Heart Mountain Detachment fault
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The Heart Mountain Detachment fault has been a mystery to geologists since its inception in the 1800's (Bradley). There are two main hypotheses concerning the Heart Mountain fault on how and why its location is observed today. The two main hypotheses which share very opposing views are from Thomas A. Hauge and William G. Pierce.

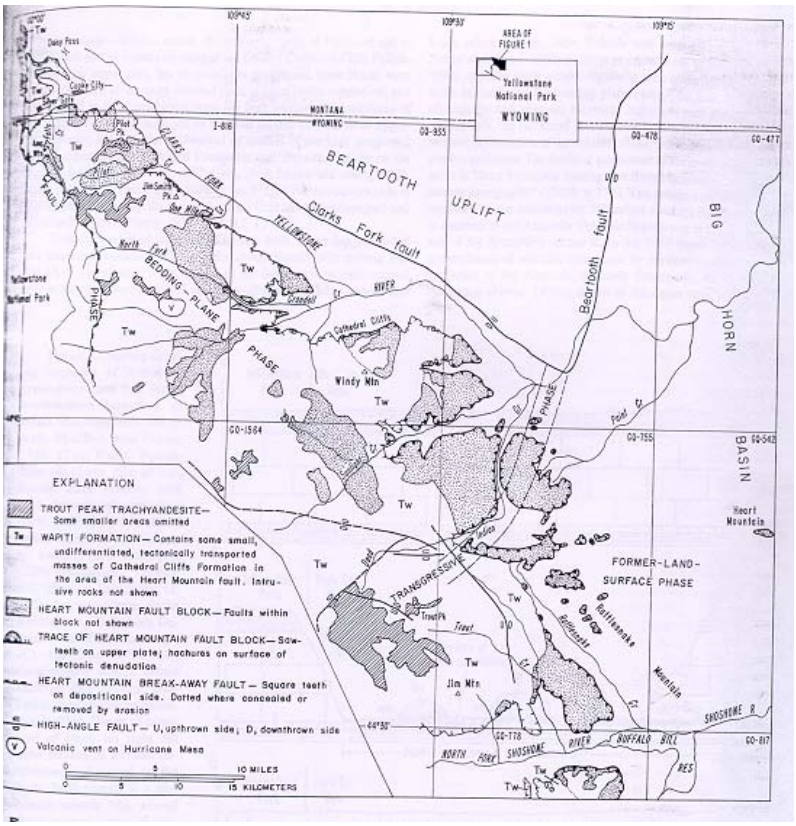

Figure 1: Map of Heart Mountain Detachment in Wyoming. (Pierce, 1986)

Pierce's model involves tectonic denudation of numerous blocks on the run. Rapid movement is essential to Pierce's model.

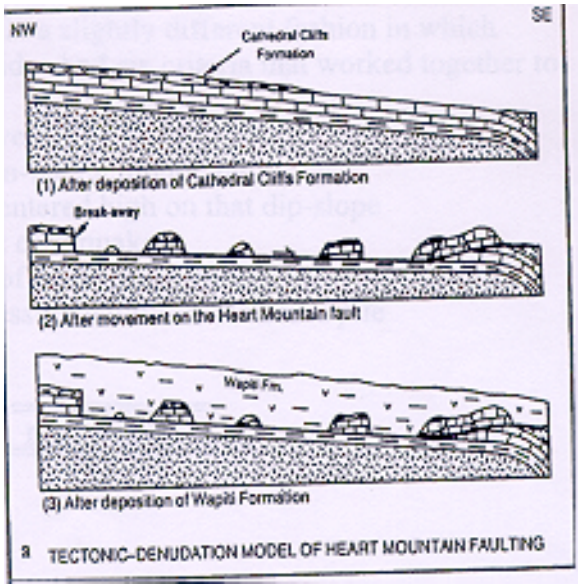

Figure 2: Tectonic Denudation model. (Pierce, 1987)

Tectonic denudation is described as, "The stripping of an underbody, such as basement or other competent rock, by the movement of an upper stratified layer over it. During movement of rootless masses of the upper rocks by gravity sliding, the surface of the underbody is laid bare in places." (Pierce, 1987)

Houge's model engages that the Heart Mountain detachment is a lone, continuous allocthon.

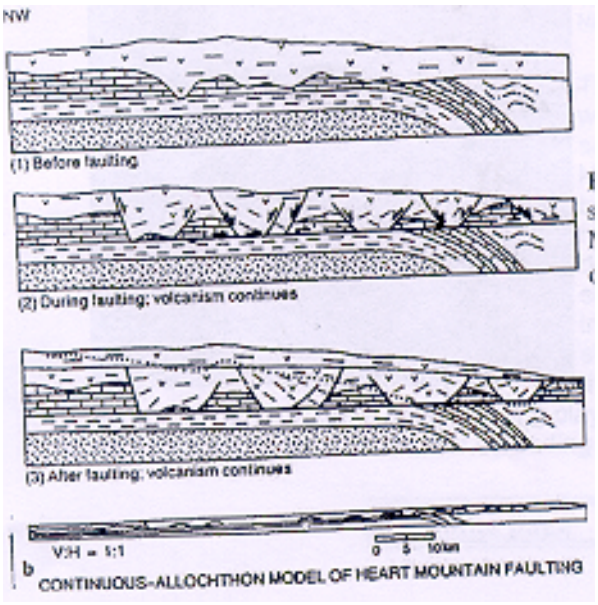

Figure 3: Continuous allocthon model (Hauge,1985)

There are numerous hypotheses concerning the Heart Mountain fault, but still today none are widely accepted. (Beutner, 2002)

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