STRUCTURES WITHIN THE BENTONG SUTURE ZONE ALONG THE CAMERON HIGHLANDS-GUA MUSANG ROAD

MUSTAFFA KAMAL SHUIB
Department of Geology, University of Malaya, 59100 Kuala Lumpur

A 20 km wide zone of variably and complexly deformed rocks, believed to be part of the Bentong suture zone passes through the newly constructed unsurfaced road that links Kg. Raja (Cameron Highlands) to Pulai (near Gua Musang).

Rocks within the suture are schists, phyllite-schists, olistostromes, bedded cherts, chert-argillite interbeds, sandstones and a serpentinite lens. These rocks are bounded to the west by an igneous injection complex and to the east by a zone of bedded cherts with low angle bedding paralled thrusts. The simple structures exhibited by these cherts suggest that they may be relatively younger cherts compared to the cherts found in the internal part of the zone which shows more complex structures.

The rocks are generally striking NW-SE. Dips are generally moderately steep to sub-vertical and eastward. Numerous anastomising faults cut across these rocks. The great number of faults that pervade the area make up a complex pattern. Faults trend in various directions. However most of these faults are trending NNW, parallel-sub-parallel to the suture zone trend. Most faults appear in conjugate sets. Dip displacements are much in evidence, especially the low angle faults that evidently show the typical low angle fold-thrust geometry. These are the older faults and most of them dip to the NE.

Some low angle faults and most high angle faults do not exhibit the typical fold-thrust geometry. They often exhibit positive flower structures with drags along the faults ranging from moderate to steep and sub-vertical. Vertical displacements seen along the faults are variable and may change in sease and magnitude along an individual fault. All these features suggest a significant strike-slip motion is involved in the development of these faults.

The rocks within the suture appear to occur as several tectonic units. The tectonic units may range in width from a few meters to kilometes. The great number of high angle faults which exhibit significant strike-slip motion may suggest that the tectonic units may be bounded by strike-slip faults. Therefore the juxtaposition of different stratigraphic units within the suture zone can be explained by strike-slip movements. These juxtaposition can equally well be explained by imbrications and nappe tectonics. However, no systematic repetition of lithologies that can be made out due to imbrication are found. Moreover, nappes have never been described within the suture zone and the straight course and vertical dip of the zone is in contrast with such an assumption.

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Although lateral orogen-normal compression exerts a major control on the tectonics of the region, the structures described above, suggest that considerable strike-slip motion could occur within the same time span. As the structures of the sture zone evidently absorbs an orogen-parallel transcurrent component of deformation, deformation as a whole can be described as transpressive. The sense of shear cannot yet be determined from the available structural data. However, based on paleogeographic reconstructions, the sense of shear may be dextral.