

MALARIA: ITS INFLUENCE ON A NORTH KENT COMMUNITY

PHILIP MACDOUGALL

Of the many diseases which have, from time to time, afflicted the inhabitants of Great Britain, it is, perhaps, indigenous malaria which has been least researched by the historian. At one time it was an illness to be found throughout much of southern England, and as far north as the marshy tracts of the Ribble. In Kent, it was particularly prevalent, with the Thames-side marshes being affected, together with Romney, parts of Thanet and east Kent gaining, for themselves, a most notorious reputation for unhealthiness.

Malaria, of course, is most usually connected with equatorial regions, rather than the cooler climes of England. This is because the particular strain of the disease found in this country does not come in the same virulent form as in the tropics. The lower temperatures of the northern hemisphere suit only the more passive *Plasmodium vivax*—a variety of the disease which can develop in temperatures as low as 60°F. The malarial cycle, itself, involves three important elements: man (the host), plasmodium (the causative organism) and mosquito (the vector). When a mosquito feeds upon the blood of a malaria victim, it will draw some of the plasmodium into its stomach, from which after a period of time it will be able to transmit the disease.

Although there are a great number of mosquitoes to be found in this country, most are quite incapable of transmitting the disease. It is only the anopheline mosquitoes which have this ability and, of these, only two, *Anopheles maculipennis* and *Anopheles plumbeus*, are to be found in any great number. *Anopheles plumbeus* is a resident of trees, and was once found in the heavily wooded areas of central Kent. *Anopheles maculipennis*, on the other hand, prefers marshland areas and was, as far as Kent is concerned, the greater hazard. The female of this species requires the stagnating ponds associated with marshland areas, upon which it lays its eggs. As only the female transmits the disease, it is her habits, together with the prevailing temperatures, which affect the

incidence of the disease. During the winter months, she is in hibernation and will emerge, some time around April, to breed. As a result, it is late summer when she is most likely to pass on the infection, and hence one of the early names for malaria – ‘autumnal intermittents’. Infections which appear in the spring months are invariably relapses from an autumn infection, and were never as serious as a new infection. In the past malaria has also been referred to as ‘spring ill’, marsh fever and, most frequently, ague.

That malaria was once widespread in Kent, there can be little doubt. The hop pickers of Kent once accepted it as an occupational hazard, as did some of the early wild fowling that came into the area. William Lambard was certainly referring to its existence in the Romney area, when he wrote the following passage:

‘For if a man, minding to pass through Kent toward London, should arrive and make his first step on land in Romney Marsh, he shall rather find good grasse underfoot, than wholesome air above his head.’¹

Upon Romney Marsh, malaria continued as a hazard into the early years of the present century. Writing in the *British Medical Bulletin*, Sir William MacArthur recalls that, during 1910 a soldier born and bred on these marshes could not understand the fuss he caused when, whilst at Aldershot, he came down with the illness. To the many doctors who came to study his case, he protested with the statement: ‘But it’s only the marsh fever’.² Clearly, on Romney Marsh, as in most other places, it was an illness which was simply accepted.

Regarding the north Kent marshes, Edward Hasted, writing during the middle of the eighteenth century, clearly summed up the then prevailing situation:

‘On the north side of the great road leading from London to Dover almost as far as Canterbury . . . there is a long space of country lying near the banks of the Thames and Medway along the Swale and adjoining to the river Stour below Canterbury, in which the air is gross, foggy and much subject to intermittents, owing to large tracts of low swampy marsh ground among which there are such quantities of stagnating waters as render the country near them exceedingly unwholesome, especially in the Autumnal quarter.’³

¹ Lambard, W., *Perambulation of Kent* (1970 reprint of 1876 edition), 181.

² MacArthur, Sir W., ‘A brief History of English Malaria’ in *British Medical Bulletin* (1951), 8, no. 1, 76–91.

³ Re-quoted from Cracknell, B. E., *Alluvial Marshlands of the Lower Thames*. London University Ph.D. thesis (1950).

Of course, neither Lambarde nor Hasted knew the cause up the unhealthy nature of these areas. Accepting contemporary medical thought on the matter, they both put the cause down to some sort of miasma. They both felt it resulted from foul smells emanating from the marshes. Indeed, the term 'malaria' is derived from the Italian *mal'aria*, meaning bad air.

It was, in fact, malaria which went some way in stunting the growth of the royal dockyard at Sheerness. Owing to the fact that dockyard workers were more than a little aware of the high possibility of contracting the marsh fever, they chose not to work there. In 1698, an official survey of the dockyard was carried out, in which it was recorded:

'The country adjacent to this place is all marshy and has always been reputed Unhealthy, therefore it has been difficult to procure Artificers and Labourers to reside there and indeed for the greatest part we have, have been bred there.'⁴

That this was a continuing problem can be seen from a letter written by the officer in charge of Sheerness in 1744, and addressed to the Navy Board:

'... that the labourers are very much reduced by sickness, death &tc and have a great deal of work for them . . . we are humbly of the opinion it would be a very great advantage to His Majesty's service that the above mentioned artificers (Bricklayers and house carpenters) and labourers . . . work two tides a day.'⁵

As far as north Kent is concerned, it was probably the adjoining areas of Sheppey and the Hoo Peninsula which suffered most from the vagaries of malaria. The Hoo Peninsula, in particular, was affected and the arrival of malaria seems to have had a drastic influence upon what appears to have been a once prospering area.

