陆壳岩石含更多硅，并且比洋壳的玄武岩密度要低

尽管陆壳不会被俯冲损坏，但通过delamination（拆沉？），大陆岩石圈的地幔部分会变冷变密而重力不稳定，因此大陆岩石圈下部，包括下地壳，是可能拆沉和沉入下地幔的的。这叫部分俯冲或拆沉，发生在大陆碰撞区以及behind subduction zones，

部分大陆岩石圈的地幔部分是缺失的，One example is the western United States. The uplift of the Sierra Nevada mountains in California is attributed to active delamination Crustal doubling such as in Tibet has also been attributed to the absence of mantle lithosphere beneath Asia

另外一种参与循环的方式是沉积层的俯冲，

前寒武纪的变质岩和火成岩组成大陆盖，对前寒武纪地形研究表明，板块运动至少持续了30亿年。

陆壳的成分：

现象：陆壳的平均成分中含有更多硅，相比于玄武岩而言。所以陆壳来源于地幔部分熔融（主要物质为近玄武岩质）的解释不太行；

第二种解释是：分为三步：热点产生地壳；分异导致上地壳多硅；拆沉使下地壳沉入地幔。(1) Basaltic volcanism from the mantle associated with island-arc volcanics, continental rifts, and hotspots is responsible for the formation of the continental crust. (2) Intracrustal melting and high-temperature metamorphism are responsible for the differentiation of the continental crust so that the upper crust is more silicic and the lower crust is more basic. Basaltic magmas from the mantle that intrude into a basaltic

continental crust in the presence of water can produce the granitic rocks associated with the bulk continental crust. (3) Delamination of substantial quantities of continental lithosphere including the mantle and lower crust returns a fraction of the more basic lower crust to the mantle. The residuum, composed primarily of the upper crust, thus becomes msilicic and forms the present continental crust.