

Plate tectonics  
and  
seismology

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Seismology@school Sion – Monday October 20, 2014

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Continental drift: early guess



Antonio Snider-Pellegrini (1858) *La Création et ses mystères dévoilés*

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Continental drift: second guess



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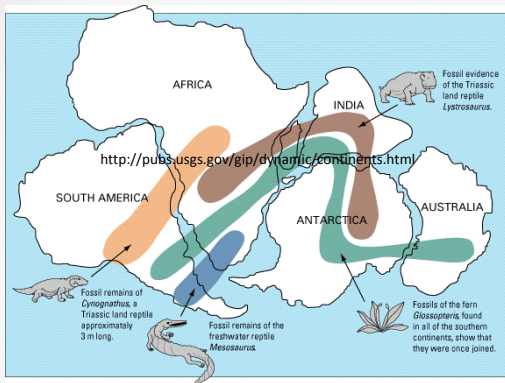
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### Continental drift: Fauna and flora



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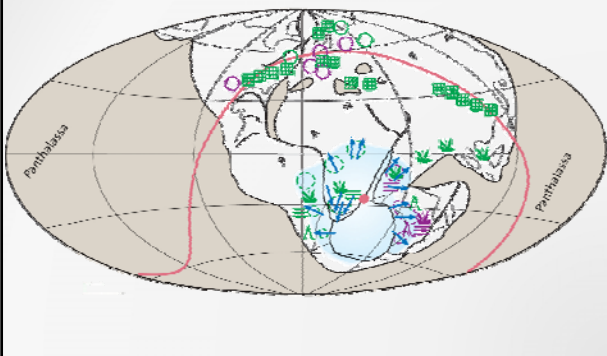
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### Continental drift: Paleoclimatology



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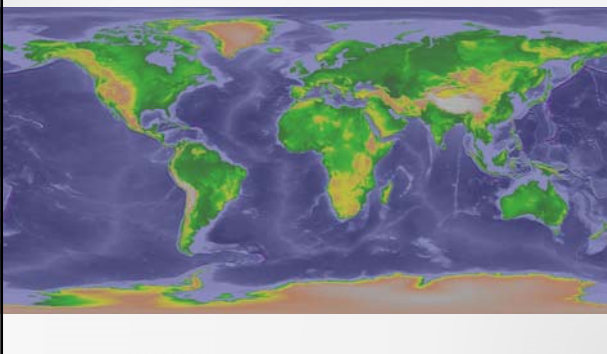
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### The answer: Oceanic spreading; topography



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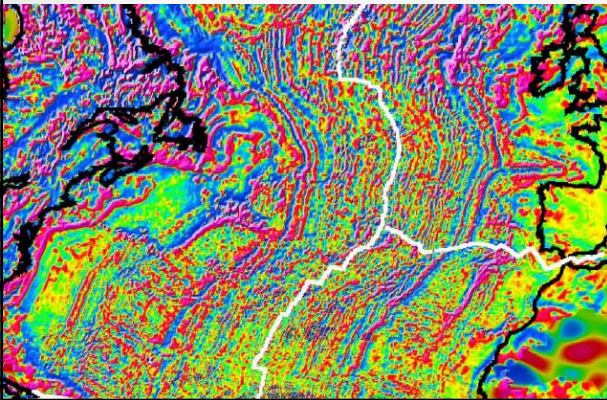
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The answer: Oceanic spreading; magnetism



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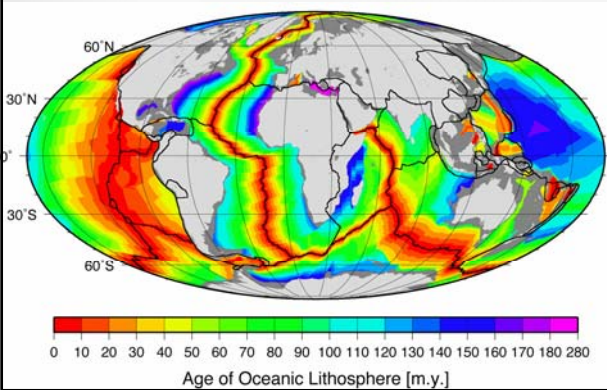
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The answer: Oceanic spreading; age



