



From a Photo. by] EAST CLIFF, CROMER. THE DOTTED LINE SHOWS THE LAND LOST SINCE 1860. [H. Mace, Cromer.

The various diagrams which accompany the following article have been carefully prepared with the assistance of several eminent geologists and officers of H.M. Ordnance Survey. Absolutely accurate delineation is, of course, impossible ; but the loss by marine erosion is herewith rendered according to the best authorities.



WHEN we hear it roundly asserted that "Britannia rules the waves" we are conscious that the statement is merely a poetical expression of a fact—England's naval supremacy.

Literally, we are so far from ruling the breakers of the ocean that our defiance of Father Neptune costs us a fearful annual sacrifice. We pay in lives and we pay also in land. Many who know all about the human "price of Admiralty" know little or nothing about that other price—that of our sea-coasts, the beauteous villages and smiling pastures which have been swept away for ever into the inexorable salt flood.

There is no Parliamentary information on this important subject except that contained in the statistics of total acreage ; the facts must needs, therefore, be slowly compiled from local histories, records, and maps, which is here done, we believe, for the first time.

The testimony of the statistics of the Ordnance Survey alone is staggering. Every year we lose a tract of land the size of Gibraltar! On the east coast alone we lose territory equal in size to the Island of Heligoland! In the last hundred years a fragment of our kingdom as large as the

County of London lies buried beneath the sea!

After this, who shall sing the epic of lost England? All along the green verge of this realm (with the exceptions to be noted hereinafter) this marine erosion goes on, in some districts working a terrible havoc, so that the very trees and vegetation seem to turn and flee from the doom which awaits them. For hundreds of miles on the English coasts are buried once prosperous towns and villages and mighty forests, where long roamed the red deer, inclosed in lordly





NOTE.—IN THE ABOVE AND FOLLOWING DIAGRAMS THE THICK BLACK LINE REPRESENTS THE MODERN COAST-LINE, THE DOTTED LINE INDICATES APPROXIMATELY THE ANCIENT COASTS.

By the Ordnance Survey some years ago it was given as 829,500 acres. But statistics are proverbially unreliable. To the westward of Land's End, between there and the Scilly Isles, lies the lost land of Lyonesse. Better than figures, better even than history and tradition, is the evidence offered by the Cornish coasts themselves at low tide. Beneath the sand of Mount's Bay, Penzance, is a deposit of black mould, in which may be discovered today the remnants of leaves, nuts, branches, and trunks of trees. The remains of red deer may be traced seaward as far as the ebb allows. Leland states that the district between Land's End and Scilly was formerly connected, and contained 140 parish churches and presumably as many

parks. The line of anchorage for ships off Selsey in Sussex is still called "the Park" by mariners ignorant of the term's origin (see illustration on page 405). For in Henry VIII.'s reign it was full of noble stags, does and fawns, and for poaching in these Royal preserves a bishop once fiercely excommunicated several deer-stealers.

In Yorkshire alone there are no fewer than twelve buried towns and villages. In Suffolk there are at least five. At Bexhill-on-Sea the remains of the submerged forest was lately visible at low water. Such a forest may also be seen plainly off the coast in the Wirral district of Cheshire and at other places. To even the least observant visitor there exist innumerable relics on the coasts and shoreline of many districts which tell of once prosperous territory wrested from Britannia by Father Neptune. Yet, at the outset, we must not forget that we have brought about the reclamation of many thousand acres in Lincolnshire, Cambridgeshire, Cheshire, and elsewhere; but even with this offset in our favour the balance is hundreds of square miles against us; and England's expansion must ever be political and moral rather than geographical and geological.

To begin with the scene of Neptune's greatest victory, the reader's attention is directed to Cornwall. According to a survey made in the reign of Edward I. the Duchy contained 1,500,000 acres. In 1760 a Parliamentary report gave it as 960,000 acres.

villages. According to a modern Cornish authority a flood visited Cornwall at the end of the fourteenth century and carried away 190 square miles. Mount's Bay itself is almost of recent origin, the tradition being that the ocean, "breaking in violently, drowned that part of the country, now the bay." Even in the last century Land's End was much farther to the westward—some authorities give the distance as half a mile—than it is at present.



LOST LAND IN NORTH WALES. THE SPACE BETWEEN THE DEEP BLACK LINE AND THE SHADED SECTION REPRESENTS THE SUBMERGED TERRITORY

Proceeding northward into Wales we find almost a parallel to this enormous loss of territory in the calamity at the spot now known as Sarn Badrig in the sixth century. This sandy elevation is twenty-one miles from the coast, and was formerly an embankment raised to protect the Lowland Hundred from the encroachments of the sea. Owing to the drunken carelessness of one Seithenym, the custodian of this huge dike, the waters rushed in and devastated the whole country, which then contained no fewer than twelve fortified towns.

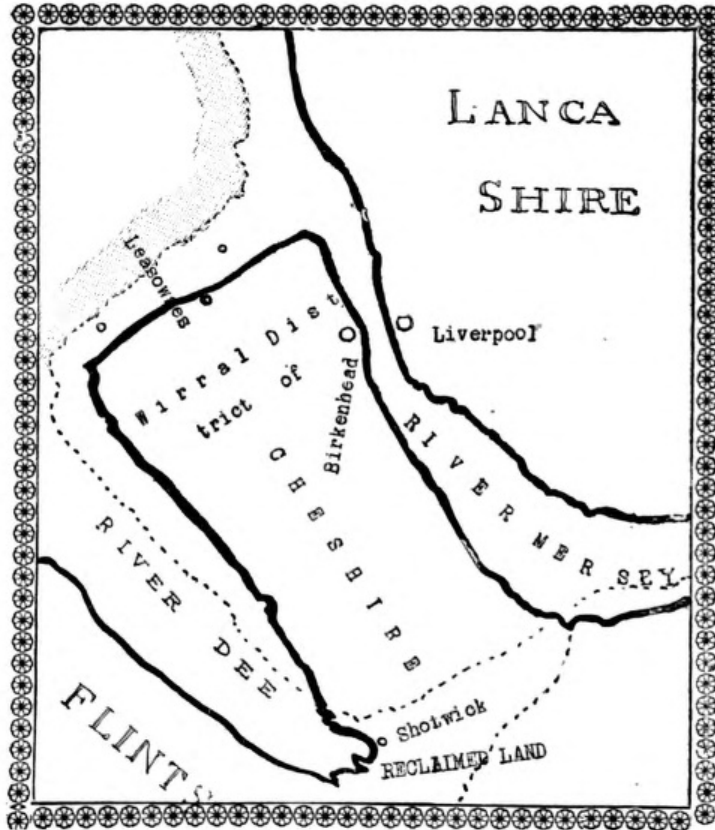
If we may accept Professor A. G. Ramsay's dictum, "More land has gone in Wales than now remains above the sea-level." As if partially to atone for this calamity the sea, as is well known, has retired from Harlech nearly half a mile in 500 years, this Welsh city being, as Criccieth is at present, once a seaport.

