

Cambridge University Press

978-1-108-05292-4 - Lives of the Engineers: With an Account of Their

Principal Works: Volume 1

Samuel Smiles

Excerpt

[More information](#)

EARLY WORKS

OF

EMBANKING AND DRAINING.

VOL. I.

B

Cambridge University Press

978-1-108-05292-4 - Lives of the Engineers: With an Account of Their

Principal Works: Volume 1

Samuel Smiles

Excerpt

[More information](#)

Cambridge University Press

978-1-108-05292-4 - Lives of the Engineers: With an Account of Their

Principal Works: Volume 1

Samuel Smiles

Excerpt

[More information](#)

EARLY WORKS

OF

EMBANKING AND DRAINING.

CHAPTER I.

ROMNEY MARSH AND THE EMBANKMENT OF THE THAMES.

THE numerous ancient earthworks existing in various parts of Britain show that the Navy is by no means a modern character. The mounds of Old Sarum and Silbury Hill, in Wiltshire, by whatever means and for whatever purpose raised, testify to a large amount of patient industry on the part of those who heaped them together. In Wales, Yorkshire, Devonshire, and the more hilly parts of England, the remains of the formidable ditches and embankments constructed for purposes of defence, afford abundant proof that the former people of this country must have been familiar with the use of the spade and mattock. But it would appear, from the remains of ancient British dwellings still extant in different parts of the country, that the early inhabitants lived in mere wigwams, and that engineering skill was scarcely to be expected of them. Their houses seem to have been formed by digging so many round holes in the earth, and covering them over with the branches of trees. Dr. Young, of Whitby, examined the remains of upwards of forty ancient British villages on the Yorkshire Wolds, from which he inferred that the aborigines, especially the more northern tribes, were no further advanced in civilization than the Caffres or

Cambridge University Press

978-1-108-05292-4 - Lives of the Engineers: With an Account of Their

Principal Works: Volume 1

Samuel Smiles

Excerpt

[More information](#)

Bechuanas of the present day.¹ Numerous traces of ancient habitations of a similar kind have been met with in the southern counties, of which those at Bowhill, in Sussex, are probably the most remarkable.²

The valleys and low-lying grounds being then mostly covered with dense forests, the naturally cleared high lands, where timber would not grow, were selected as the sites of the old villages. Tillage was not yet understood nor practised; the people subsisted by hunting, or upon their herds of cattle, which found ample grazing among the hills of Dartmoor, and on the downs of Sussex and Wiltshire, where most of these remains have been found.³ They are especially numerous along the skirts of Dartmoor, where the hills slope down to the watercourses. The heights above them are mostly crowned by tors, or rude fortifications of earth, which exhibit no greater engineering skill in construction

¹ Their clothing, when they wore any, consisted of skins; they stained their bodies with paint or ochre, and often marked them with figures, in the way of the South Sea tattooing. They lived in circular huts nearly in the shape of bee-hives, like those of the native Africans, as we may yet see in the remains of these dwellings at Eyton Grange, Harewood Dale, &c. To construct a hut, they dug a round hole in the ground, and, with the earth and stones cast out in the digging, made a kind of wall, which was surmounted with boughs of trees meeting together at the top to form a sort of roof, over which there might be a covering of sods to protect them from the weather, a hole being left on one side to serve the triple purpose of a door, a window, and a chimney. The fire was placed in the centre of the floor, and the inhabitants sat or lay on the ground around it. Remains of the charcoal of their fires are found in digging in the middle of the hollows that mark the sites of these ancient dwellings. In such wretched huts large families of men, women, and

children would be promiscuously huddled together, as is the case with the South African savages; and this mode of life might give rise to the statements of Cæsar and Dion Cassius, that among the Britons it was customary for every ten or twelve men, and those the nearest relations, to have their wives in common.—Dr. Young's 'History of Whitby and its Vicinity.'

² See 'Notitia Britannia.' By W. D. Saul. 1845.

³ We have undoubted proofs from history and from existing remains that the earliest habitations were pits, or slight excavations in the ground, covered and protected from the inclemency of the weather by boughs of trees or sods of turf. The high grounds were pointed out by nature as the fittest for these early settlements, being less encumbered by wood, and affording a better pasture for the numerous flocks and herds, from which the erratic tribes of the first colonists drew their means of subsistence.—Sir R. C. Hoare on the 'Antiquities of Wiltshire.'

