

Loess landscapes in southern England: a subtle Geoheritage

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Stonehenge is a very famous monument, standing on Salisbury Plain in southern England. It is a very simple rock monument, so simple it only just crosses the boundary from geoheritage to historical heritage. It is undoubtedly man-made, but it is obviously a set of geological objects- and it is set in the loess region of southern England. The loess region is widespread, but largely unappreciated, or perhaps not so much unappreciated as not incorporated into the overall geomorphological view of the southern part of the country.

The loess idea should provide a sort of unifying factor for southern England, from the geoscience, and hence the geoheritage, point of view. The base rock for southern England is the chalk (the whole country is a piece of chalk as T.H.Huxley pointed out) but on top of the chalk is the aeolian material deposited as loess during the Quaternary period. Because this loess is not spectacular its existence and significance has not been fully appreciated, but it provides a subtle geo-background to many aspects of the south country.

A study of early brick buildings in England indicates a concentration in the south-east, possibly correlating with the presence of loess(brickearth) for the manufacture of bricks. The accessible loess-brickearth provides easy brick manufacture and hence the built environment is rich in brick buildings (Buckingham Palace is built of loess bricks). Near to the brick pits in north Kent are the Deneholes- ancient flint mines. These indicate the depth of the loess because the early flint seekers had to dig down through several metres of loess to reach the chalk, and the source of flints. Dene holes, like Stonehenge, relate to early life in the loess regions.

The first fall of the current loess material system in southern England put a deposit on top of the chalk rocks forming the South Downs. This is simple loess and it has formed a productive soil, and provided an income for South Downs farmers for many hundreds of years, and yet it is only a thin skin on top of the chalk; it was

a very modest loess fall. This same loess fall provided the raw material for the brick makers, but in some cases the deposits were more complex.

The South Downs deposit is simple, it sits, undisturbed on top of the chalk. Much loess material from the modest fall fell into river basins and was quickly re-distributed and redeposited. The material which fell into the Weald has been almost totally removed by the Wealden streams; the Medway drainage system has allowed at great concentration of material near the Medway-Thames confluence, which is where many brickworks were sited. The south flowing Wealden rivers (e.g. Arun, Adur) flow through gaps in the South Downs and have formed loess deposits near the coast. The initial Wealden loess is redeposited to form coastal deposits.

Much material accumulated in south Essex, in the region of the Thames estuary. This is another region of brick manufacture and probably the location of the thickest of the southern English loess deposits (~8m). Nothing spectacular in south Essex but this is a region of widespread loess material. There was a plan to site a large airport in this part of the Thames estuary, and this did lead to fairly widespread investigations of the loess, but the chance was fumbled by the UK Government and the moment passed, no airport was built. The Stonehenge builders were better organised and more determined.