Romney Marsh: the Debatable Ground (ed. J. Eddison), OUCA Monograph 41, 1995

1. Romney Marsh: The Debatable Ground

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'... the whole country was a debatable ground between land and sea, and when one prevailed peat grew, and when the other had mastery silts were deposited.' (Skertchly 1877, 8).

The papers presented in this monograph are concerned with the evolution, history, and settlement of some 33,171 ha of reclaimed marshland and shingle between Fairlight and Hythe, in the counties of East Sussex and Kent on the south coast of England. In the widest sense, this reclaimed land is known as Romney Marsh. The area is one of the great coastal lowlands of England over which, like the Fenlands described by Skertchly above, the land and sea have pursued a lively debate during the past 10,000 years. The over-riding controls have been relative changes in sea-level and land-level (Shennan 1989; Devoy 1990).

In detail, the area includes Romney Marsh proper (north-east of the Rhee Wall), Walland Marsh (south of the Rhee), and all the adjacent levels, including Pett Level south-west of the Rother, and the levels in the valleys of the rivers Rother, Tillingham and Brede. The great promontory of flinty shingle known as Dungeness is part of this complex and has played an important part in the evolution of the area (see Figure 0.1).

The unconsolidated sediments which form Romney Marsh lie on an uneven surface of Cretaceous bedrock. Since very few deep borehole records are available, little is known about that surface, except that it is uneven. At Dungeness it occurs at approximately -30 m OD (Ordnance Datum Newlyn, mean sea level) (Greensmith and Gutmanis 1990, 225); it rises to a point north-west of Lydd, where it is at only -17 m OD, but falls again towards Brookland where it is at -26 m OD (Smart *et al.* 1966, 253). Towards the upland the bedrock rises again, till in the Horsemarsh Sewer valley, between Kenardington and Warehorne, it is at only -4 m O. D. In the principal valleys, however, the rivers have cut deeply into the bedrock, which at Blackwall Bridge, Wittersham Level, is at -30 m OD.

During the Holocene (the last 10,000 years) the unevenness of the bedrock surface has been smoothed over by the infilling of recent sediments, and the range of altitudes of the present surface of the marsh seldom exceeds 5 metres above sea level. Most of this reclaimed land is below the levels of both spring tides and of the extreme water levels of some storm surges.

The evidence that the debate between land and sea had begun comes from a rare basal peat at Tilling Green, Rye, which indicates terrestrial, waterlogged conditions at 9565 ± 120 BP (i. e. years before the present, which is taken as AD 1950) and is similar to conditions elsewhere on European coasts and parts of the southern North Sea at the beginning of the Holocene. A rapidly rising sea level 8000 years ago, measured elsewhere to have occurred at rates of 34 to 44 mm/yr (Tooley and Jelgersma 1992, 7) resulted in an inundation of the Romney Marsh area, and 20 metres of bluish-grey fine silty sand were laid down. The limited evidence available points to a sand-flat environment, open to the sea, with moderate to low wave energy on the broad expanse of Romney Marsh. In the valleys of the Brede and Rother, however, a thick accumulation of bluish-grey clay has been recorded (Waller *et al.* 1988, 6), indicating quieter water. In the valley of the Pannel Sewer more than 11m of organic silts, interrupted by moss peat and woody peats, accumulated throughout the Holocene (Waller 1993, 350), showing that there a fluviatile environment prevailed, with freshwater pools, reedswamps and fens.

The sandy sediments on the Marsh were followed by a bluish clayey silt. This fining upwards sequence of the sediments, together with the foraminiferal assemblages they contain (Waller *et al.* 1988, 22), indicates a significant change of environment to more enclosed conditions, with lower wave energy, sheltered from the open sea. Following this, peat began to form over the general marsh area, indicating a further retreat of the sea.