Formerly, from the Ribble to the Dee and from an unknown distance seaward, extending inward up the valleys of these rivers the country was clothed with trees. All this country has utterly disappeared. A mighty flood in the fourteenth century overwhelmed it, and the sea has never since receded, but, on the contrary, is continually gaining on the land.

At Leasowes Castle, in the Wirral district of Cheshire, until recently the seat of the Cust family, the sea, fifty years ago, was half a mile distant from the walls. Now, but for the



LEASOWES CASTLE, CHESHIRE—THE SEA NOW COMES UP TO THE CASTLE WALLS.
From an Old Print.



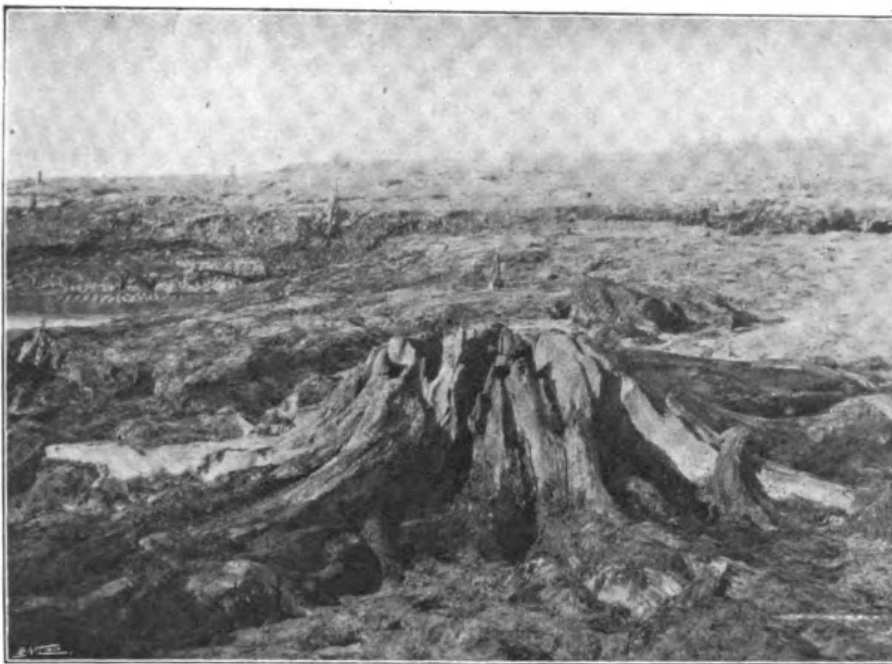
SKETCH MAP OF DISTRICT BETWEEN LANCASHIRE AND WALES. DOTTED LINES INDICATE FORMER COAST-LINE.

masonry embankment of the castle, the waves would sweep over it. A century ago it was a mile and more away from the ocean. The tourist sitting at low tide on the south-west end of the embankment and gazing westward along the coast may to-day behold, between the water's edge and the sandhills behind, a dark, unequal stretch of shore as far as Hoylake village. On the surface of this bed are visible the skulls and bones of deer, horse, and shoals of fresh-water shells, besides the

flotsam and jetsam of innumerable ship-wrecks during centuries. The kind of trees which once flourished here can be easily distinguished—oak, willow, alder, birch, and elm. Where Birkenhead Docks now are was once the heart of a forest of birch (Birchen Wood it was anciently called). As an old Cheshire rhyme has it:—

From Birchen Haven to Hilbre
A squirrel might hop from tree
to tree.

That Wirral has long been in fear of Liverpool's



SUBMERGED FOREST OFF THE CHESHIRE COAST, AS IT APPEARS TO-DAY.

From a Photo. by Charles A. Defieux.

great river finds an illustration in the following passage from Drayton's "Polyolbion":—

Where Mersey, for more state,
Assuming broader banks himself so proudly bears
That at his stern approach extended Wirral fears
That what betwixt his floods of Mersey and of Dee
In very little time devoured he might be.

On the other side of Cheshire much land has been lately reclaimed, but none too soon for old Shotwick Church, which stands in all its huge loneliness to tell of the lost town of Shotwick. At Ince the abbots complained to Hugh Lupus that "they had lost by inundations of the sea thirty carucates of land, and were daily losing more."

Great submerged forests occur at intervals all around the English coasts from the great bight between Wales and Scotland, Bristol Channel, the coasts of Cornwall (as we have seen), Devon, the Isle of Wight, and from Selsey in Sussex to Holderness in Yorkshire. In this last-named county the losses in modern times have been very severe. Readers of THE STRAND MAGAZINE will look in vain on the largest scale modern map for the lost city of Ravensburgh. It was at this flourishing seaport that Henry IV. landed in 1399.

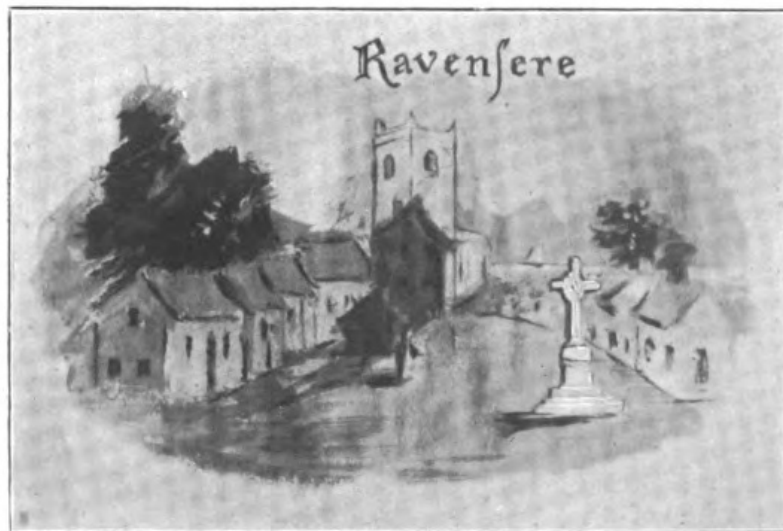
Vol. xxii.—51.

