

**Continental Drift to  
Plate Tectonics:  
From hypothesis to theory  
Part A: Continental Drift**

Larson



Continental drift whiplash

# The First Theory: Continental Drift

*Key ideas from this show:*

*1. Who was Alfred Wegener and what did he hypothesize?*

*2. Describe the four pieces of evidence Wegener used to support his theory.*

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In 1915 Alfred Wegener proposed:

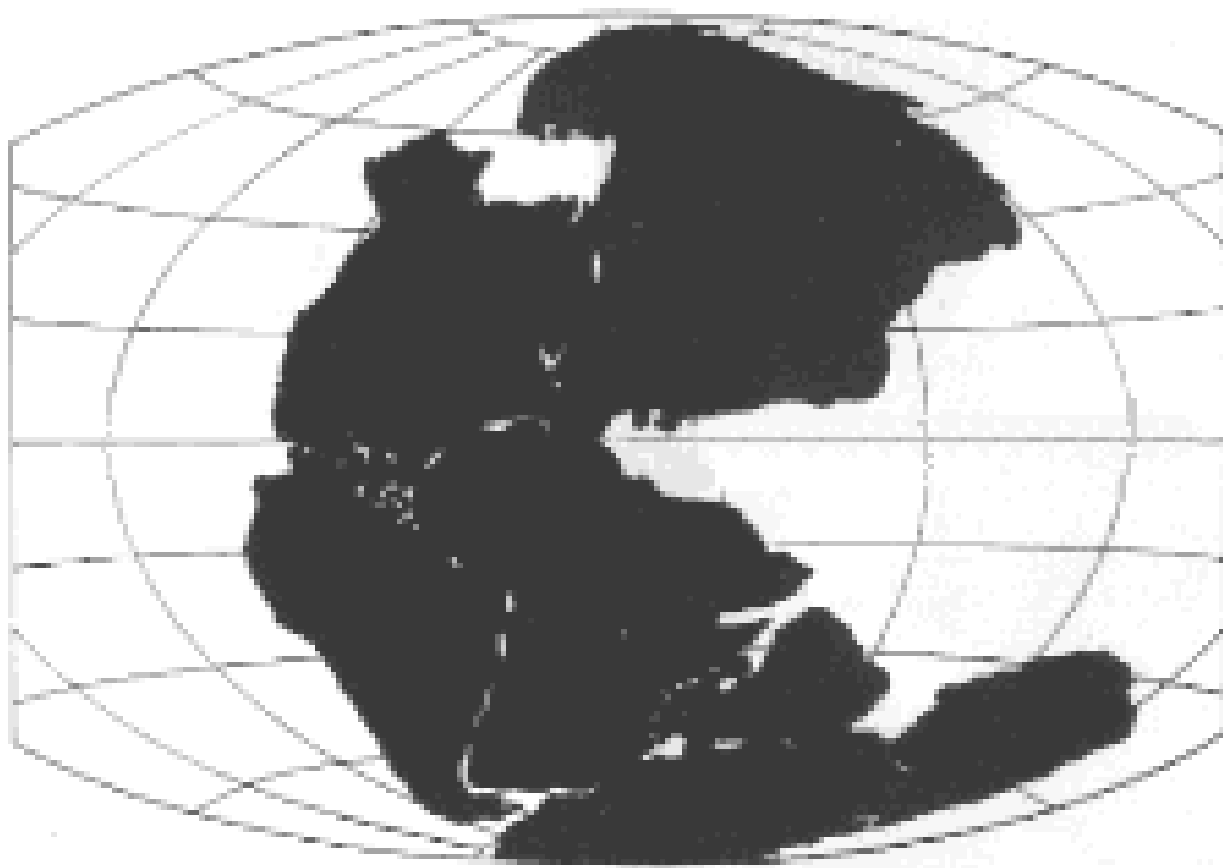
- all the continents were once compressed into a single protocontinent
- called *Pangaea* (meaning "all lands")
- over time they drifted apart into their current distribution
- Pangaea was intact until about 300 million years ago, then began to break up



<http://www.awi-bremerhaven.de/AWI/Presse/PM/pm05-1.hj/pics/Wegener-w.jpg>

*Wegener was a German meteorologist who also was an explorer in Greenland. He died there in his tent while travelling to relieve a group of scientists who were without enough food.*

# Pangaea: approximately 300 million years ago



<http://www.ocean.washington.edu/education/magic/images/pangea1.gif>

Wegener had **four** main pieces of evidence.