The reasons for the changes from sand to clayey silt and then to peat are debatable. Green (1968, 13) attributed them to the development of south-west to north-east trending sand banks, which he mapped as Midley Sand, which would have sheltered the marsh area. Alternatively, it may have been due to shelter afforded by the arrival of shingle, which built a barrier beach out from Fairlight in the south-west towards Hythe in the north-east (Eddison 1983, 44). On the other hand, the changes may have been a consequence of forest clearance by mesolithic folk in the High Weald, releasing sediments from the catchments of the rivers. Mesolithic flints have been recovered from the Pannel Sewer valley (Holgate and Woodcock 1988, 74), though Waller (1993, 366) has found that the palynological evidence is consistent with the archaeological evidence of only short-stay camps on the valley slopes. A fourth suggestion is that the environmental changes were due to a pause in the rise in sea level. Thus the nature and extent of the sedimentary processes operating during the mid-Holocene on Romney Marsh and its catchment are still open to debate.

Shingle probably began to arrive in the area no earlier than 6000 BP, and certainly did so no later than 3400 BP (Tooley and Switsur 1988, 61). From that date until the present the shingle has been moving continuously, undergoing erosion and redeposition. Barrier beaches were built up and later degraded, and as a result inundations, some localised, some extensive, took place. All bear witness to the continuing debate betwen land and sea.

An insight into these dynamic processes is provided at Broomhill. Buried and surface shingle fulls or ridges and swales or valleys have a south-west to north-east trend. The proximal ends have been eroded, and the present coastline, artificially nourished by shingle, truncates them. Within the shingle swales of Broomhill Level, peats began to accumulate 3400 years ago, and beyond the distal ends of the shingle ridges peats also accumulated on former tidal flats. Organic sedimentation ended 3000 years ago when marine silts began to accumulate once again, obscuring the ridge and swale topography. Further south-west at Broomhill Church a similar succession of shingle, peat and silt has been recorded at similar altitudes. Rather surprisingly, peat acumulation occurred a thousand years later. This has been explained (Tooley 1990a, 4) as a succession following a breach in the shingle as longshore drift resulted in an attenuation of the eastward-moving shingle that had been piled up as a storm beach against the eroded proximal ends of the north-east trending shingle ridges.

The continuation of the processes of shingle movement, storm beach attenuation, breaching, localised inundation, redistribution of shingle and fine grained sedimentation has resulted in younger shingle resting unconformably on older fine and coarse grained sediments. The evidence of these processes can be seen in the field at Denge Beach (Long and Fox 1988) and organic sediments comparable to those found at Broomhill are accumulating at present in the Open Pits of Dungeness (Ferry and Waters 1985). Cartographic evidence indicates that these processes also occurred in the recent historic past: Symondson's AD 1596 map of Kent (in Eddison 1983, 50) shows an "olde breake" and a "new breake" on the coastline south of Broomhill.

Most breaks in the shingle barriers were localised and were soon healed by the longshore drift of more shingle. A few breaks, however, were extensive, admitting the sea to large parts of the marshes for several centuries. These resulted in major changes in the drainage pattern, in the focus of human activities and in the budget of the shingle itself. The surface sediments which form the present-day soils, and the micro-topography of the marsh are related to those breaks in the barrier.

The sequence of three major inlets – near Hythe in the Roman period, near Romney in the early medieval period, and at Rye from the twelfth or thirteenth century onwards, has dominated the economic history of the marsh over the last 2,000 years. The Hythe inlet silted up and was choked long ago by shingle, that itself is now being lost by longshore drifting eastwards. New Romney silted up, mainly in the 13th century. Rye was open from the thirteenth century but suffered silting from AD 1550 so severe that it crippled the livelihood of the town (see Hipkin this volume, 138–147).

Evidence of the extent of these past inlets remains in the landscape, with shingle spits recurving towards the inlets, now lost. The town of New Romney, for instance, is based on the sand and shingle spit which formed the north bank of the Romney inlet. The Northpoint Beach was the 18th century north bank of the Rye inlet. Both provide evidence of longshore drifting in a reverse direction to that expected, in response to particular local conditions.

Dramatic sea-floods led to the building of sea walls. At the same time, freshwater flooding inland resulting from the rapid discharge of water in the rivers draining the Weald, combined with the extreme difficulty of draining flat land, led to a complexity of drainage ditches and, in the Rother Levels, channels and dams. An example of the debate between freshwater and sea-water from the fourteenth century has been traced from documentary sources (Eddison 1985).

