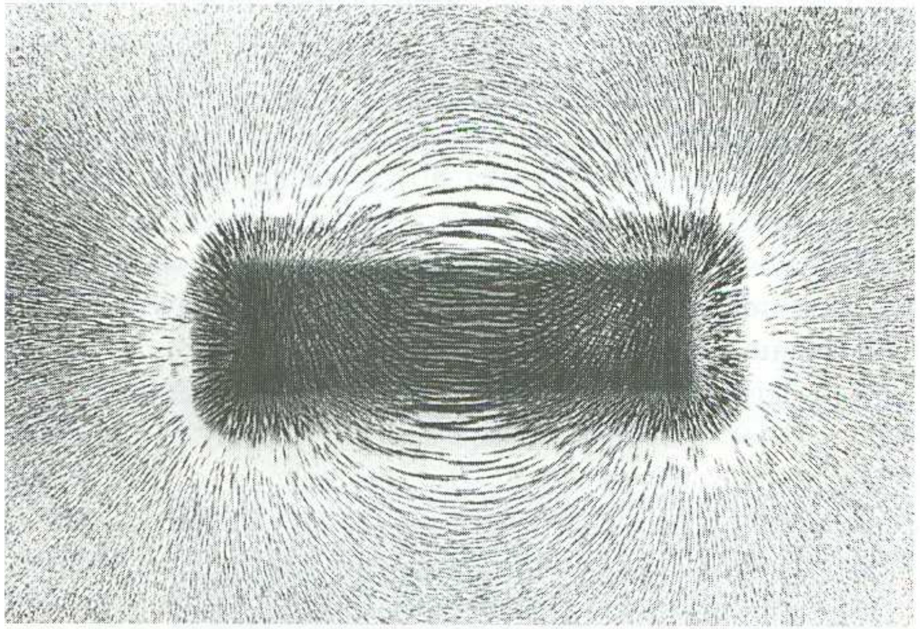


➢ FIGURE 10-22 (*a*) Isostatic rebound in Scandinavia. The lines show rates of uplift in centimeters per century. (*b*) Isostatic rebound in eastern Canada in meters during the last 6,000 years.



➢ FIGURE 10-21 A diagrammatic representation showing the isostatic response of the crust to erosion (unloading) and widespread deposition (loading).

▶ FIGURE 10-23 Iron filings align themselves along the lines of magnetic force radiating from a magnet.



▶ FIGURE 10-24 The magnetic field of the Earth has lines of force just like those of a bar magnet.