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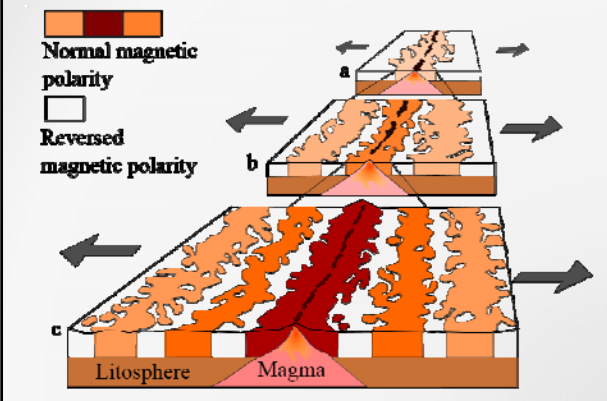
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The answer: Oceanic spreading



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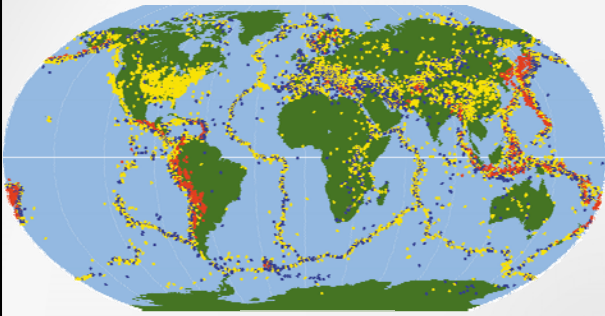
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Seismic events and plates



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Atlas: shaking the celestial sphere



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Chang Heng's Dragon Jar (around 132 BC)

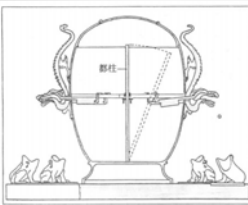


图 2-5-12 候风地动仪的构造



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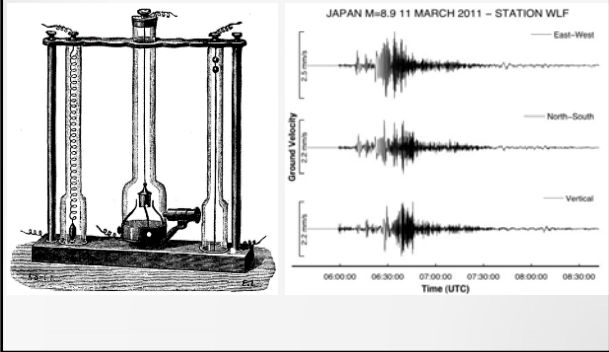
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Rossi's Trematoscope (late XIX<sup>th</sup> century)



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Do it yourself



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Earthquake = earth movement



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Earthquake = earth movement



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Earthquake = earth movement



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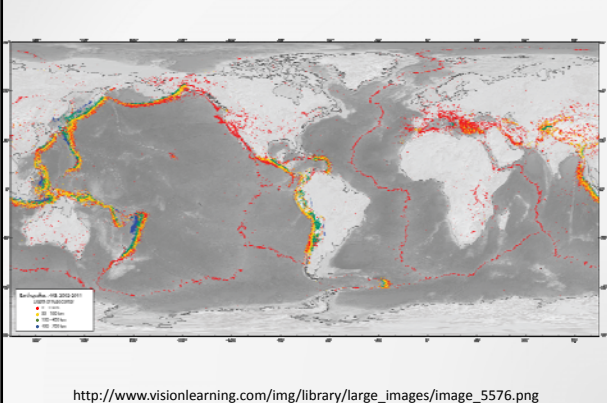
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Depth of earthquakes