The need to co-ordinate and finance all this work required an institutional framework. This emerged in the medieval period when the Laws and Customs of Romney Marsh were formulated, vesting the responsibility for sea defence and land drainage in the bailiffs and jurats of the various marshes, funded by the landowners and tenants. The transcription of an early seventeenth-century document published in this volume provides a vivid picture of both the administrative and engineering aspects (Beck this volume, 164).

The sea defence works, followed later by reclamation of successive parcels of the land previously lost, has resulted in a network of earth banks on Walland Marsh, built at different times. The variations in the height of these banks must indicate that the land protected was enclosed, or inned, in response to different sea levels or periods of extreme water levels. Old breaches in these embankments used to be indicated by scour holes, round which the repaired lengths of wall made arcuate excursions (see Green 1968, Fig. 31 and Plate VIII; Eddison and Green 1988, 189). Unfortunately nearly all these dramatic features have been obliterated in the agricultural revolution which has taken place since 1970, and can only be seen now on aerial photographs.

Over the centuries responsibility for sea defences and land drainage passed from the bailiffs and jurats of the various marshes, via the commissioners of sewers, the Kent River Board and the Southern Water Authority to the National Rivers Authority. At the present time the natural sea defences comprise shingle banks south of Rye Harbour, at Dungeness and Dengemarsh, and south of Hythe, and sand dunes at Camber and Greatstone. Sea walls have been built up over the centuries to defend the stretches of lowland coastline extending between these natural bulwarks. Pett Level is protected by the Pett Wall, the coast of Walland Marsh by the Broomhill and Jury's Gap Walls, and the east coast by the Dymchurch and Littlestone Walls, the heights of which vary with the needs of local tidal and potential meteorological conditions (see Robinson 1988, 165; but note that various sections of the Dymchurch Wall have been heightened and strengthened, and the south end partially rebuilt, since that paper was written).

Because the shingle is being continually removed by the sea various methods, including the construction of groyne fields, have been used in attempts to keep it in place and break up wave action (Du-Plat-Taylor 1931, 35; Thorn 1960, 34; see also Beck, this volume 167). The groyne fields have been largely ineffectual, as Elliott had noted in 1847 (477), because the interception of longshore drift and the retention of shingle and sand within the groyne compartments resulted in beach starvation and enhanced erosion down drift.

The modern response to longshore drift and coastal erosion has been beach feeding, in order to protect some of the sea walls and some parts of the natural coastline. It is now essential to recycle the shingle by bringing it back to the beaches at Pett, Broomhill, Dungeness and near Littlestone from points further along the coast to which the currents have carried it. On average 31,000 cu m of shingle are returned annually between October and March to the beach at Pett (mainly near Cliff End); an average of 36,000 cu m to the front of the Broomhill and Jury's Gap Walls; and approximately 30,000 cu m at the south-west corner of the Dungeness Power Station. Some 4,000 cu m is returned to the front of the Littlestone Wall. After certain storms the volume of shingle is significantly increased, for instance following the sequence of severe south-westerly gales through the winter of 1989/90, during which gusts of 70–90 knots were recorded (Hammond 1990, 211). In that winter, 40,000 cu m. was dumped at Pett; 44,000 cu m. at Broomhill; 47,000 cu m. at the Dungeness Power Station and 5,000 cu. m. at Littlestone, an increase of one half over the usual amount at the Dungeness Power Station and one-third elsewhere. This beach feeding will have to continue indefinitely, if the integrity of the sea defences is to be maintained, to guard against the natural dynamic processes of breaching and inundation.

Any slightly higher ground, whether it resulted from natural processes or from human activities, has always been attractive for settlement, since the height of land would have afforded greater protection from flooding for man and beast. The shingle ridges of Dungeness were higher, drier and less liable to flooding than Romney or Walland Marshes, and both Early Bronze Age and Roman remains have been recovered from the Lydd Area (Needham 1988; Cunliffe 1988; Barber 1991).

On the marshland itself, also, slight variations in altitude can be presumed to have afforded opportunities for both seasonal and permanent occupation. Along tidal creeks of different ages roddons, micro-levées or creek-ridges developed (Green and Askew 1958, 23; Green 1968, 24, 30); Shephard-Thorn *et al.* 1966, 95; Smart *et al.* 1966, 254), much as they did in the Fenland (Godwin 1938, 241), in Holland (Louwe Kooijmans 1980, 110) and in Germany (Behre *et al.* 1979, 103), and these provided the slightly elevated sites used for settlement and as trackways.

