not the case, this ratio being generally low. The most plausible explanation of the considerable discrepancies observed here is that a major proportion of the deformation in this area takes place in viscoelastic processes such as creep. This should be verifiable by the installation of strain/creepmeters in the regions where the disagreement between theory and observation is greatest.

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Submerged platform of marine abrasion around the coasts of south-western Britain

RECENT studies at Aberystwyth have shown that Palaeozoic rocks extend as a gently sloping platform (below a cover of sediment or drift) 16 km seawards of the coast of south-western Wales, up to 18 km to the south of the coast of Ireland, and some 15 km north-west of Cornwall. Sparker traverses[1] show this platform to be, in general, smoothly planed with its outer margin descending to at least 80 m. Former islands, now submerged, occur; as, for example, in St. Bride's Bay and off Tuskar Rock. Westwards of the Camel estuary the platform continues unbroken across the fault which throws Cretaceous rocks against the Palaeozoic. Shorewards no definite submerged cliff line has so far been traced and in some cases at least, the cliff line may be coincident with the outer edge of the modern coastal platform, or even the modern cliff[2].

A platform of this width, cut in resistant Palaeozoic rocks, can hardly have been cut during the successive low sealevels of the Pleistocene, which occupied in total only a small proportion of Pleistocene time. The interglacial '10 foot platform' recognised in southern and western Wales[3], Devon[4] and southern Ireland[5] forms only an insignificant nick in the coastal cliffs. Moreover, this platform, probably of Cromerian age[6,7], runs into already formed estuaries and bays[8], and was thus preceded by a period of lower sealevel. The St Erth Beds of late Pliocene age similarly occur[9,10] on the side of a pre-existing valley. The broad submerged platform of marine abrasion is, therefore older than late Pliocene.

This gives the *terminus ad quem*, what of the *terminus a quo?* The Lenham Beds of south-eastern England occur as residual deposits on the tops of hills and must precede this period of lower sealevel and prolonged erosion. It is inconceivable that deposits coeval with the Lenham Beds would not have been found in the valleys of the Weald had those valleys been in existence and submerged by the Lenham sea. Equivalents of the Lenham Beds[11] found in borings in the Antwerp Kampen contain Upper Miocene foraminifera, confirming an opinion previously expressed by Voorthuysen[12]. The cutting of the submerged platform therefore occurred between Upper Miocene and late Pliocene times.

Evidence seems to favour an end Miocene or early Pliocene date. Gignoux[13] has remarked on the regression of latest Miocene time, which affected western Europe. The late Miocene (Messinian) desiccation of the Mediterranean postulated by Ruggieri[14] has been confirmed[15]. This event occupied 2 Myr according to the time scale of Berggren[16]. The platform must have been trimmed and trimmed again during the successive regressions and transgressions of the Pleistocene but its formation occurred much earlier. Likewise, submerged river valleys crossing the shelf[17] are likely to be very old, having merely been scoured out during the last regression of the sea and refilled by Flandrian deposits.

Not the least surprising feature, if this hypothesis is true, is the remarkable stability of western Britain during this long period of time, contrasting so markedly with the activity of the marginal faults during the Oligocene and Miocene. The high-level platforms of Wales, Cornwall and Ireland must necessarily have been formed in Oligocene and Miocene times, the submerged platform being simply the last of a series of erosional features occasioned by prolonged stillstands of the sea.

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