

Geomorphology

Earth's Interior

Earth Movements

Tectonics

**Tectonics and
Orogeny**

Continental Drift

**See Floor
Spreading**

Plate Tectonics

Plate tectonic theory

- ❑ Work of many scientists from different discipline
- ❑ Came out in 1960s
- ❑ Based on 2 scientific evidences
 - 1) sea-floor spreading
 - 2) Palaeo-magnetism

Plate Tectonics

The theory - outlined by W. J. Morgan (1968).

Most Acceptable with scientific basis and Explanation.

Suggest : Earth Lithosphere – divided into several Plates.

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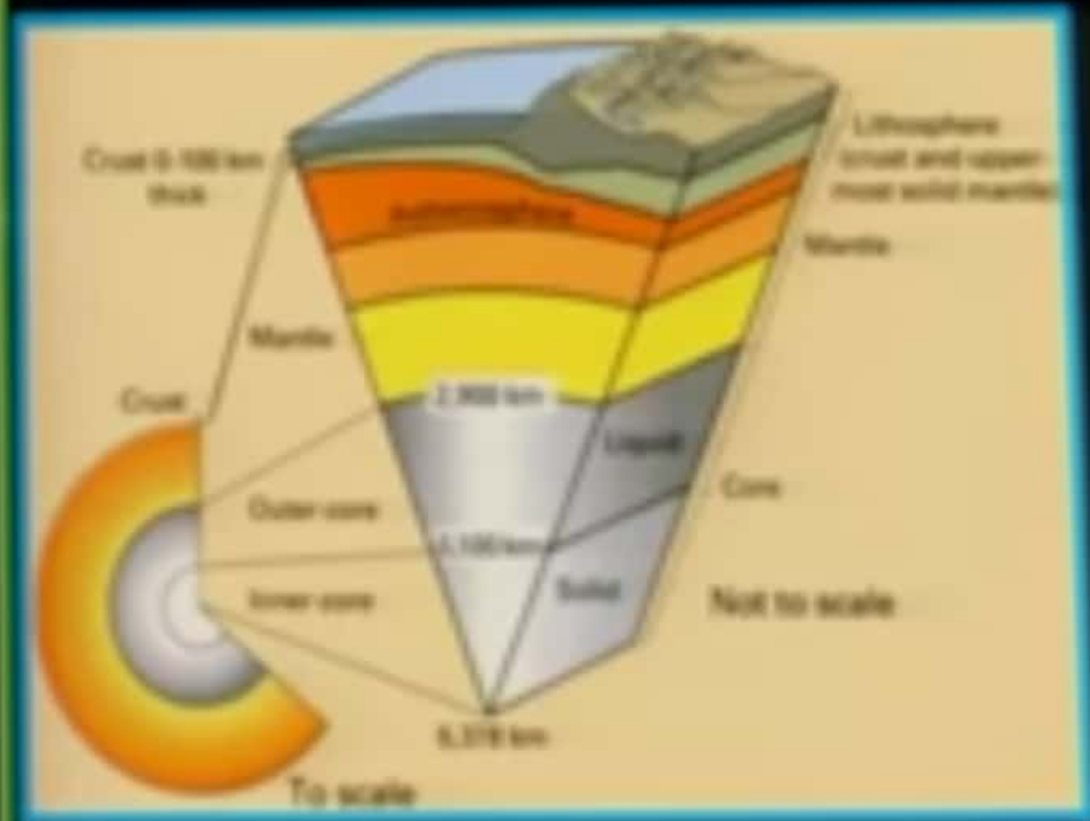
By then, the 'continental drift theory' was completely discarded with the emergence of 'convectonal current theory*' and 'see floor spreading*' theory .

* paved the way for the Theory of Plate Tectonics.



Plates

- Crust and upper part of mantle => lithosphere
- Asthenosphere = unique mechanical rigidity, semi-molten, plastic
- Lithosphere float over Asthenosphere
- Lithosphere is not continuous, broken, known as plates





plates

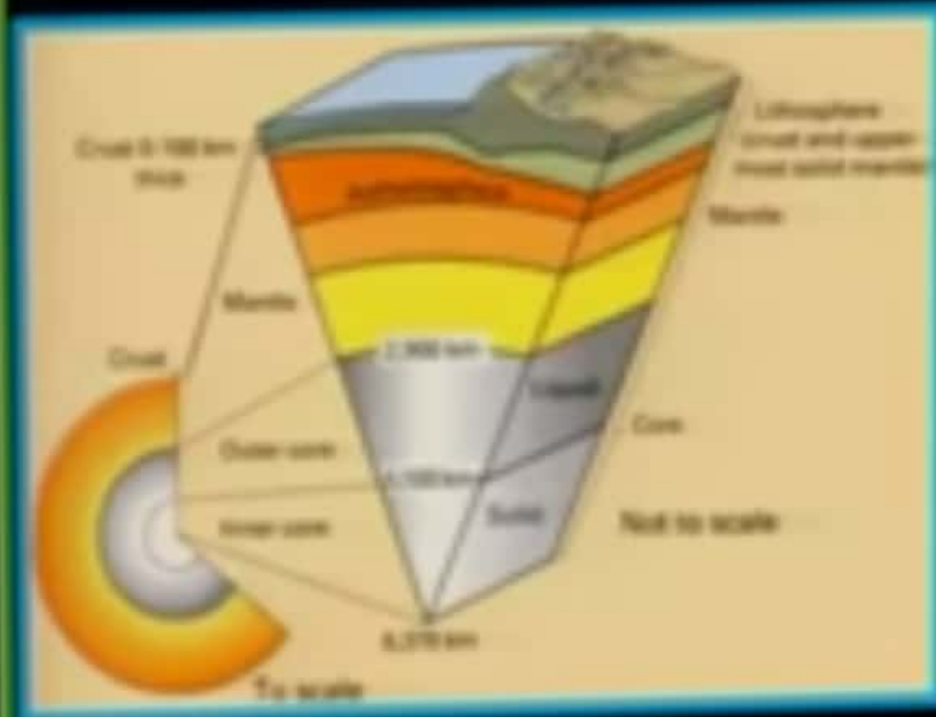
- J.T Wilson termed - 'Plate'
- 3 types of plates:
- Entirely oceanic, entirely continental and both continental and oceanic