Some occupied 'islands' may have originated as discontinuous roddons or river dunes or eyots, as may have been the case of Cheyne, Agney or Midley in an old estuary of the Rother. They may be settlement mounds, which have been described from comparable situations in Schleswig-Holstein and in Holland, and are still being constructed in the Ganges delta in Bangladesh.

Dr Brian Roberts has drawn attention to the fact that many of the churches on the marsh occupy raised sites, some of which are natural and some man-made. Consolidation of the sediments resulting from their own weight, from lowering of the water table, and from the weight of the church buildings themselves has resulted in uneven settlement manifest by convex roof ridges, as in the case of the churches of St. Clement's, Old Romney, and St. Augustine's, Brookland. A slightly enhanced elevation did not always, however, afford sufficient protection when the debate with the sea became particularly angry. During the thirteenth century storms, part of St. Nicholas' church, New Romney, was destroyed, shingle was piled up against its walls (Tatton-Brown 1988, 108) and in consequence the street level is almost one metre above the church floor (Lewis and Balchin 1940, 273).

The possibilities of occupying, inning and retaining the marshes were intimately related to the movement of shingle and the cyclicity of storms. Reclamation would have been more successful and effective during periods of low incidence of storms. It has been suggested that those periods are linked to sunspot activity. Periods of low sunspot activity, such as the Wolf Minimum of the early fourteenth century, the Spörer Minimum of the fifteenth century and the Maunder Minimum of the late seventeenth century (Foukal 1990, 376) are associated with colder climatic conditions in middle latitudes. The transitional periods preceding and following the minima are associated with increased storminess, when the atmosphere adjusted from one energy state to another.

One of these was the transition from the Medieval Warm Period to the Little Ice Age, and the low sunspot activity of the Wolf Minimum. This was marked on Romney Marsh by the great storms of the thirteenth century in the years AD 1236, 1250, 1252 and 1287/8, during which a permanent breach was effected in the shingle barrier across Rye Bay, which was already attenuated by lack of shingle supplied by longshore drift from the south-west. The River Rother, as depicted by Green (1988, 171), was already impinging on the landward side of the barrier, and the breach resulted in the permanent diversion sometime before AD 1258 of the river into Rye Bay from its previous course towards Romney (Gardiner 1988, 112). In the same period serious flooding also occurred around the North Sea, and Lamb (1985, 264) noted an increase in severe sea floods from about two in the twelfth century to some fifteen in the thirteenth century.

Notwithstanding the sea-water and freshwater floods, reclamation occurred at different times on the Marsh. Reclamation of Romney Marsh proper appears to have taken place earlier than that of Walland Marsh. The evidence of place names points to reclamation and settlement in pre-Conquest times in the Romney Marsh area, whereas to the south-west reclamation and settlement are younger.

There are also marked differences between the two areas in their general drainage patterns and in the shape of the parishes. Drainage patterns on Romney Marsh are dendritic, following old tidal creeks which have given rise to creek ridges, whereas in the southern half of Walland Marsh there are patterns of trellis drainage, particularly in East Guldeford, and of creek relics (Green 1968, 30). The parishes wholly on Romney Marsh have generally circular but irregular boundaries following the old creeks, and the parish churches are located centrally within the parish. On the other hand, on Walland Marsh the parishes are long and narrow, with the parish church located eccentrically in the north-east, many of them in Romney Marsh. Many of the boundaries are straight and follow medieval drainage ditches or sea walls (Brooks 1988, 92).

The processes of change affected the distribution of sediments and the morpho-stratigraphy of the marshes and the ness which, in turn, determined the economy, land use and settlement. One important economic activity in the summer was salt-making, which was probably located close to high water mark in the havens, and may have been closely associated with embanking, as it was in the Fenlands (Tooley 1990b, 11). The presence of briquetage as surface scatters and in archaeological excavations points to salt working at an early date. It is becoming apparent that evidence of Late Iron Age or Early Roman salt-working is widespread. Cunliffe (1980, 44) summarised reports of early Roman date at Dymchurch. Barber (1991) described finds of briquetage of late Iron Age to Early Roman period at Scotney Court Gravel Pit, south-west of Lydd. Reeves (this volume, 81) has added to this picture, with evidence of extensive salt-working in the Snave area.