Cambridge University Press

978-1-108-05292-4 - Lives of the Engineers: With an Account of Their

Principal Works: Volume 1

Samuel Smiles

Excerpt

[More information](#)

than is to be found in many a New Zealand pah. But, ignorant though the people then seem to have been of the art of construction, it would appear that they must have possessed some skill in mechanical appliances, to have been enabled to transport those huge blocks of stone to their places on Stonehenge, and to erect the cyclopean bridges over the Teign and Dart in Devonshire, the remains of which are among the greatest curiosities extant of ancient engineering.¹

The art of embanking and draining was introduced into England by quite another race—the adventurous tribes of Belgium and Friesland, who early landed in great numbers along the south-eastern coasts, and made good their footing by the power of numbers, as well as their superior civilization. These men were tillers of the soil, and wherever they went they settled down to the arts of agriculture, clearing the ground of its primitive forest, and more especially occupying the rich arable lands along the valleys and by the seaside. The early settlement of Britain by the races which at present occupy it, is usually spoken of as an invasion and a conquest; but there is good reason to believe that it was principally effected by a system of immigration and colonization, such as is going forward under our own eyes at this day in America, Australia, and New Zealand; and that the people who swarmed into the country in early times from Friesland, Belgium, and Jutland, secured their settlement by the spade far more than by the sword. The Celts were a pastoral race, whilst the immigrants were tillers of the ground. Wherever the new men came, they settled themselves down on their several bits of land, which became their holdings; and they bent their backs over the stubborn soil, watering it with their sweat, and delved, and drained, and cultivated it, until it became fruitful.

¹ See subsequent chapter, on Old Bridges.

Cambridge University Press

978-1-108-05292-4 - Lives of the Engineers: With an Account of Their

Principal Works: Volume 1

Samuel Smiles

Excerpt

[More information](#)

Thus these agricultural colonists spread themselves over the richer arable lands of the country, and became the dominant race, as is shown by the dominancy of their language in the districts which they occupied, the older population gradually receding before them to the hunting and pastoral grounds of the north and west. The process was slow, but it was continuous. The settlers made the land their own by their labour; and what they recovered by toil from the waste, the forest, and the moor, they held by the strength of their right arms. But the whole proceeding was one of simple persevering industry rather than of war. The men of Teutonic race thus gradually occupied the whole of the reclaimable land, until they were stopped by the hills of Cumberland, of Wales, and of Cornwall. The same process seems to have gone on in the arable districts of Scotland, into which a swarm of colonists from Northumberland poured in the reign of David I.,¹ and quietly settled upon the soil, which they proceeded to cultivate. It is a remarkable confirmation of this view of the early settlement of the country by its present races that the modern English language extends over the whole of the arable land of England and Scotland, and the Celtic tongue only begins where the plough ends.²

¹ See Cosmo Innes's 'Sketches of Early Scottish History,' 1861.

² This was formerly the case in the hill country of Cumberland and Cornwall, where the ancient language has now entirely disappeared. But in Wales, the Scotch Highlands, and the western parts of Ireland, the English traveller still finds himself amongst a race of people who can neither read his language nor understand him when he speaks to them. If they reply, it is obvious that they only partially understand the language; for they speak in broken English, like foreigners. Are they foreigners? No; these are the descendants of the early inhabitants of the soil, speaking the language which

was spoken all over Britain long before the English language had been formed or English literature created. Yet there is every reason to believe that even those Celtic races were at one time but foreigners in Britain, and drove forth, if they did not exterminate, some previous race—the men who lived in caves, pits, and holes in the ground, such as are still to be found under Blackheath Point, at Crayford, Dartford Heath, Tilbury, and various other places in Kent, Essex, and the southern counties of England. Probably the remains of the very oldest race in the British Islands are now to be found in the least accessible districts of Galway

Cambridge University Press

978-1-108-05292-4 - Lives of the Engineers: With an Account of Their

Principal Works: Volume 1

Samuel Smiles

Excerpt

[More information](#)

