# *j6* Antler, Acadian and Caledonian orogenies

< Cordilleran, Catskill fm, ORS fm >

**Antler** (Early Mississippian climax commencing in Late Devonian) Now in the western United States, the Cordilleran miogeocline was interrupted in its passive accumulation of its sediments (characteristically of carbonate. shale, and clean-sandstone strata and no volcanics) by an episode, evidenced by conglomerates (***Figure j6.1***) and by deformed Paleozoic rocks in the Great Basin, Nevada, of mountain building called the *Antler* orogeny (its name refers to the Antler Mountains in north central Nevada). Minor related orogenic pulses continued into the Permian following the Antler Early Mississippian climax commencing in Late Devonian, when western eugeoclinal rocks (characteristically metamorphosed calc-alkaline volcanics, graywackes and shales) were superimposed upon eastern miogeoclinal rocks by the Roberts Mountains thrust.[1]

**Acadian** (Late Devonian climax) Now in the eastern United States, the Devonian Catskill formation is a molasse that began to accumulate on the ORS after the Early Devonian. Recorded is the *Acadian* orogeny (its name refers to the once colony of Acadie in that maritime region of French Canada)[2] that was the result of a collision which closed the southern Iapetus ocean between *Avalonia* paleoterrane and the *Laurentia* realm of the ORS. The Acadian orogeny was a prolonged series of middle Paleozoic deformational, plutonic, and metamorphic events, mostly in what is now the northern Appalachians. In now Gaspe, Canada, and adjacent areas, its climax dates early Late Devonian.

**Caledonian** (Devonian climax) Now in Great Britain, closing of the northern Iapetus between Laurentia paleocontinent and northern *Avalonia* paleoterrane is recorded by Old Red Sandstone (ORS) molasse formation that began to accumulate at the beginning Devonian (***Footnote j6.1***). The associated orogeny is called the *Caledonian* (its name refers to Caledonia, the Latin name for Scotland). Further north, in what is now Greenland and Norway, the ORS formation east and west respectively of the line of closure of the northernmost Iapetus ocean, records an orogeny that is also called the Caledonian. Closure there, however, was between Laurentia and Paleobaltica paleocontinents. Also, the Caledonian, which continued there through the Devonian, began in the Late Silurian (which is the age there of the basal units of the ORS formation).[3] ❑

*Figure j6.1* [4] Sedimentary evidence of the Devonian Antler orogeny are the conglomerates (dark gray) shed into the Cordilleran miogeocline.