The Domesday Book (AD 1086) refers to an hundred salt-pans in the area of *Rameslie* (possibly Rye), and lesser works at *Langport* (between Romney and Lydd), and at Eastbridge. Unfortunately none of these sites has been located. At the mouth of the "Great Estuary" of the early medieval Rother between Lydd and New Romney, however, there used to be mounds (now very much flattened by recent agricultural works), two of which were named at *Saltcotes* on Poker's map of AD 1617, and one was sufficiently large to be named as Kemp's Hill. Vollans (this volume, 118) has synthesized the documentary evidence for salt-making at Belgar to the north of Lydd between about AD 1090 and AD 1381, and has suggested that the mounds in the mouth of the Romney inlet are formed of the discarded silt and fine sand from the salt-making process.

Prehistoric and historic methods of salt-making are not fully understood, although the archaeological evidence makes it clear that in the Roman period sea-water was being heated and evaporated over fires in the intertidal zone. There is also a possibility that salt was obtained from burning peat that had been infiltrated by sea-water in the same way as at Halligen on the coast of Lower Saxony in Germany (Streif and Koster 1978, 45). The cut channels and rectilinear shapes in the intertidal peat beds at Pett, clearly shown on aerial photographs[1] may have been made for this purpose (Lovegrove 1966, 255; Holden 1967, 302). Indeed, in the fifteenth century Dutch saltworkers were developing salt manufacture at Winchelsea (E. Vollans, personal communication). On the other hand they may have been cut simply to provide fuel, as that described elsewhere on the marsh in the thirteenth century (Gross and Butcher 1991, 11). The evidence of salt-making in any of its various forms can be used to determine the extent of the upper part of the tidal area, and is particularly helpful in establishing the chronology of coastal changes and human occupation if it contains datable material.

The distribution of sediments, land forms, the pattern of sea walls and of reclamation, the economy and settlement distribution reflect the debate between land and sea. Another kind of debate has taken place recently, and that is concerned with the interpretation of the observed, measured and written data on the marsh.

The distribution of surface sediments and landforms, and the evolution of Romney Marsh have been explained by models proposed by Elliott (1847), R. D. Green (1968), C. Green (1988) and Greensmith and Gutmanis (1990). Whilst some of the empirical data fits these models, some does not.

The Midley Sand is an important case in point. Green (1968, Fig. 7) showed the bedrock being overlain in turn by "older deposits", the Midley Sand, clay, peats, and younger alluvium, and overlapped in the south-east by the shingle of Dungeness. He also showed the same Midley

Sand rising to the surface and outcropping at Broomhill, Midley and north-east of Dymchurch, apparently forming a discontinuous linear feature trending south-west to north-east. He interpreted this as a sand spit or a system of sand banks or sand dunes.

Greensmith and Gutmanis (1990, 234) explained this feature as a manifestation of a developing south-west to north-east trending series of banks or barriers parallel to a palaeoshoreline, overlapped along the seaward margin by an aggrading shingle deposit. This, however, is contrary to what Green (1968) had recorded at Broomhill, where he showed Midley Sand lying between a subcrop of shingle ridges. This was recently confirmed by the stratigraphic record of closely spaced borings (Tooley 1989; 1990b, 13), which showed that the Midley Sand was locally more than 3 m thick and had partly infilled a shingle swale. It therefore post-dated (rather than, in the Greensmith and Gutmanis model, pre-dated) the formation of the shingle there 3400 years ago. At Broomhill also, as at Midley, the sand surface attains altitudes in excess of + 3 m OD, and occasionally the deposition of sand was interrupted by the deposition of clays, or interrupts clay deposition. What is curious is that the sand partly infills a shingle swale, and does not form features on the crests of the shingle ridges. Eddison (1983, 44) suggested that sand dunes, which originally stood proud of the adjacent land surface, were overwhelmed and reworked during the thirteenth century inundations. This may help to explain the complex lithostratigraphy in the swales. Clearly, the models of both Green (1968) and Greensmith and Gutmanis (1990) are unsustainable, and more research is needed.