The banish'd Bolingbroke repeals himself,
And with uplifted arms is safe arriv'd
At Ravenspurgh.

—Shakespeare's
"Richard II.,"
Act II., Sc. 2.

This lost town sent two members to Parliament and was a bigger and more important place than Hull. Edward IV. landed here from Flanders in 1471 before the Battle of Barnet. With Ravensburgh disappeared also many villages and a large tract of territory, amongst which were Odd

(or Odd Ravenser), Redmare, Tharlethorp, Frismarsh, and Potterfleet, all situate in the Holderness district. On the coast Hornsea Beck, Hornsea Burton, Hartburn, Old Aldeburgh, Hyde, and Withernsea have disappeared. Camden also mentions the parishes of Pennysmerk, Upsal, Salthegh, Dymelton, and Wythefleet. On the steeple of old Hornsea Church was inscribed the following quaint legend: "Hornsea steeple, whanne I built thee thou wast ten miles off Burlington, ten miles off Beverley, and ten miles off sea." Ravensburgh is last mentioned by Leland in 1538. The remnants of



VIEW OF RAVENSERE, OR RAVESBURGH (YORKS), WHERE HENRY IV. LANDED IN 1399, NOW TOTALLY DISAPPEARED. FROM A 15TH CENTURY ILLUMINATED MS.

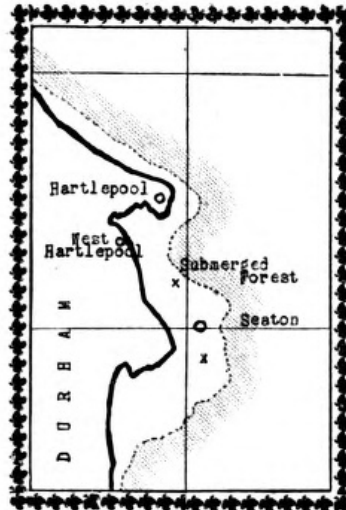
this lost coast now go to form Sunk Island, which during the past century has been reclaimed from the sea, and is to-day no longer an island. But Sunk Island does not represent above a twelfth of that which has disappeared.

Destruction of land once fertile and populous is characteristic of the whole coast from Spurn Head to Bridlington. The sea never ceases to gain on the land. The ancient church of Kilnsea disappeared, half of it, in 1826, and the rest in 1831. The town preceded it. Aldborough Church has been destroyed by the sea, and the Castle of Grimston has vanished. Mapleton Church, now toppling on the cliff, was formerly two miles away. In the vicinity of Holderness the annual loss is thirty acres. A mile or two out at sea is the site of old Withernsea Church and village. To quote an eighteenth century poet :—

Up rose old Ocean from his bed
And landward drove his billowy car ;
And headlands, spires, and villas fled
Before the elemental war.

In a depressed part of the cliff near Owthorne was formerly a fresh water lake, in the bed of which a canoe belonging to the early Britons has been discovered and the remains of red deer. As for the ancient church and churchyard of Owthorne, these fell over the cliff in 1816, strewing the shore with ruins and shattered coffins. The last fragment disappeared in 1838.

Seaton, in Durham, formerly a populous town, has shrunk inland almost to vanishing point. In the sands at low tide may be seen traces of the old town, but not even a vestige remains of the ancient chapel of St. Thomas à Becket, the pride of the district. At Seaton Snook, two

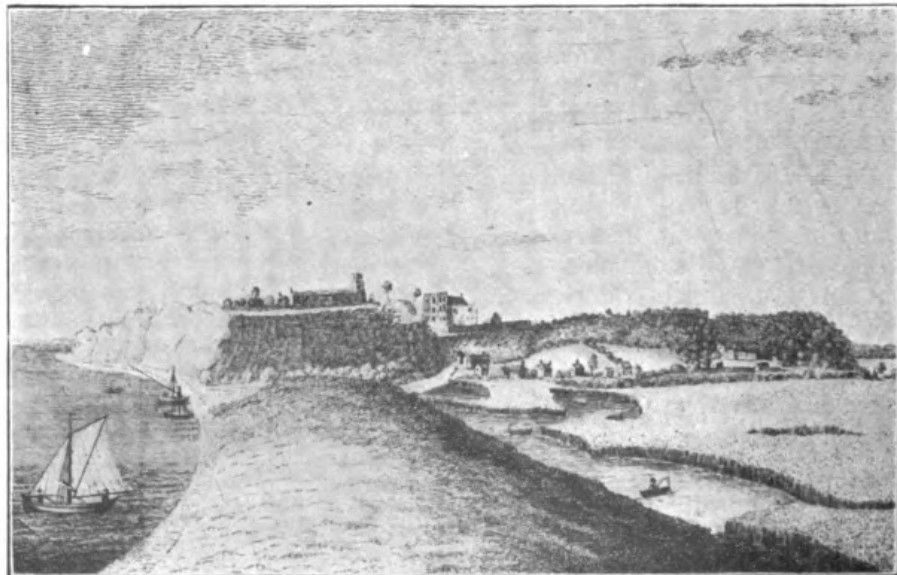


LAND ON THE DURHAM COAST LOST IN MODERN TIMES.