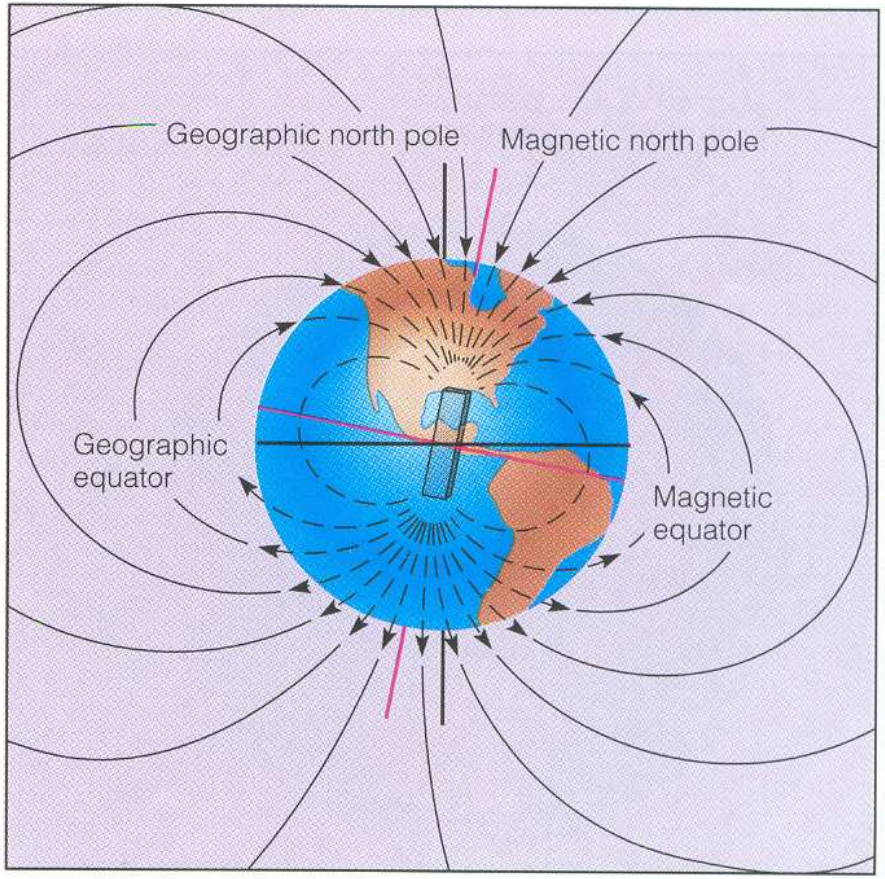
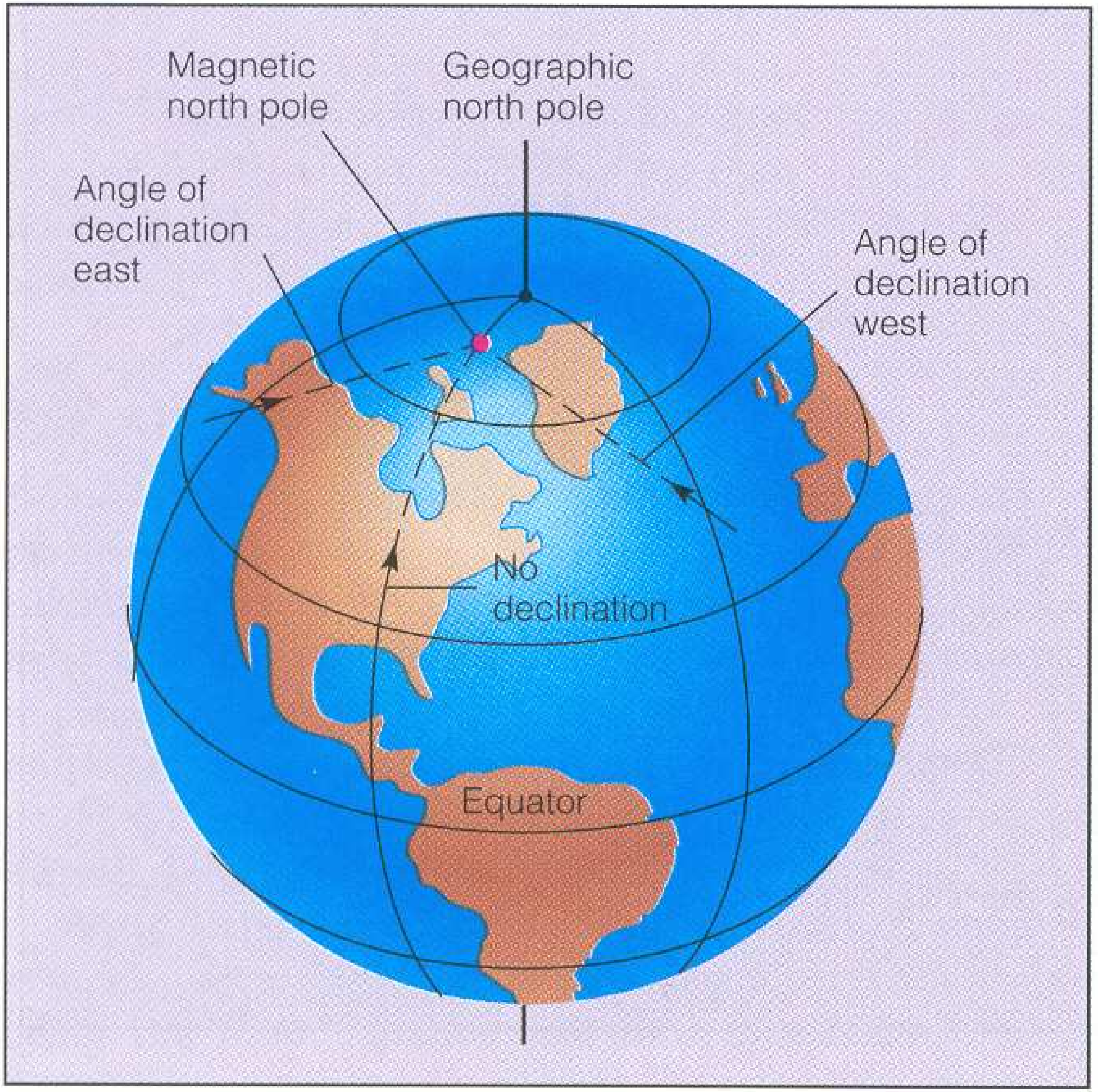


FIGURE 10-26 Magnetic declination. A compass needle points to the magnetic north pole rather than the geographic pole (true north). The angle formed by the lines from the compass position to the two poles is the magnetic declination.