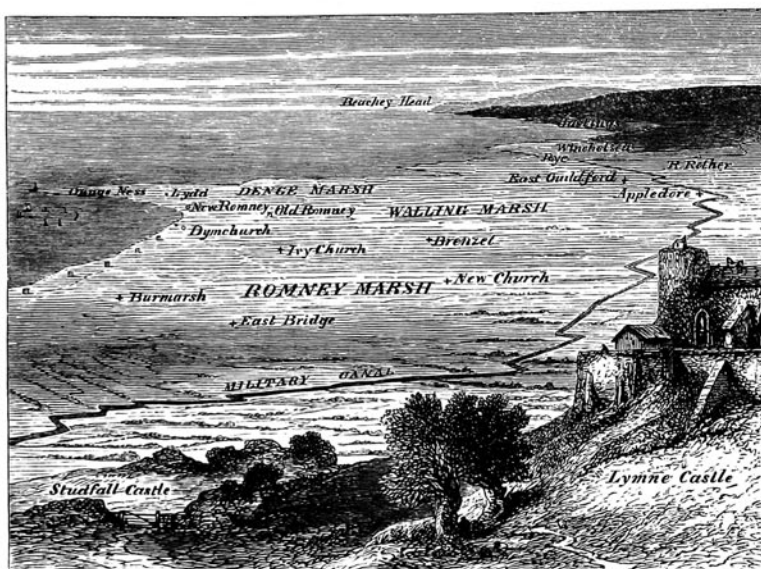
One of the most extensive districts along the English coast which lay the nearest to the country from which the continental immigrants first landed was the tract of Romney Marsh,¹ containing about 60,000 acres of land, lying along the south coast of Kent. The reclamation of this tract is supposed to be due to the Frisians, who were familiar with embanking, their own country being in a great measure the result of laborious industry in reclaiming and preserving it from the inland as well as the outland waters. English history does not reach so far back as the period at which Romney Marsh was first reclaimed, but doubtless the work is one of great antiquity. The district is about fourteen miles long and eight broad, divided into Romney Marsh, Wallend Marsh, Denge Marsh, and Guildford Marsh. The tract is a dead uniform level, extending from Hythe, in Kent, westward to Winchelsea, in Sussex; and it is to this day held from the sea by a continuous wall or bank, on the solidity of which the preservation of the

in Ireland, where the people exhibit features altogether different from the more modern Milesian Celts of Munster, whose fine physical and moral characteristics remind one of the often-quoted description of them by O'Connell, as "the finest peasantry in the world"; nor was the description by any means exaggerated. The same process of colonization to which we have above referred is even now going forward in the western parts of Ireland, where the old Galway race is being gradually submerged by the wave of modern Irish flowing over them from the northern province of Ulster, and driving them to emigration in large numbers. It may further be observed that the same qualities which enabled the Teutonic races in early times to colonize the arable lands of England, continue to render the modern Englishman the best of all colonists. His self-dependence fits him for enduring the solitude of a wilderness until he has reclaimed it by his

industry. He builds a house in the midst of his clearing, takes up his dwelling there, and his house becomes his castle. This remarkable and inherent difference between the Celt and the Teuton is curiously exemplified by the actual state of things in modern France and England. In the former the agricultural population live in villages, often far from the land they cultivate; in the latter they live in hamlets and detached dwellings, directly upon the soil on which they work. The same characteristic is illustrated in another way. When a Frenchman makes a fortune, he settles in Paris; when an Englishman does so, he retires to live in the country.

¹ *Rumen-æa, Sax.—i. e., the large watery place. Mr. Holloway is, however, of opinion that the word Roman-æa means "the Isle of the Romans," and was applied to the town of Romney, originally situated upon an island reclaimed by that people.—Holloway's 'History of Romney Marsh.'*

district depends, the surface of the marsh being under the level of the sea at the highest tides. The following descriptive view of the marsh, taken from the high ground above the ancient Roman fortress of Portus Limanis, near the more modern but still ancient castle of Lymne, will give an idea of the extent and geographical relations of the district.



DESCRIPTIVE VIEW OF ROMNEY MARSH, FROM LYMNE CASTLE.

[By Percival Skelton, after his original design.]