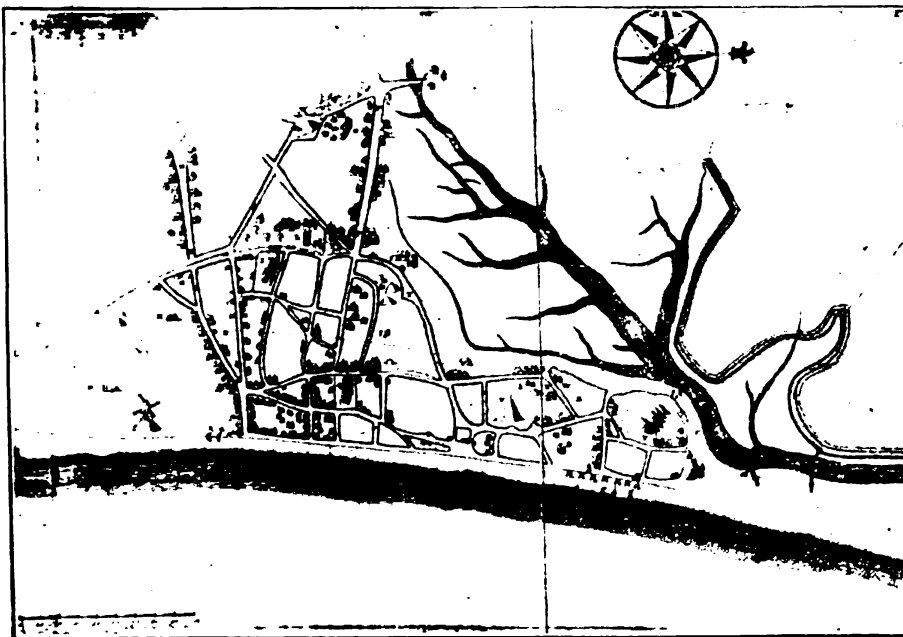
miles to the south, there are yet visible, or were a few years ago, the remains of fortifications built in 1667 at the mouth of the river. Between Seaton and Hartlepool the tourist readily finds tangible evidences of the great forest which now lies submerged on the coast.

In Lincolnshire the spectacle is presented throughout a number of centuries, even as far back as Roman times, of alternate loss and conquest. But vast as the reclamations of land have been, it is impossible to doubt the geological evidence that our entries

are still far heavier on the credit side of the ledger which registers our account with Father Neptune. It is true that less than three centuries ago many thousands of acres of fenland were covered by the sea, and had been for several hundred years. But prior to that period Lincolnshire was overspread with huge forests, the relics of which may to-day be seen at Friskney, Wainfleet, and in the East Fen, in the shape of trees of oak and fir with their roots which lie buried in the soil. The vicinity of Revesby was formerly a thick wood. In land recently reclaimed the remains of a smith's shop have been exhumed, together with a number of horse-shoes, being conclusive proof that a village once rested on or near this spot. So that what we have gained since the seventeenth century in Lincolnshire from the sea



VIEW OF DUNWICH IN 1565. THE CITY LIES CHIEFLY BEHIND THE RIDGE.



PLAN OF DUNWICH IN 1585, SHOWING 250 PRINCIPAL HOUSES AND CHURCHES, OF WHICH ONLY A SINGLE RUIN REMAINS.

is merely our own property filched from us since William the Conqueror's time. The overflowing of the fens probably took place between the thirteenth and fifteenth centuries.

On the other hand there has vanished a territory which we have not regained and which is likely to be lost to us for ever. Skegness was, in the time of our great-grandfathers (to go no farther back), a great and important town. It had its castle and its fortifications and its stately spire. If one of our ancestors returned to visit the scene of his mortal haunts at Skegness he would have to search among the foaming breakers of the coast for its site and plunge several fathoms deep in a vain quest for castle, church, and market-place. As recently as 1796 the remains of a mighty forest were visible to Sir Joseph Banks along the entire coast from Skegness to Grimsby. At Addlethorpe and Mablethorpe especially the trunks of the trees could be plainly seen at low tide.

Holiday-makers in Norfolk do not need to be reminded of the continuous encroachment of the sea along the coast of that county. Great is the wonder excited in the bosom of a visitor to Cromer when some old salt, stretching a rough and tanned forefinger to the northward, indicates in the far distance a solitary upstanding rock, lashed by the waves, and says:—

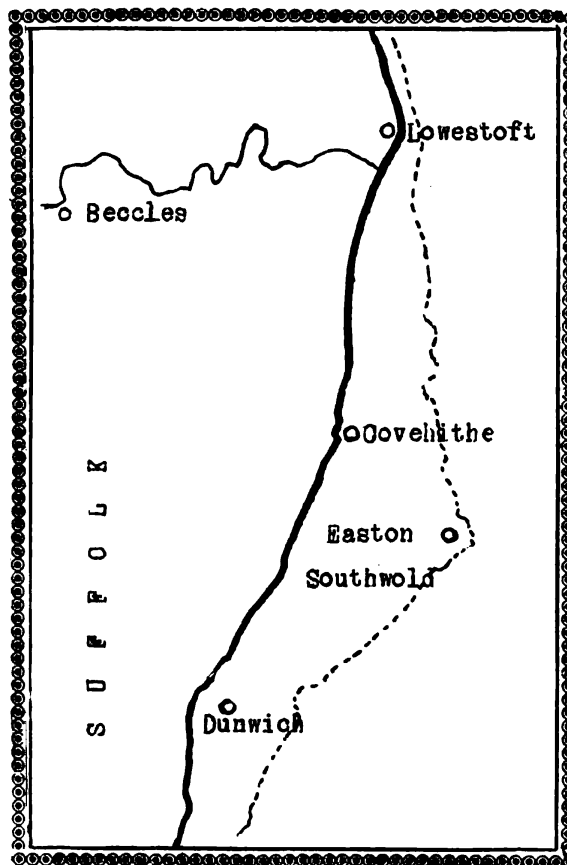
"Yonder is old Cromer church, which used to be in the middle o' the town. When there is a storm you can hear the bells chiming in the belfry."