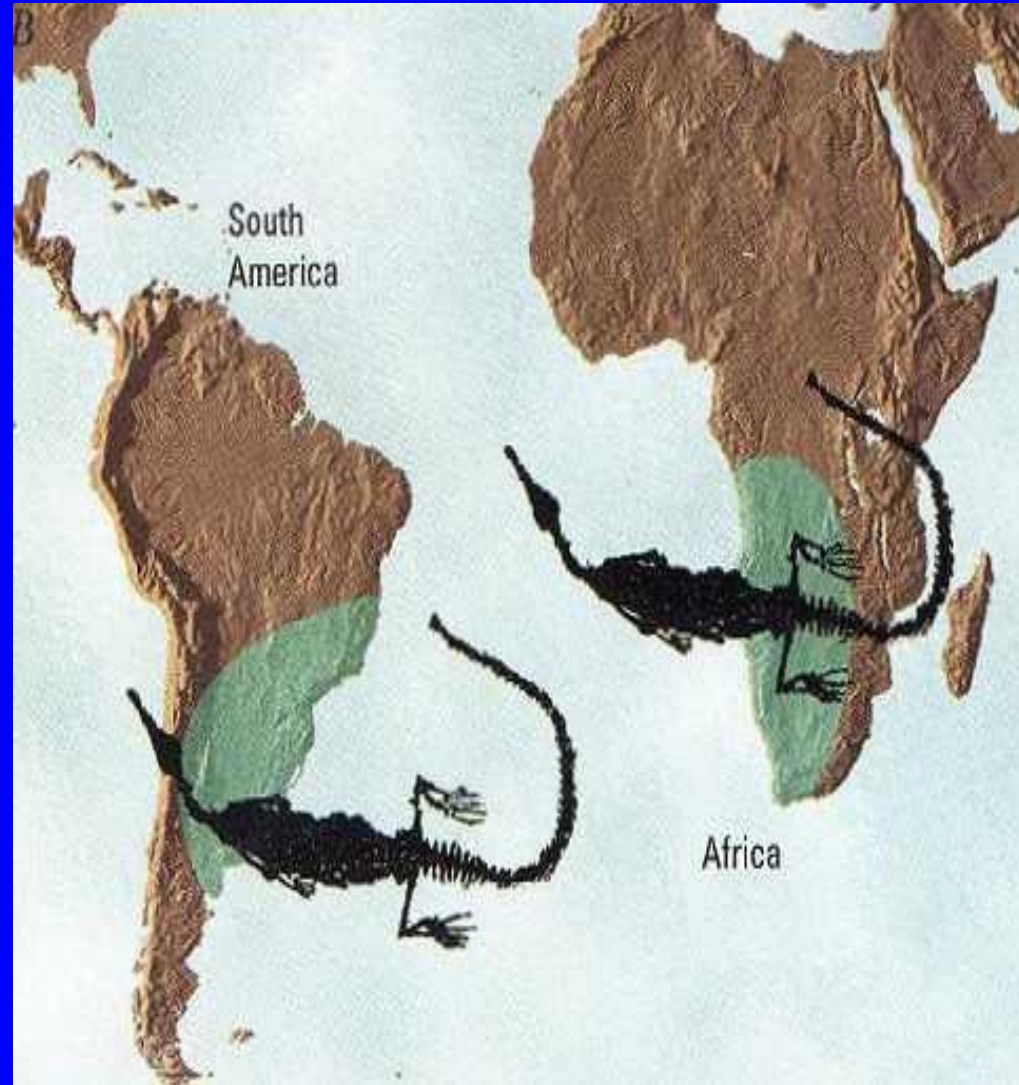
1. the jigsaw fit of the continents, especially South America and Africa



Making Connections: Canada's Geography. Clark & Wallace. Prentice Hall Ginn, 1999.

2. fossils that were the same on both sides of the Atlantic

At a certain point, the fossils begin to show different evolution on the different continents, suggesting they were geographically separated.

