

**Table 7.5.** Potential evidence for the theory of continental drift

Description	Quality	Interpretation
<p>By 1900 (and as early as 1596), several scientists had noted that the coastlines of continents on the two sides of the Atlantic ocean basin appeared to fit together, most notably Africa and South America.</p>		
<p>In the early 1900s, Alfred Wegener examined the direction of grooves in the terrain scraped by large glaciers. These grooves, or glacial striations, were noted in southern Africa, South America, Australia, Antarctica, and India. He suggested that a single large ice sheet covered these regions when they were joined together, spreading outwards to generate this pattern of glacial striation (Fig. 7.19).</p>		
<p>In the March 12, 1912, issue of <i>Popular Geology</i> magazine, an article stated: “Continents are so large they must always have been where they are.”</p>		
<p>In 1861, geologist Eduard Suess reported a sequence of rock layers consisting of glacial deposits covered by sandstone, shale, and coal. Fossils of the <i>Glossopteris</i> fern plant are commonly found in the middle sandstone layer. This same rock sequence (known as the “Gondwana sequence”) has been discovered in certain parts of Australia, Antarctica, South America, Africa, and India (Fig. 7.19).</p>		
<p>Alfred Wegener noted that a mountain range in southeastern South American (present day Argentina) appears to align with a mountain range in southern Africa when the two continents are fitted together (Fig. 7.19).</p>		

In 1965, geophysicist Edward Bullard and his colleagues used computer modeling software to match the underwater coastlines of South America and Africa. They report a very close fit between the two continental shelves at approximately 900 m depth.		
Beginning in the 1980s, satellites began measuring the movement of continents. They are observed to be moving, on average, 2 cm per year.		
Fossils of <i>Mesosaurus</i> can be found in southern Africa and southern South America (Fig. 7.19). <i>Mesosaurus</i> was a crocodile-like aquatic reptile reaching approximately one meter in length. <i>Mesosaurus</i> flourished about 275 million years ago before going extinct.		
Fossils of <i>Cynognathus</i> can be found in central Africa and central South America (Fig. 7.19). <i>Cynognathus</i> was a two-meter-long predatory reptile that lived on land approximately 240 million years ago.		
Fossils of <i>Lystrosaurus</i> can be found in Africa, India, and Antarctica (Fig. 7.19). <i>Lystrosaurus</i> was a pig-sized herbivorous reptile that lived on land approximately 240 million years ago.		
The present-day distribution of earthworms in the family Megascolecidae is limited to certain parts of South America, Africa, India, Madagascar, New Guinea, and Australia (Fig. 7.19).		
In 1782, Benjamin Franklin wrote, "The crust of the earth must be a shell floating on a fluid interior... Thus the surface of the globe would be capable of being broken and distorted by the violent movements of the fluids on which it rested."		