This same legend is told of other parts of

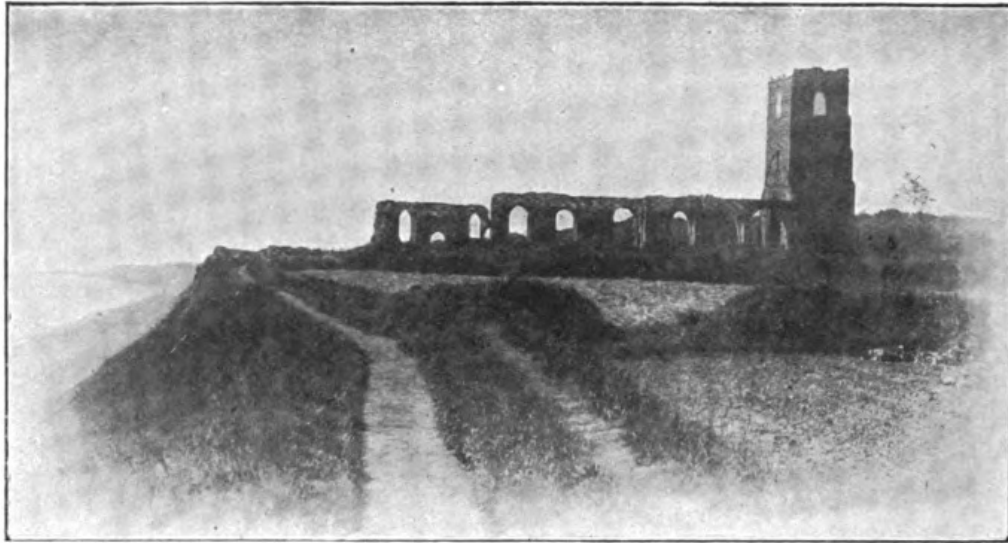
the coast—at Bognor, Bosham (in Sussex), and Bottreaux—where submerged bells ring on special occasions as a solemn omen. But there is no doubt about Cromer's once having been nearly a mile farther out upon the coast than it is at present—even the maps of the eighteenth century show the present church over half a mile distant from the cliff. Other authorities

assert that ancient Cromer (Shipden) was at least two miles north of its present site.

The sites of Eccles and Whimpwell are also submerged. In the year 1825 twelve acres slipped at once into the sea and so rendered Foulness Lighthouse unsafe. A



LOST LAND AND TOWNS ON THE SUFFOLK COAST.

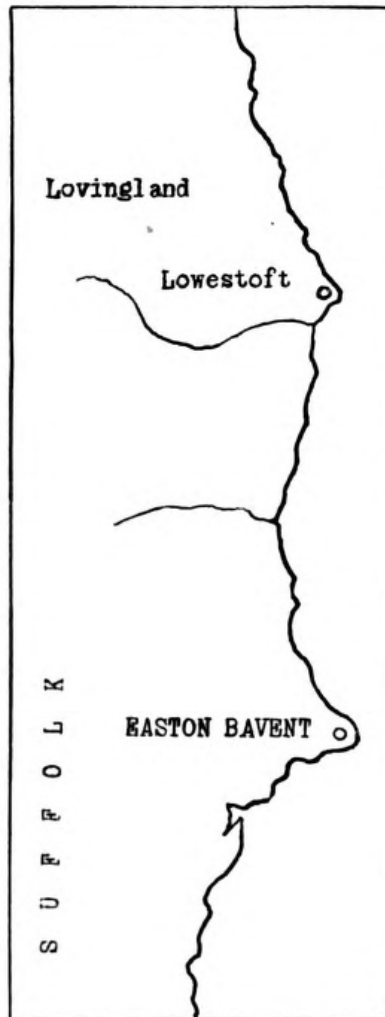


ALL SAINTS', DUNWICH—THIS EDIFICE, WHICH FORMERLY STOOD TO THE WEST OF THE TOWN, IS NOW ON THE VERGE OF THE CLIFF.
From a Photo. by F. Jenkins, Southwold.

new lighthouse was thereupon ordered to be built. "It is impossible to calculate," remarks the modern historiographer of the town, "to what extent the headland Foulness may have once stretched seaward." On all hands enormous masses of landslip greet the eye at the bottom of the cliff and the work of destruction never ends.

It is pathetic to see churches—such as that at Sidestrand—hanging on the very edge of a precipice and all but in the maw of the ocean which a century or two since were the centres of happy villages, all unconscious of doom, of which to-day not a trace remains but in the confined bones and dust of the "rude forefathers of the hamlet"—dust which next year or the following will be scattered to the four winds of Heaven by the tottering of the cliff. Readers of Mr. Watts-Dunton's romance of "Aylwin" may remember a very powerful and vivid picture of such a loss of church and graveyard in the midst of a storm on the Norfolk coast.

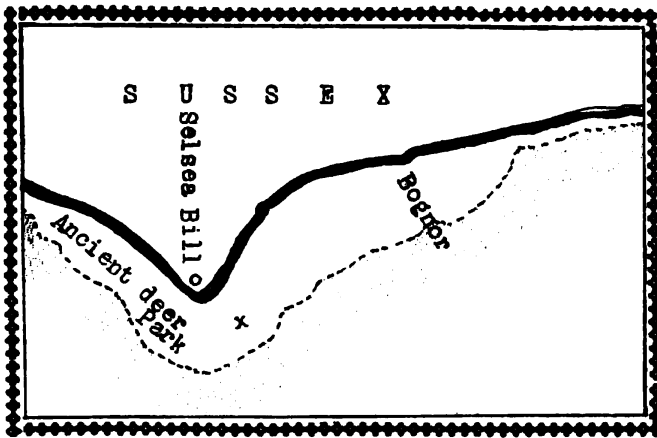
Thomas Gardner's map and history of Dunwich, 1754, Sexton's map of 1575,



EIGHTEENTH CENTURY MAP SHOWING EASTON BAVENT AS THE MOST EASTERLY POINT IN ENGLAND—IT IS NOW COVERED BY THE SEA.

and earlier records demonstrate only too well how great has been the loss since that town was the capital of East Anglia and boasted of sixty churches and a mint. Only one of these churches to-day remains. All Saints' and the adjoining monastery (now in ruins), once far to the westward of the town, are now on the edge of the cliff. Well might the Elizabethan chronicler speak of Dunwich as a victim of the "rage and surges of the sea." It had been a Roman station of importance before it became a prominent English town. It furnished forty ships for the use of Henry III. Once there was a forest between the town and the cliffs, and the records of the destruction show the loss of churches, convents, hospitals, a town-hall, and many "comely buildings."

In Domesday Book Dunwich had between its borders "two hundred and six-and-thirty burgesses." In Henry II.'s time it was a town of good note and full stored with sundry kinds of riches. "It was so fortified," says Camden, "that it made Robert, Earle of Leicester, afraid, who with his army



overran all the parts round about at his pleasure." It became the seat of the episcopal see of East Angles, and its bishops lived in great state.

