

HISTORICAL NOTE**● Continental Drift**

When Alfred Wegener proposed his theory of continental drift in the early 1900s, many scientists laughed at the idea of continents plowing across the ocean. In fact, many people found his theory so ridiculous that Wegener, a university professor, had difficulty getting a job! Wegener's theory jolted the very foundation of geology.

Wegener's Theory

Wegener used geologic, fossil, and glacial evidence gathered on opposite sides of the Atlantic Ocean to support his theory of continental drift. For example, Wegener recognized geologic similarities between the Appalachian Mountains, in eastern North America, and the Scottish Highlands, as well as similarities between rock strata in South Africa and Brazil. He believed that these striking similarities could be explained only if these geologic features were once part of the same continent.

Wegener proposed that because they are less dense, continents float on top of the denser rock of the ocean floor. Although continental drift explained many of Wegener's observations, he could not find scientific evidence to develop a complete explanation of how continents move.

The Critics

Most scientists were skeptical of Wegener's theory and dismissed it as foolishness. Some critics held fast to old theories that giant land bridges could explain similarities among fossils in South America and Africa. Others argued that Wegener's theory could not account for the tremendous forces that would have been required to move continents such great distances. Wegener, however, believed that these forces could be the same forces responsible for earthquakes and volcanic eruptions.

The Evidence

During the 1950s and 1960s, discoveries of sea-floor spreading and magnetic reversal provided the evidence that Wegener's theory needed and led to the theory of plate tectonics. The theory of plate tectonics describes how the continents move. Today geologists recognize that continents are actually parts of moving tectonic plates that float on the asthenosphere, a layer of partially molten rock.

Like the accomplishments of so many scientists, Wegener's accomplishments went unrecognized until years after his death. The next time you hear a scientific theory that sounds far out, don't underestimate it. It may be proven true!

HISTORICAL NOTE

● Continental Drift *continued*

Also an Astronomer and Meteorologist

Wegener had a very diverse background in the sciences. He earned a Ph.D. in astronomy from the University of Berlin. But he was always very interested in geophysics and meteorology. His interest in geophysics led to his theory on continental drift. His interest in meteorology eventually led to his death. He froze to death in Greenland while returning from a rescue mission to bring food to meteorologists camped on a glacier.

On Your Own

Photocopy a world map. Carefully cut out the continents from the map. Be sure to cut along the line where the land meets the water. Slide the continents together like a jigsaw puzzle. How does this relate to the tectonic plates and continental drift?