

1985 Luncheon Meetings

Cretaceous time. Stratigraphic data from the Green River, Big Horn, and Powder River basins in Wyoming and the central Utah foreland basin was compiled for an analysis of the timing of tectonic subsidence events. Previous studies have shown that most of the subsidence of foreland basins is a flexural response to loading by the adjacent thrust belts and attendant sedimentation. Our results indicate that there was a minor tectonic subsidence event in Late Jurassic time that may have resulted from loading far to the west of the thrust belt, perhaps by tectonic activity in Nevada. Major subsidence of the Wyoming-Utah foreland basins began $100 \pm$ Ma and probably represents the beginning of thrusting in the Sevier Orogenic belt in Idaho, Wyoming, and Utah.

These results fit well with the ages and facies interpretations of the Ephraim Conglomerate, gravels presumably shed off of the Paris thrust sheet. Review of the original literature on the Ephraim Conglomerate suggests that synorogenic sedimentation probably did not begin prior to Aptian time (about 119 Ma). The Late Jurassic ages commonly cited for the Ephraim Conglomerate come from shallow marine mudstones that comprise the lower part of the formation that do **not** have the characteristics of synorogenic deposits. These mudstones probably represent sedimentation that took place prior to the initiation of thrust belt activity. Hence, both basin analysis study and a review of the age and facies of synorogenic deposits suggest that there was no tectonic activity in the thrust belt prior to Aptian time (about 119-113 Ma).

HELLER, PAUL L.

Was the Idaho-Wyoming-Utah Thrust Belt Active Prior to Mid-Cretaceous Time?

Traditional interpretation has the beginning of deformation in the thrust belt occurring in late Jurassic time and continuing through Cretaceous time. However, analyses of basins east of the Wyoming-Utah thrust belt show no evidence of major thrust-related subsidence until middle