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## The evolution of the Malvern Lineament

[abstract only]

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The geology of the Malvern Hills has been the subject of controversy since the 1850s. Many of the problems have now been resolved by using a combination of techniques including mapping, seismic-reflection profiling, deep drilling and geochronology. The Malvern Lineament is a major north–south trending crustal structure with a complex history of tectonic activity. In early Palaeozoic times thrusting on the Malvern axis caused uplift of the area to the east of the axis and some thickening of sedimentary deposits to the west. The importance of the Llandovery unconformity along the western side of the Malvern Hills is stressed. In late Carboniferous times there was major thrusting in a westerly direction, probably associated with dextral transpression, and considerable uplift and erosion of the area to the east of the Malverns. In Permian and Triassic times an extensional lithospheric stress field was initiated. This resulted in reactivation of the earlier thrusts as major normal faults downthrowing to the east and with throws, locally, in excess of 2.5 km. These faults, which dip eastwards at between 35 and 50°, are detectable on seismic-reflection profiles to a depth of about 5 km and controlled the development of the Worcester Basin, inverting the site of an older ‘high’.

*Note. The abstract only is given here because Dr Beckinsale's paper did not become available after the meeting.*