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THE THREE MAJOR DEFORMATIONS OF THE ROCKS AROUND KANDY

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The area around Kandy, the pre-Cambrian of Sri Lanka has undergone three major deformations. The geological studies of the Dumbara, Teldeniya double plunging synclinoriums and Rajawella, Haragama anticlinoriums indicate the sequence of deformations to be as follows: (1) Event No. 1 (D 1): Deposition and metamorphism under environment.

(2) Event No. 2 (D 2): Folding (as corrugated cardboard) under high metamorphic conditions. This could be accompanied with D1.

Formation of prevailing foliations, lineation, bondinage structures and the most part of migmatities (syntectonic origin) in double plunging synclinoriums with plastic folding (Ramsay Class 1 C) are paraistic to the deformation D2. Thickening of bands from limbs towards noses of synclinoriums have been formed due to D2.

The D2 appears to be formed under probable E-W force acted on the metasediments towards east.

(3) Event No. 3 (D 3): Superimposition of folds:

All the existing topographic structures have been formed due to this event under less metamorphic conditions. Minor structures such as Z, M, S, folds, Kink folds, narrow ductile shears which are parasitic to the major structures are accompanied with D3.

Migmatites formed during the event D2 had been remobilized in the event D3. D3 appears to have been formed by a probable force along SW-NE acting towards NE, so that the major trend of the highland series rocks have a kink in E-W trend in the vicinity of Haputale and Nuwara Eliya. This force seems to have been acted along the axis of the maximum uplift of Sri Lanka (Vitanage (1972), Geologic-Neotectonic map of Ceylon).

As the metamorphic conditions at D3 were less than D2, the lineaments of D2 are still preserved to be seen.

The overturning of all the structures in highland series are predominantly towards east and it is suggested to be accompanied with the described two forces.

The bottom exposured law dipping parasitic syncline between Rajawella and Haragama anticlinoriums consists of garnet granulitic gneiss at the bottom. This indicates, that the overlain migmatitic hornblende biotite gneiss is eroded away, and it provides a strong evidence of the syntectonic origin of the migmatitic hornblende biotite gneiss rather than an intruded origin.