primarily by seismic reflection profiling; typically granulite-facies rocks where exposed elsewhere) is extended by laminar ductile flow. Pre-existing rock masses are transposed into subhorizontal sheets.

The middle crust (seen in Cordilleran outcrop in Eocene through Pliocene "core complexes," as well as by reflection profiling) is extended by discontinuous ductile flow. Rocks are transposed, and recrystallized commonly in greenschist facies, in anastomosing ductile shear zones along which lenses of all sizes up to tens of kilometers long slide apart. The composite top of the lenses is a "detachment fault;" petrologic barometers indicate a pre-extension depth of 10 to 12 km to typify this level. Heating by magnetism preceded or accompanied much extension, but "core complex domes" are the tops of structural lenses of middle-crust rocks, and are neither anticlines nor products of thermal highs.

The upper third of the crust adjusts to extension of its substrate by gravitational collapse of rotating brittle fault blocks. No correlation exists between direction of rotation and the local slopes of underlying lenses; blocks within panels up to 100 km across rotate in single directions. Sediments and slide breccias deposited against growing normal faults tend to maintain truncation angles near 50° as the strata are "reverse-drag" rotated on listric faults to abut gently undulating detachment faults.

Depth and temperature of all components lessen as extension continues, so effects of successively colder and more brittle styles of deformation are superimposed as rocks rise through pressure-temperature boundaries between ductility regimes.

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Mode of Extension of Continental Crust

Cordilleran continental crust, from central British Columbia through Sonora, has been doubled in width by middle Eocene through Quaternary extension. Extensional structures seen at comparable levels of erosion are similar throughout the Cordillera, and elsewhere in the world, so a model of general application can de deduced. "Core complexes" form beneath normal-fault blocks of basin-range type.

The lower third of the crust (seen in the Cordillera

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