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Chemical composition of Interior

- Inner core = Fe, Ni
- Outer core = Fe, Ni + silica
- Mantle = Olivine
- Oceans = basalt
- Continents = granite and andesite



Location of rocks	Example	Property
Mantle	Olivine	highly fluid Heaviest
Oceanic crust	Basalt	Fluid Heavy
Continental crust	Andesite	less mobile Lighter
Continental crust	Granite	least mobile Lightest

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Suggested : Earth Lithosphere divided into several Plates.

Identified → 7 Major, >20 Minor Plates

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Major tectonic plates

Antarctica and the surrounding oceanic plate

North American plate

South American plate

Pacific plate

India-Australia-New Zealand plate

Africa with the eastern Atlantic floor plate

Eurasia and the adjacent oceanic plate



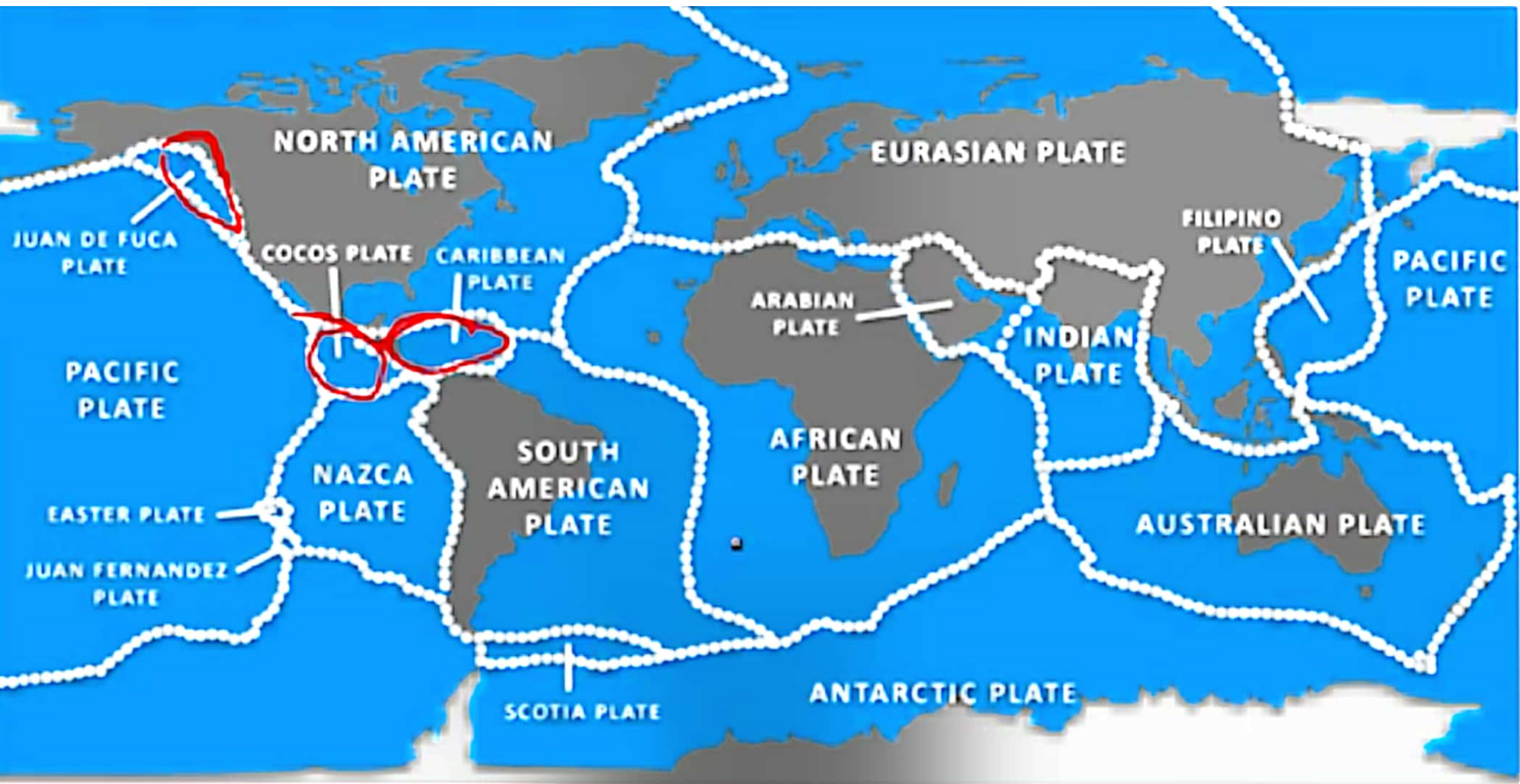


Plate Interactions

Divergent Boundary

Convergent Boundary

Transverse Boundary