According to Stow, Dunwich inclosed "a King's court and a bishop's palace and mayor's mansion, and fifty-two churches and no fewer windmills, together with a spacious and well-frequented harbour, in which were as many top ships as churches."

Some idea of the rapidity of devastation may be given by quoting the chronicles of Edward II.'s reign, which show that at Dunwich 400 houses were swept away in a single year. Between 1535 and 1600 four churches disappeared. In 1677 the sea forced its way into the Dunwich marketplace. In 1702 St. Peter's Church became undermined, and was followed in 1729 by the churchyard. In another decade not a remnant of this once thriving town of Dunwich remained.

It is, perhaps, natural that the fate of Dunwich should have inspired more than one poet, several to effusions of interminable length, redeemed only by their quaintness. We can find room, however, for a brief stanza by a comparatively modern Suffolk bard, who, addressing the submerged city, sings:—

How proudly rose thy
 crested seat
 Above the ocean wave,
 Yet doomed beneath that
 sea to meet
 One wide and sweeping
 grave.

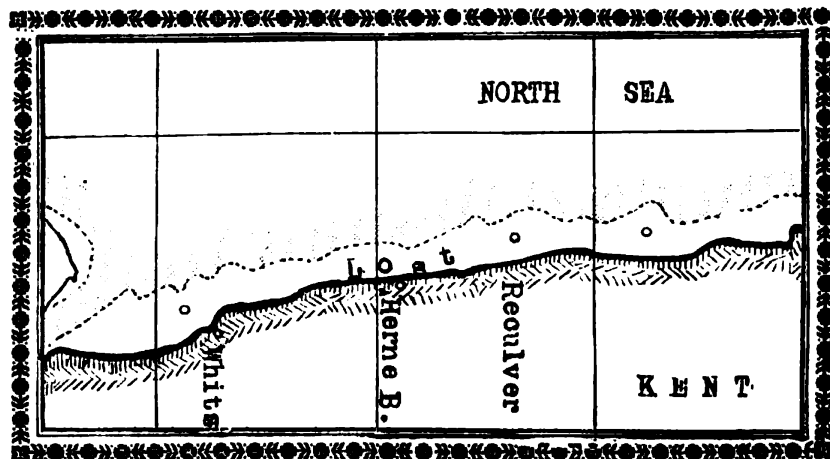
Other towns which
 have been submerged
 in modern times are
 Northales, Covehithe,

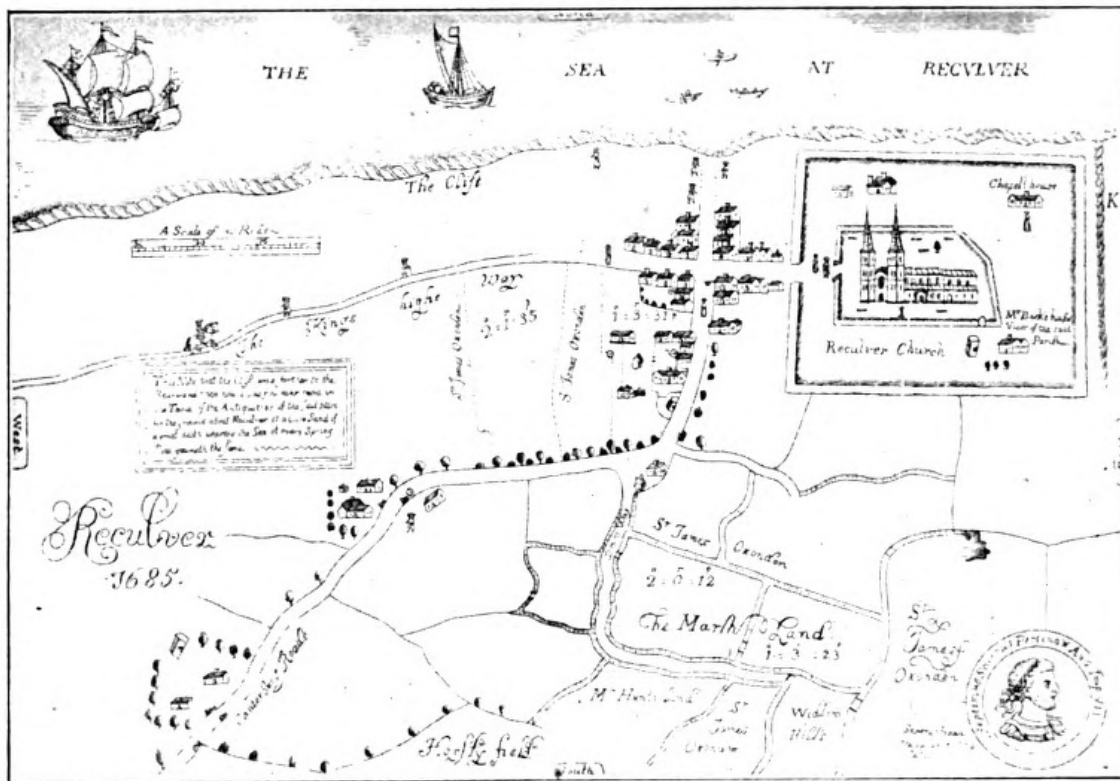
Walberswick, and Southwold. It is in this vicinity that once stood the populous town of Easton, reduced at the beginning of the last century to "two dwelling-houses and ten souls." Old Aldeburgh is also covered by the waves.

The 16th of May, 1895, marked a fresh disaster for Southwold and Covehithe. On that date the gales, tides, and rough sea cut away so much land as to create a new cove on the northern boundary of the former town, already a victim for many decades to the ocean's ravages. Easton Bavent

was once the most easterly land in England, and still appears so in the older school atlases. It has now retired inland two miles, and yields the palm of such distinction to Lowestoft. Covehithe has also gone back two miles. Southwold has lost one mile. The coast-line no longer shows a bold promontory at Covehithe and Easton; the last Ordnance map exhibits almost a straight line. "Sole Bay," where the great naval battle was fought, remains on the map, but it has no existence in fact. Prior to 1895 Covehithe lost in six years 84ft., by actual measurement of a resident, figures which are much below the average rate of erosion elsewhere on the coast.

