

The Geological Structure of the Dorset Coast, Southern England

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Abstract

In his 1898 Memoir, *The Geology of the Isle of Purbeck and Weymouth*, Sir Aubrey Strahan, Director of the British Geological Survey, wrote that the exposed structures of the Dorset coast were Tertiary in age and a British correlation of Alpine deformation in the Alps, eight hundred kilometres to the southeast, in continental Europe.

Notwithstanding the limited understanding of structural geology at that time, and a complete absence of contemporaneous subsurface data, this idea was enthusiastically adopted by an influential group of British geologists as an acknowledged fact.

This hypothetical event is still uncritically upheld as a proven fact through 2012, in the current edition of *Geology of the Dorset Coast*, a guide published by the Geologists' Association. The book itself is beautifully produced and edited by a highly respected editor with a lifetime of experience in the region, lavishly illustrated in colour. However, for structural background the editor leans heavily on more than 100 years of publications leading up to the present, that have attempted to prove an Alpine compressional origin for the fault-bounded Hampshire Basin, the principal regional-scale structure of the Dorset coast. Reviewed using modern fault terminology, the structures appear to be extensional in nature, unrelated to Alpine tectonics.

This talk is a review of *Geology of the Dorset Coast* since, with its excellent figures, comprehensive text and bibliography, the guide provides an ideal summary of the unrecognized problems to be addressed in the following presentation, concerning the structural setting and hydrocarbon prospects of the region, which includes the Wytch Farm oilfield, largest onshore oilfield in Europe, and the safety of the Channel Tunnel.