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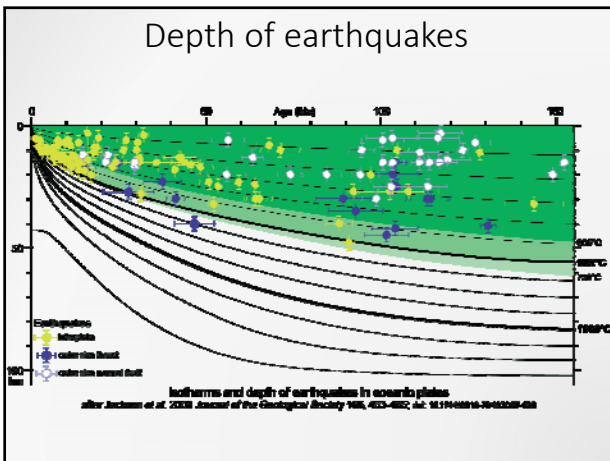
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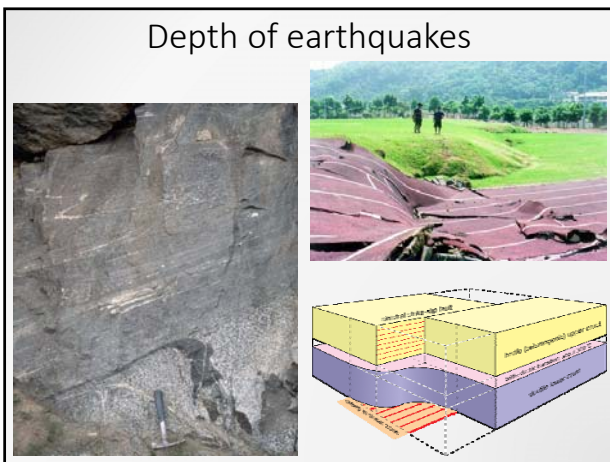
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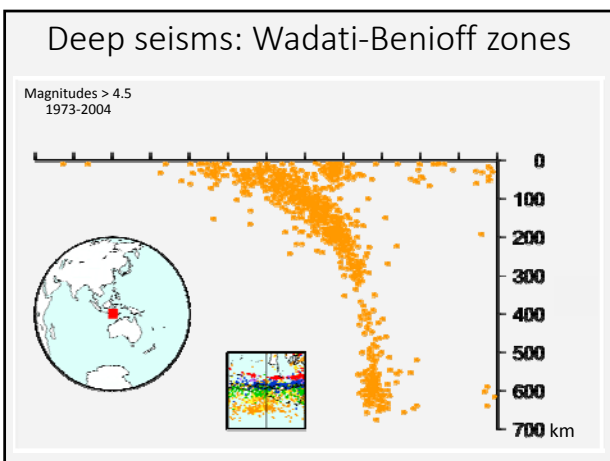
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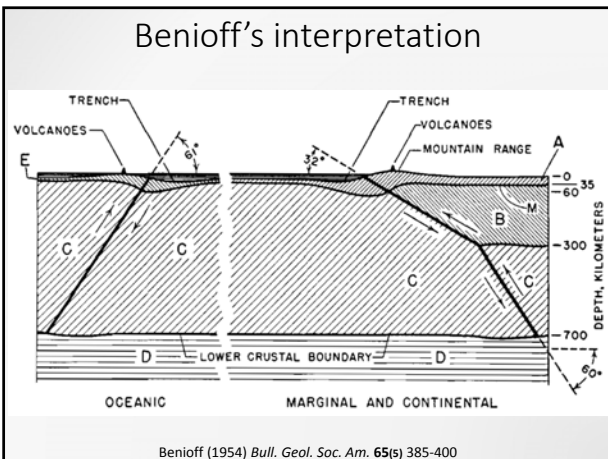
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### Benioff's interpretation




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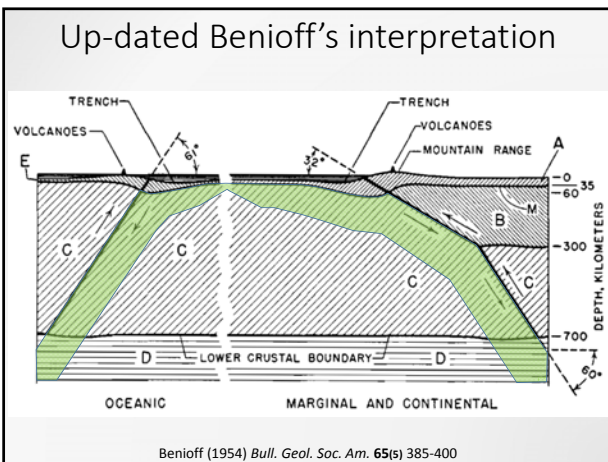
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### Up-dated Benioff's interpretation




