

coast-line or estuary are peculiarly liable to destruction, by reason of the double effect of under-scour and the simultaneous pressure forwards, in the manner of an avalanche, of the plastic clays of which they are largely composed. Frequently veins of sand or gravel are sandwiched between the clay deposits, and such veins are denuded by rain or sea wash. Even without the predisposing cause of undercutting at their base, such cliffs of clay tend by gravitation to collapse.

The New Cross railway cutting is an object lesson in this respect to Londoners. Ever since the construction of this length of the Brighton Railway seventy years ago, the clay slopes running two or three miles south of New Cross have been in a condition of unstable equilibrium. The gradient of the line being heavy, and the oscillation due to express trains extreme, these banks were until comparatively recently actively mobile. Their movement has been arrested in the main by cutting drainage grips at the most dangerous spots, and either burning the clay in such grips, or laying block chalk in them to enable the land water to get away.

The coast-lines at Herne Bay, Yarmouth (I. W.), and Walton-on-the-Naze are notable instances of the danger of the movement of what in Essex is locally termed "blue slipper". At Herne Bay one of the authors saw a field of turnips, which had slid bodily from the crest of the cliff to the shore, the turnips growing undisturbed in their new habitat.

The vagaries of coastal landslips often appear inconsequent. Telford's practice in building reservoir embankments was to mix with his puddle clay clean gravel, with the object, by adding weight, to prevent its tendency to slip. The puddle clay of a dam is of necessity absorbent of water, and it is upon this saturation that its weight and water-holding properties largely depend. Frequently, in order to economize in the mass of materials used in the construction of a reservoir embankment, a thin hearting of puddle clay is weighted with stone or concrete blocks, pitched on both sides to prevent the spreading and settlement of the clay. The true cure for a tendency to slip in the design of a clay structure, is not to attempt to lay out walls at a steeper inclination than that of the angle of repose of the