Resolution of these debates fuelled the agenda of the Romney Marsh Research Group from the time of its foundation in 1984, when Professor Barry Cunliffe was chairman. In 1987 a charitable trust was established with the objectives of promoting and co-ordinating research into the evolution, human ocupation and reclamation of Romney Marsh and the surrounding area, and publishing the results. Since 1987 over £100,000 has been allocated in support of this research, and progress reports have been published in the *Romney Marsh Irregular* and in the Annual Reports of the Trust. In addition, three conferences have been held, at the University of Kent at Canterbury in 1985 and 1992, and the University of Oxford in 1986. Many of the papers presented at the Oxford conference were published in 1988 in the monograph, *Romney Marsh: Evolution, Occupation, Reclamation* (Eddison and Green 1988).

Six of the papers delivered at the 1992 Canterbury conference are presented in this volume, together with additional chapters germane to the theme of the conference – *Romney Marsh: the Debatable Ground*. The first three deal with the early environments of the marsh. Andrew Plater and Antony Long describe the morphology and sedimentology of Dungeness and Dengemarsh, drawing attention to five distinct populations of shingle ridges and the evidence of the adjacent fine grained sediments. Antony Long and Jim Innes consider the sedimentary environment of the Midley Sands at the type site of Midley, and conclude that the Midley Sands of Green (1968) represent, in fact, two distinct facies – a deeper older sand and a more recent surface sand. Martin Wass addresses the problem of a northern course of the River Rother or *Limen*, and concludes that for the past 3000 years the channel between Hamstreet and Appledore was a tidal creek, an arm of the Hythe inlet, and not a major river.

Another paper covers archaeological methodology applied to Romney Marsh proper: Anne Reeves describes the results of a two-year project of field walking, during which 17,000 pottery sherds were collected from 103 sites. Not only were Roman sherds recovered from calcareous marshland previously thought to be younger than this, but also the presence of Flemish and French pottery points to trading links with the Continent. Sarah Pearson discusses the paucity of medieval houses on the marsh within the context of a survey of rural medieval houses in Kent undertaken by the Royal Commission on Historical Monuments of England. Maureen Bennell describes the surviving fabric and earthworks of the church of Hope all Saints. Eleanor Vollans considers the evidence of medieval salt making from Belgar in Lydd, using records of Bilsington Priory. Anthony Gross and Andrew Butcher present evidence of the agrarian policies of the greater landholders in the context of the great storms of AD *c.* 1250 – *c.* 1320.

The last four papers are all concerned with human responses to the problems of flooding, silting and land drainage. Mark Gardiner describes medieval farming in the Brede valley and attempts to delimit various phases of flooding there. Stephen Hipkin discusses the impact of marshland drainage on Rye harbour, AD 1550–1650, and some of the politics involved. In a related essay, the final attempts to maintain the Rother channel north of Oxney in the early 17th century are described by Jill Eddison. Finally, Dorothy Beck has transcribed an early 17th century account of the administration and financing of the Dymchurch Wall providing, amongst much other detailed information, an evocative account of the day-to-day work of maintaining the wall.

All these papers add to the debates on the origin, evolution and settlement of Romney Marsh, and there remain many outstanding problems to discuss and resolve. These include the nature of the palaeoenvironments between 9000 and 5000 years ago; the date of the arrival of the shingle, and of the formation of the ness; and the relationship between clearances in the High Weald and sediment delivery onto the marsh. The human impact needing to be investigated includes the possible existence of ship graveyards in the havens; the evidence in the landscape of medieval reclamations; the existence of habitation mounds, and historic methods of evacuating fresh water from the marsh. The energetic debate is well worth continuing and elaborating. The distinctive, though subtle, landscapes of the marsh are a fertile ground for interdisciplinary research. Brooks (1988, 90) has already noted that, because it is uniquely well documented, "of all the marshland areas of Britain, Romney Marsh offers the best prospect for the historian to work alongside the geologist and the archaeologist". For this interdisciplinary work to come to fruition, let the debate continue.

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(The superscript number in the text refers to unpublished aerial photographs, detailed below.)

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Unpublished aerial photographs

1. Unpublished Aerial Photographs: Pett Level, November 1977. Taken by Meridian Airmaps Ltd. Copies held by the Romney Marsh Research Trust.