By way of compensation many thousand acres were reclaimed between Beccles and the German Ocean. Beccles (as it was formerly spelt) was a seaport, less than a mile distant from the coast; it is now several miles inland. But the date of this reclamation is believed to be anterior to the loss of Dunwich and Easton. The valleys of the Waveney and the Little Ouse were once navigable for their entire course from Gorleston to Lynn, as a proof of





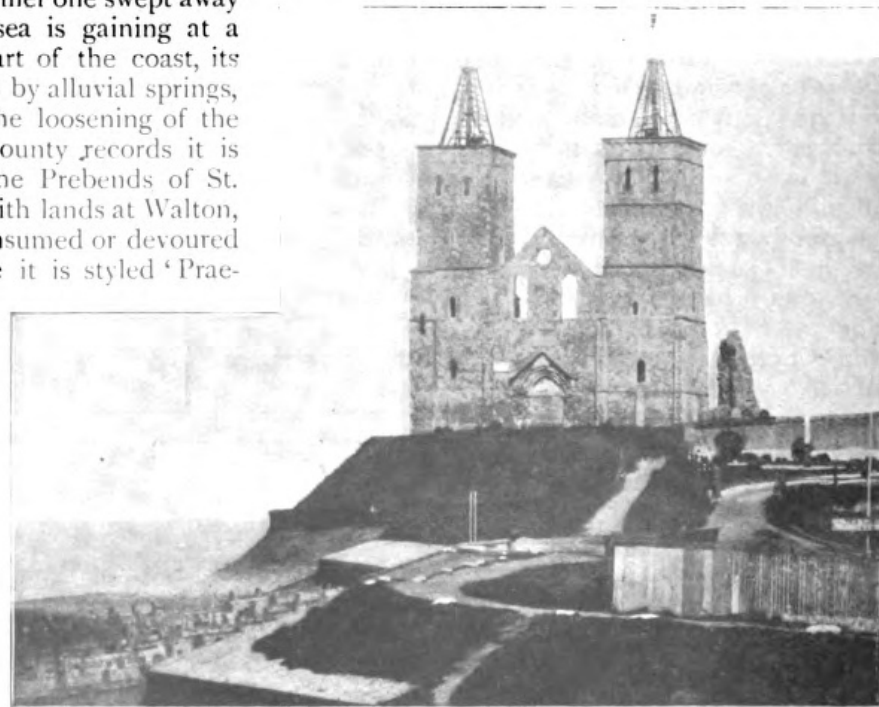
PLAN OF RECVLVER, 1685, OF WHICH TOWN NOTHING NOW REMAINS BUT THE RUINED TOWERS ON THE CLIFF.

which anchors and other traces of ancient navigation have been found in the bed of the river. Again, too, Eye in the tenth century was, according to Abbo Florianensis, situated in the middle of a marsh.

The present church at Walton-on-the-Naze in Essex replaces a former one swept away by the waves. The sea is gaining at a rapid rate on this part of the coast, its ravages being assisted by alluvial springs, which contribute to the loosening of the soil. In the old county records it is stated that one of the Prebends of St. Paul's was endowed with lands at Walton, "but the sea hath consumed or devoured it long ago, therefore it is styled 'Præbenda consumpta per mare.'"

After the destruction of the forests on the coasts of Sussex the sea granted a respite of some centuries. But about 1650 it began again to encroach on the land. Previous to 1665 there is authentic record that it "destroyed twenty-two

copyhold tenancies under the cliff in the manor of Lewes, with twelve shops and their parcels of land." Then came the terrible storms of 1703 and 1705, demolishing whole villages. At Bognor rocks, still visible at low water, are the fragments of cliffs which eighty



From a Photo. by

RECVLVER CHURCH AT THE PRESENT DAY.

[Prith & Co.]

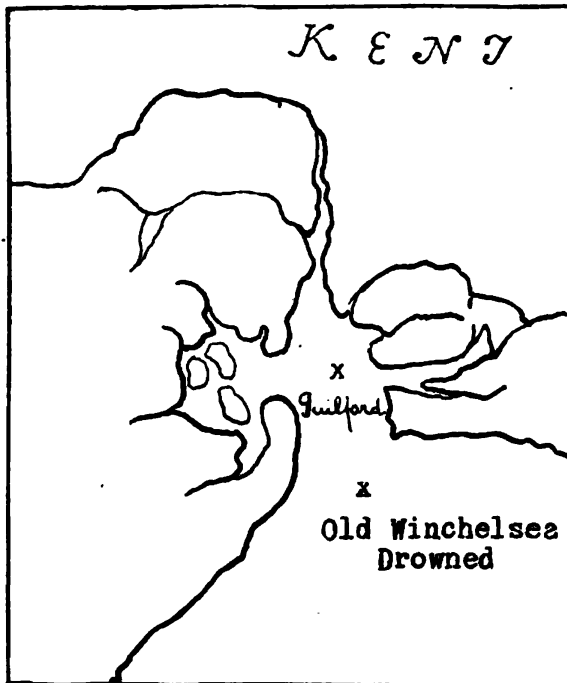


CHART OF BLAEVIVS, INDICATING THE SITE OF OLD WINCHELSEA, SUBMERGED, 1286.

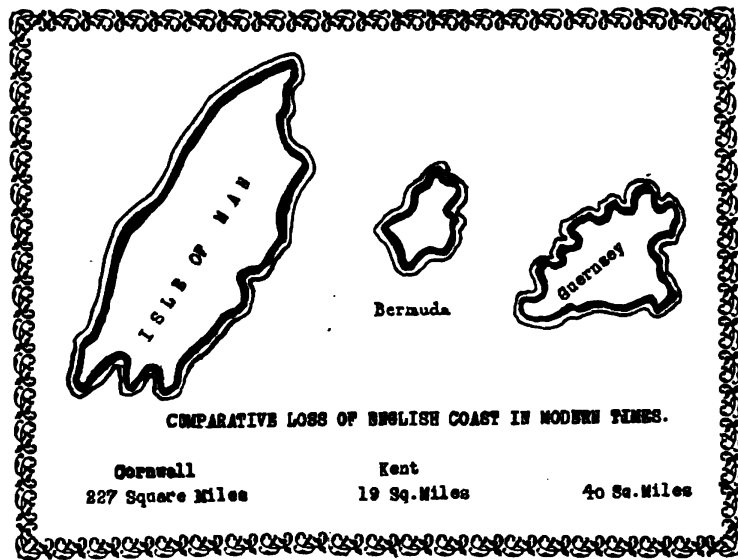
years or so ago were walked upon. They are now two miles distant. Half the peninsula of Selsey Bill has been swept away since the Saxon period. It was anciently covered with the forest of Mainwood (since corrupted into Manhood); and Selsey, which formerly stood in the middle of the peninsula, is now a village scarce half a mile from the sea. The site of old Selsey Cathedral is now covered with water. In Camden's time the foundation was visible when the tide was out, as he himself relates. Mention has already been made of the Park, that stretch of water which covers the site of old King Hal's deer forest (see illustration on page 405). The populous town of Brightelmstone-under-Cliff has been hidden by the sea since Elizabeth's time.

