

sists of steep ridges of shingle or boulders, intermixed with little or no sand, such economy points to its being subject to periodical wave-battering.

One of the first matters to be studied in gauging a coast-line *régime* is its geological economy. Obviously, the existence of primary or igneous rocks spells resistance to erosive forces; the presence of clay or friable sandstone means that undermining by or invasion of the sea can only be counteracted by artificial expedient.

The presence of vast accumulations of sand and shingle, forming a buffer territory between land and water, is a phenomenon which requires some comment. The explanation of its existence usually offered is that it represents the degradation of contiguous land; that as cliffs fall, or fresh tracts of coast-line are attacked by encroachment of the sea, the flint and stone they contain are riddled out, and thus is amassed a capital of protective medium of defence. Attrition, due to wind-waves, then breaks down boulders into shingle, and shingle into sand. This explanation is, however, only half the story. The fall of chalk cliffs is intermittent, and the amount of flint derived from this source would be relatively insignificant. East of Folkestone the white chalk dies out, and the grey chalk running towards Dover is flintless.

The only solution of the problem which fits the facts is that in our south-east coast shingle deposits we have the *débris* of the denudation of Tertiary gravels and sands, which overlay the chalk before the floods succeeding the Glacial epochs scoured and moulded the surface of the chalk. It is probable that the crest of the dome of deposit reached a height of 2000 feet above present sea-level, when the North and South Downs formed one continuous sheet of chalk, covered by gravel deposits. On other portions of the coast-line (notably the east coast), the shingle deposits have in the main been derived from Glacial Drift, which assumed vast proportions in the late Glacial Period. The result of these remote geological events has been that our coast-line is fendered by a belt of protecting medium. It is obvious that this medium, which is kept in circulation by natural forces, constitutes in effect a bank in which our capital