The tract is so isolated, that the marshmen say the world is divided into Europe, Asia, Africa, America, and Romney Marsh. It contains few or no trees, its principal divisions being formed by dykes and watercourses. It is thinly peopled, but abounds in cattle and sheep of a peculiarly hardy breed, which are a source of considerable wealth to the marshmen; and it affords sufficient grazing, in genial years, for more than half a million of sheep, besides numerous herds of cattle.

The first portion of the district reclaimed was an island, upon which the town of Old Romney now stands;

Cambridge University Press

978-1-108-05292-4 - Lives of the Engineers: With an Account of Their

Principal Works: Volume 1

Samuel Smiles

Excerpt

[More information](#)

and embankments were extended southward as far as New Romney, where an accumulation of beach took place, forming a natural barrier against further encroachments of the sea at that point. The old town of Lydd¹ also originally stood upon another island, as did Ivychurch, Old Winchelsea, and Guildford; the sea sweeping round them and rising far inland at every tide. Burmarsh, and the districts thereabout, were reclaimed at a more recent period; and by degrees the islands disappeared, the sea was shut out, and the whole became firm land. Large additions were made to it from time to time by the deposits of shingle along the coast, which left several towns, formerly important sea-ports, stranded upon the beach far inland. Thus the ancient Roman port at Lymne, past which the Limen or Rother is supposed originally to have flowed, is left high and dry more than three miles from the sea, and sheep now graze where formerly the galleys of the Romans rode. West Hythe, one of the Cinque Ports, originally the port for Boulogne, is silted up by the wide extent of shingle used by the modern School of Musketry as their practising-ground. Old Romney, about the centre of the marsh, past which the Rother afterwards flowed, was one of the ancient ports of the district, but it is now about two miles from the sea. The marshmen seem to have followed up the receding waters, and then founded the town of New Romney, which also became a Cinque Port; but a storm which occurred

¹ Somner, in his *Treatise of the Roman Ports and Forts in Kent*, cites the Charter of Offa, king of the Angles, by which he grants the Manor of Lydd to Archbishop Janibert in the year 774; and the boundaries are thus described:—"The sea on the north and east, and on the south the territory of King Edwy. It is called Dengemarsh as far as the stone which is placed at the extreme point of the land; and to the west and north, the confines of the

kingdom, as far as to Bleechinge." "From whence," adds Somner, "clear enough it is, that the sea, with a large and spacious inlet, arm, and estuary, in those days flowed in between Lydd and Romney, and was there met with the river Limen." Up this river a Danish fleet of 250 vessels sailed many miles inland in the year 893, and the Danes built a castle at Appledore, where they for some time held their rendezvous.

Cambridge University Press

978-1-108-05292-4 - Lives of the Engineers: With an Account of Their

Principal Works: Volume 1

Samuel Smiles

Excerpt

[More information](#)

in the reign of Edward I. so blocked up the Rother with shingle, at the same time breaching the wall, that the river took a new course, and flowed thenceforward by Rye into the sea; and the port of New Romney became lost. The point of Dungeness, running almost due south, gains accumulations of shingle so rapidly from the sea, that it is said to have extended more than a mile seaward within the memory of persons living. Rye was founded on the ruins of the Romneys, and also became a Cinque Port; but notwithstanding the advantage of the river Rother flowing past it, that port has also become nearly silted up, and now stands about two miles from the sea. New Winchelsea, the Portsmouth and Spithead of its day, is left stranded like the rest of the old Cinque Ports, and is now but a village surrounded by the remains of its ancient grandeur. All this ruin, however, wrought by the invasions of the shingle upon the seacoast towns, has only served to increase the area of the rich grazing ground of the marsh, which continues year by year to extend itself seaward.

The colonists who first reclaimed the district must have found it necessary at once to organize some method of maintaining the lands won from the sea. Accordingly we find a very ancient local usage existing in Romney Marsh, which, though at first unwritten, eventually acquired the force of law, and was afterwards extensively applied in other districts. Indeed, "the law and custom of Romney Marsh" to this day lies at the bottom of all English legislation on the subject of embanking and draining. Twenty-four of the chief men or elders were chosen by the inhabitants to take all such measures as might be necessary to maintain the sea-banks, and their custom was to levy a rate upon the occupiers of marsh lands in proportion to their holdings, for the purpose of executing the necessary repairs. As long ago as the reign of Henry III., or more than six hundred years since, when complaint