At Pagham 700 acres were reclaimed from the sea in 1875, but this cannot be regarded as an adequate offset to Pagham Harbour, which was formed by an irruption of the ocean in the fourteenth century, destroying 2,700 acres. Beachy Head itself was once a lofty hill two miles from the sea coast, then covered with trees. Camden asserts, what geologists now admit, that the old town of Hastings itself was swallowed up by the sea.

There are few parts of the English coast so altered within the memory of living men as that bordering upon Kent. From Folkestone to Sussex verge the victory lies with the land, for the sea has retreated, leaving such towns as Lymne, Romney, Hythe, Richborough, Stonor, Sandwich, and Sarre—formerly seaports—high and dry, or at least surrounded by the district known as the Marsh. Thanet, once an island like Graine, is no longer so. Swale is only a narrow channel, a fragment of its former width. On the other hand, the sea has made serious inroads along the coast at Herne Bay, Reculver, and Whitstable. Fordwich, which was once an important town, with a mayor, has disappeared.

At Reculver (Regulbrium), as at Richborough, the Romans built a fortress to guard the Channel dividing Kent from the Isle of Thanet. A church was erected in due course eighty yards farther inland. This edifice, in the reign of Henry VIII., was over a mile from the sea. Yet in 1780 the final remnants of its massive masonry tumbled down upon the beach, and by 1804 the churchyard had been partly swept away. The church was dismantled, and its doom was momentarily expected. But the two towers are yet standing, because the value of the twin spires as a landmark to sailors was realized by the Trinity Board, and a sea-wall was built which has effectually arrested the further demolition of the last memorial of what was once a flourishing town.

As for the Isle of Wight, it is now generally accepted that it once formed part of the mainland, being a promontory attached to



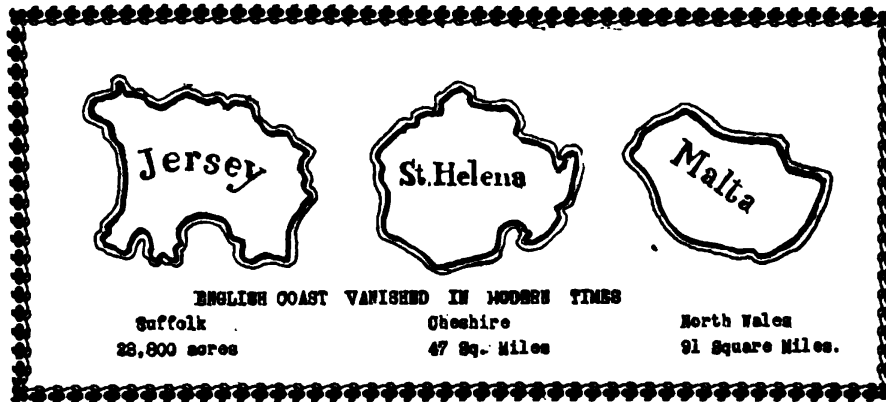
THE LOSS OF TERRITORY BY SUBMERSION IN THE COUNTIES OF CORNWALL, KENT, AND YORK IS SHOWN BY THE ABOVE DIAGRAM TO BE EQUAL IN EXTENT TO THE MODERN AREA OF THE ISLE OF MAN, BERMUDA, AND GUERNSEY.

the eastern extremity of Dorsetshire. According to Lyell the entrance to the Solent became broader owing to the wasting of the cliffs at Colwell Bay. The widening of the Solent continues annually to a very considerable extent. The erosion on the opposite Hampshire coast in modern times is also great, but difficult to ascertain with even approximate accuracy. It is certain that in

the Board of Agriculture of the total area of this island, not including foreshore and tidal water, from the year 1867, give the area as follows:—

Total area of Great Britain. (According to Official Survey.)			
1867	56,964,260	1890	56,786,199
1880	56,815,354	1900	56,782,053

In England alone the total acreage in



NOTE.—THE ABOVE DIAGRAM IS INTENDED TO SHOW THAT IN THE THREE DISTRICTS NAMED, VIZ., SUFFOLK, CHESHIRE, AND NORTH WALES, TERRITORY HAS BEEN SUBMERGED EQUAL, RESPECTIVELY, TO THE PRESENT AREA OF THE ISLANDS OF JERSEY, ST. HELENA, AND MALTA.

quite modern times the old church and village of Hordle has been swept away.

After this cursory and necessarily imperfect survey of the British coasts the reader will see by an examination of the maps where this kingdom has suffered most in its eternal struggle with the relentless waves which encircle it. The diagrams will also serve to convey an idea, not only what we have lost in the past, but what we are now losing, and will continue to lose in the future, if the present rate of coast erosion is maintained. Figures are, in such matters, far less reliable than the data which are to be gained through the reading of history and topographical memoirs; but even figures, although unsatisfactory, must be allowed to give a powerful indication of England's geographical shrinkage. The official reports issued by

1867 was 32,590,397. In 1900 it had sunk to 32,549,019, a loss of over 40,000 acres. But, as I have pointed out, it would be unwise to base an estimate of the loss by coast erosion on these figures, because it naturally includes reclaimed marsh and fen lands and other drained districts. In a single year several hundred acres have been thus reclaimed. The loss by coast erosion in England is probably not less than 2,000 acres a year, the average at certain periods being, of course, much greater than that.

It is undeniable, and the results of the foregoing investigations attest it forcibly, that, however much we may strive to be Expansionists in our Empire, our commerce, and literature, we are little Englanders all, living in a little England which is annually shrinking into smaller geographical dimensions.