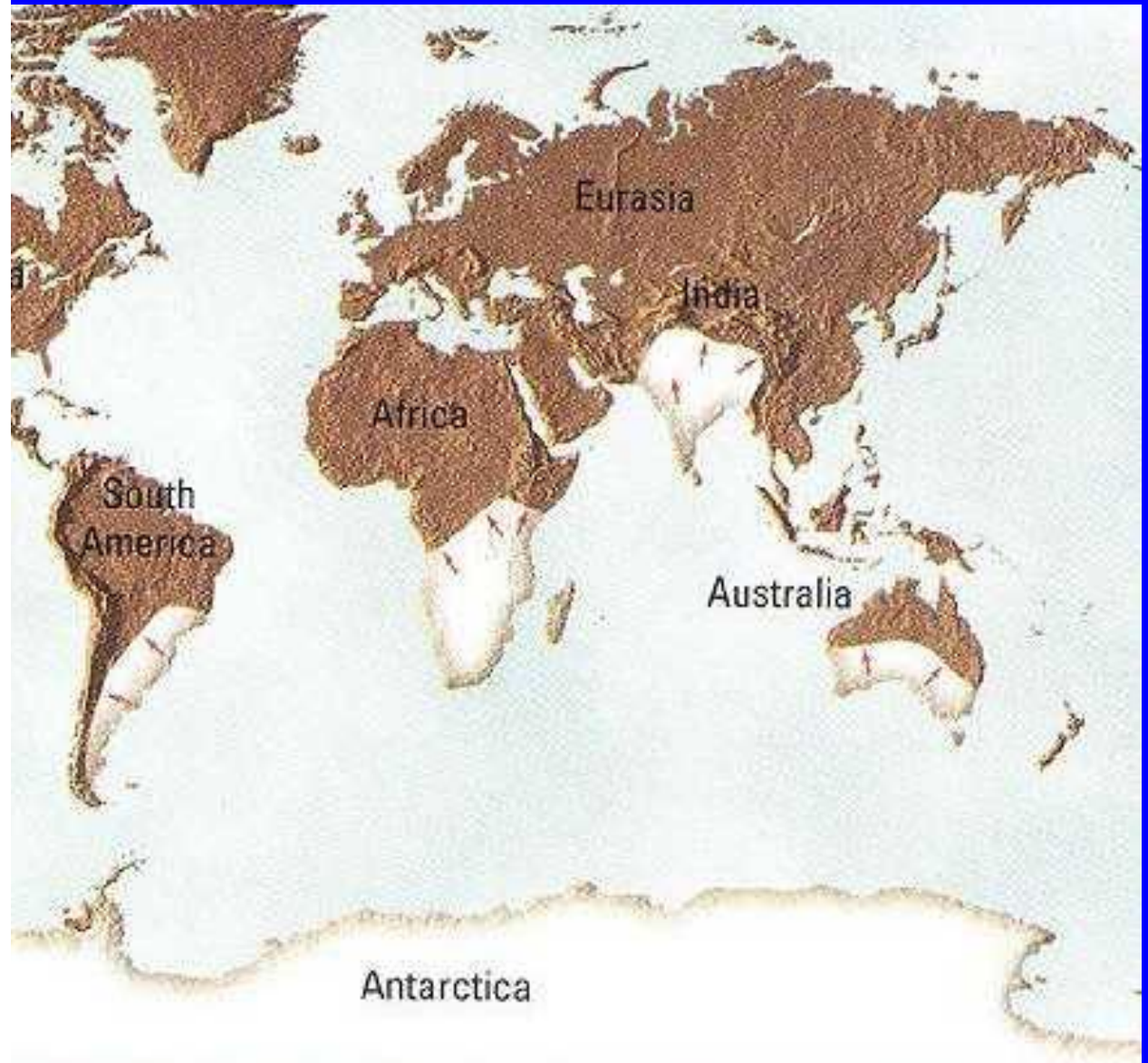


[Making Connections: Canada's Geography.](#)  
Clark & Wallace. Prentice Hall Ginn, 1999.

### 3. geologic evidence: mountains have the same age and structure on both sides of Atlantic



4. **ice sheets** covered parts of Africa, India, Australia and South America 250 million years ago. How could this happen in places that are so warm today?



Click on this link to see a great animation of the spreading of the Atlantic Ocean.

[http://earthref.org/cgi-bin/z-download.cgi?database\\_name=erda&search\\_start=advanced&h=html-header&file\\_path=/projects/earthref/archive/archive/aaab/m00002.i1.2.seafloor.spreading.swf](http://earthref.org/cgi-bin/z-download.cgi?database_name=erda&search_start=advanced&h=html-header&file_path=/projects/earthref/archive/archive/aaab/m00002.i1.2.seafloor.spreading.swf)