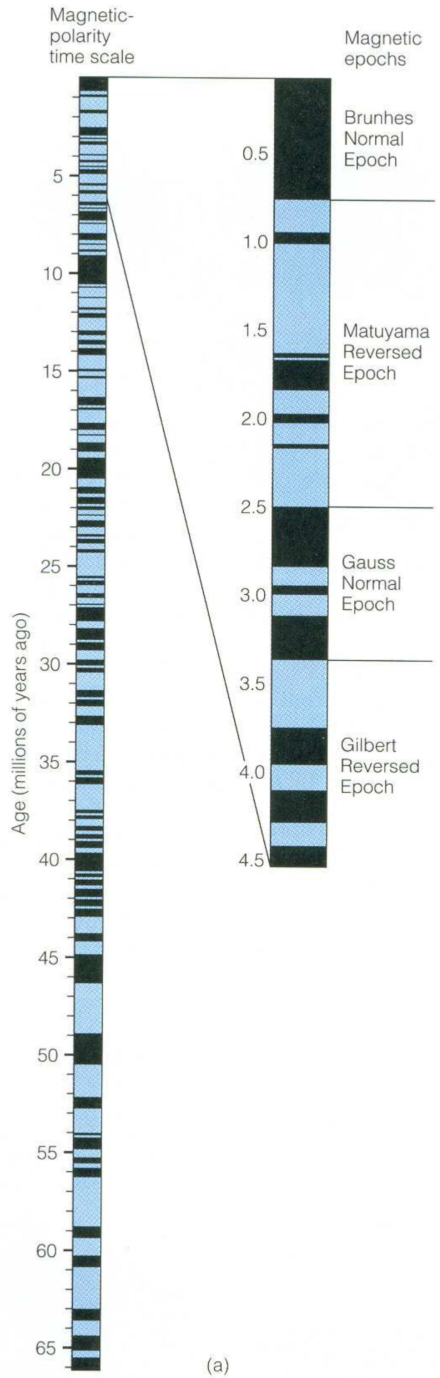


FIGURE 10-30 (*a*) Normal (black) and reversed polarity events for the last 66 million years. (*b*) Rocks in northern Pakistan correlated with the magnetic-polarity time scale.

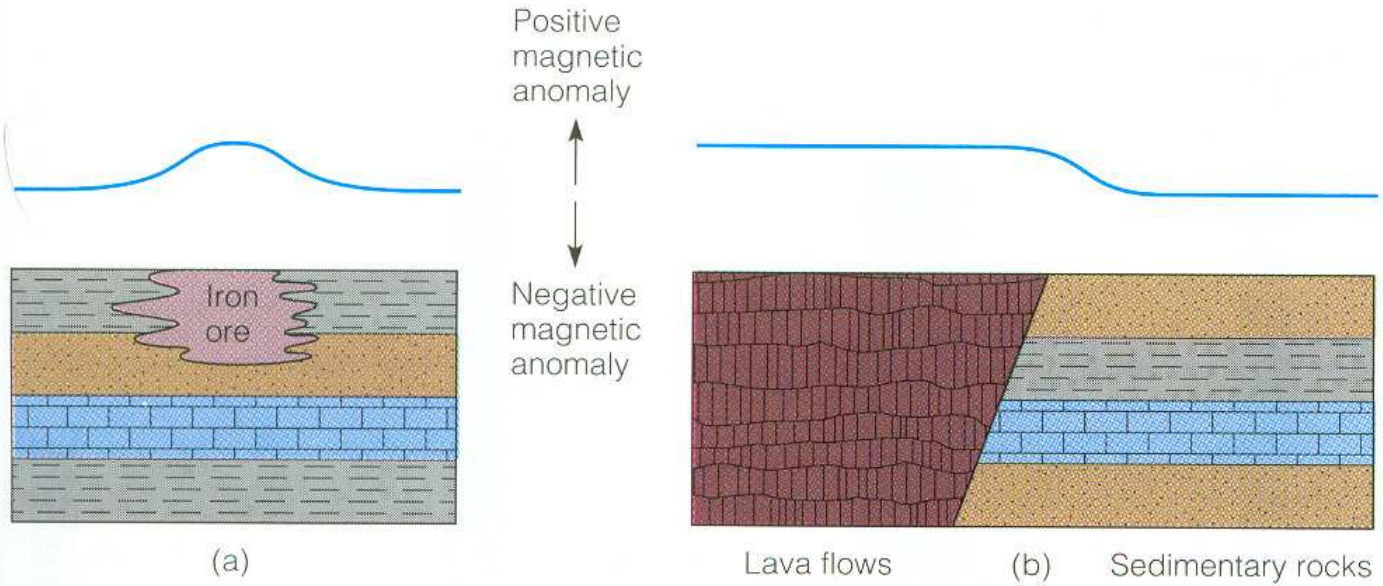


FIGURE 10-27 (*a*) A positive magnetic anomaly over an iron ore deposit. (*b*) A positive magnetic anomaly over lava flows and a negative anomaly over adjacent sedimentary rocks.