

Mountain Building Theory:

1. Thermal Convection Current Theory – by Holmes

The “Convection Current Theory” of mountain building was put forwarded by Holmes. According to Holmes- earth’s crust has two subdivisions: -

1. Upper crust
2. Substratum

His assumptions:

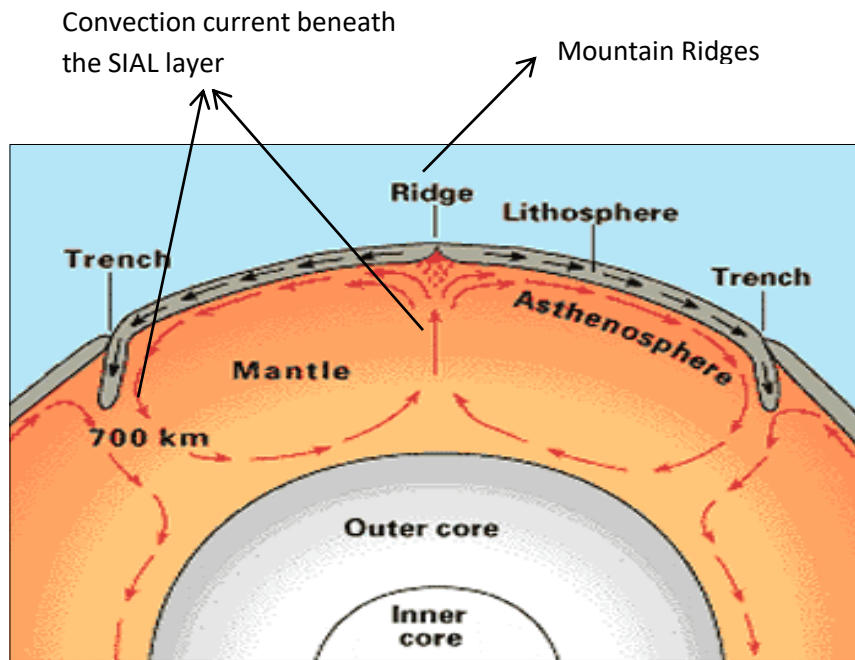
1. When materials heated, its density decreases. Then rises to the surface until it cooled and sinks again.
2. The repeated heating and cooling may produce convection current. This current is strong enough to move the continents.
3. The current produced within the earth’s surface is known as “Thermal Convection Current”

Mechanism:

Radioactive materials are present in the substratum. These elements can emit energy and produce “convection current”. There are rising convection current at the equator and downward convection current at the poles. The currents rising below the continent take away the melted material towards the ocean.

At the periphery of the continents, these currents meet the oceanic current. It causes “subsidence”. SIAL layer subjected to pressure from both sides. Due to tremendous pressure, mountain building process started.

In the process of mountain building, it is necessary for the landmass to move away and then come close. When continents move away, it causes “rupture”. Tethys sea was born in this way. When Laurantia and Gondwana come closer, it produces the young folded mountain Himalaya, Alps etc.



Thermal convection current leads to mountain building

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Prepared by:- Dewajit Bora Sir