

The Atlantic Ocean was formed during this separation by sea-floor spreading. This theory explains why the coastline of Africa fits rather neatly into that of the Americas, like pieces in a jigsaw puzzle, especially when their continental shelves are taken into account. Many suspect that a new oceanic rift is in its initial stages along a line running through the Rift Valley of Africa and the Red Sea. A branch of this rift in the Earth's crust extends into the Dead Sea and the Jordan River Valley. This crack in the Earth's crust is evidenced by the general subsidence of the area (the entire Jordan River Valley from the Sea of Galilee through the Dead Sea is below sea level) and by earthquakes that have been recorded in recent times.

NEW MOUNTAINS AND EARTHQUAKES

New oceans are formed when continent-bearing plates are moved away from one another by sea-floor spreading. Conversely, when plates are pushed against one another, mountains are formed. In recent times, geologically speaking, the collision of plates is thought to be responsible for some of the world's greatest mountain chains. The subcontinent of India is thought to have moved from its position in the southwestern Pacific Ocean and collided violently with southern



FIGURE 5.12.

The rugged mountains near the Bedretto Valley, Switzerland, are a young mountain belt. (Photoswissair)