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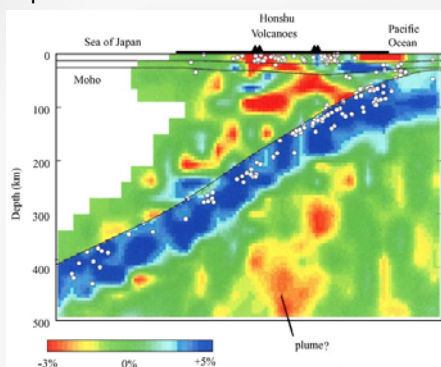
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### Deep seisms: Wadati-Benioff zones



Zhao (2004) *Physics of the Earth and Planetary Interiors* 146(1-2) 3 - 34  
<http://dx.doi.org/10.1016/j.pepi.2003.07.032>

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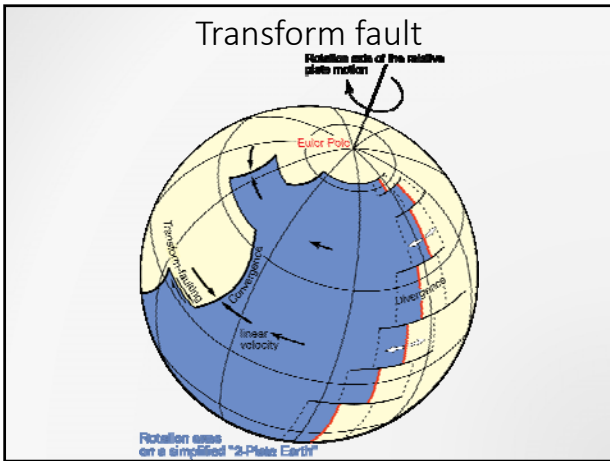
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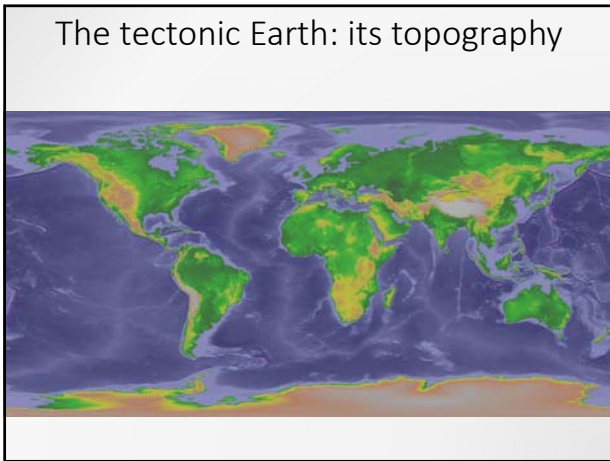
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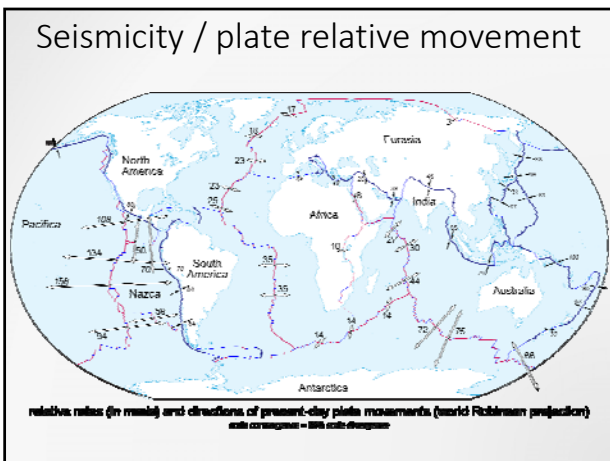
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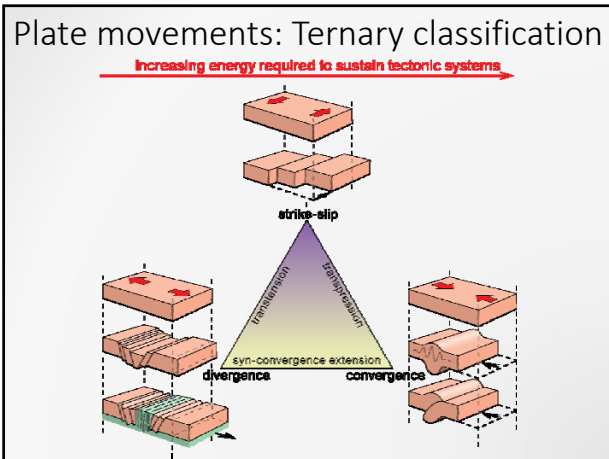
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