During Saxon times the present site of Hoo St. Werburgh village was the cantonal capital of King Ethalbold and the Mercian conquerors of Kent. At about the same time, the weight of evidence suggests that the first of the great Church Councils took place at Cliffe-at-Hoo (referred to as Clovesho), now a village standing on the north-west of the Peninsula. Later, Cliffe appears to have become a small town with a flourishing port. Ships from Cliffe are recorded as participating in the successful continental expeditions mounted by both Henry V and Edward III.⁶ Further, during these years, the Peninsula became the

⁴ British Museum, Kings Mss 43.

⁵ Public Record Office, ADM 106/3553.

⁶ Oppenheim, M., 'A maritime History of Kent', in *Victoria County History of Kent* (1926), 243-336.

home of the powerful Cobham family who built, and resided in, the castle at Cooling.⁷ In Allhallows, the Pympe family, albeit for a short period, lived in 'Allhallows Place House', the spacious residence built there during the reign of Edward III.⁸

It is in the sixteenth century that we get the first indication that all was not well in the area. Lambarde states:

'Hoo . . . taketh his name (as I suppose) of the effect: for Hoh in the olde English signifieth sorrowe, or sicknes, wherewith the inhabitants of that unwholesome hundreth be very much exercised.'⁹

Camden, a few years later verified the findings of Lambarde:

'From Graves end a little tract called Ho, a kind of Chersonesus, runs out between the rivers Thames and Medway, a great way to the east in an unhealthy situation.'¹⁰

Certainly, by the sixteenth century malaria had arrived in this particular marshland area of north Kent. Exactly how long it had been there it is difficult to say. From the uncertain evidence that exists, it is likely that during the later Middle Ages the illness was probably around, but it is not until the late sixteenth century that it took on any real seriousness. For one thing, it was then that the Cobhams abandoned the area. Although the primary cause of their departure was a consequence of the Wyatt uprising, during which Sir Thomas Wyatt laid siege to Cooling Castle, it is clear that the Cobhams showed no interest in returning.¹¹ Further, the town of Cliffe ceased to be of any significance during this period. No reference to its port facilities exists after 1417, whilst Lambarde pin-points 1520 as the turning point in the town's history:

'The towne is large, and hath therto a great parish church: and (as I have been tolde) many of the houses were casually burned (about the same time that the Emperour Charles came into this Realme to visite King Henrie the eight) of which hurt it was never yet thorowly cured.'¹²

Archaeological field work has never produced any signs of a fire at this time, and it is possible that Lambarde was incorrectly informed. If the fire occurred at all, it was undoubtedly not the real cause of the

⁷ Robertson, Canon S., 'Coulyng Castle', *Arch. Cant.*, xi (1877), 128-146.

⁸ Hasted, E., *The History and topographical Survey of the County of Kent*, iv, 2nd edition (1798), 29.

⁹ Lambarde, W. *op. cit.*, 441.

¹⁰ *Camden's Britannia - Kent*, ed. G. J. Copley (1977), 15.

¹¹ Robertson, *op. cit.*, 144.

¹² Lambarde, W., *op. cit.*, 441.

town's decline. Furthermore, at Allhallows the stately home of the Pympes was also allowed to decay as this family ceased to inhabit the area.

That such a sudden change should occur in the fortunes of the Peninsula is, in no small way, due to a changing environment. A change brought to the Peninsula during the late Middle Ages, and as a result of the building of sea walls. The necessity for sea walls in the Peninsula area came about partly as a desire to claim land from the sea – and so make the area more profitable – and partly because of climatic deterioration between the years 1250 and 1500. By the end of this period, the entire Peninsula was enwalled as a precaution against inundation. The result of this particular activity was that the salt water marshes, once regularly washed by tidal flows, became the fresh water marshes of today. Badly drained, as they were, they created pools of stagnating water which were the ideal breeding grounds for the anopheles mosquito.

That the health of the Peninsula did not noticeably deteriorate until the sixteenth century is almost certainly a result of the prevailing climate. During the later years of the Middle Ages summers were frequently cold, and did not supply the ideal temperatures for incubation of the malaria plasmodium. However, from 1450 onwards, an improvement in climate occurred and would have undoubtedly provided a boost for malaria. Further, during the period in which Lambarde and Camden were conducting the research for their respective books, there were a series of exceptionally fine summers, notably those of 1566, 1567 and 1568.¹³

From then on, malaria took a stranglehold upon the Peninsula. It completely discouraged richer families either moving into the area or investing capital there. Those holding land on the Peninsula simply leased it out, or brought into the area some poor unfortunate to look after their lands. By the time of the hearth tax returns, the Peninsula had one of the lowest populations in Kent. By 1760, Edward Hasted was able to write:

‘It was formerly noted for the wealth of the yeomen who inhabited the district, but there are now scarcely any except bailiffs and lookers who reside there, the farmers and landholders chiefly dwelling at Strood and Rochester. There is scarcely a gentleman's house, or even a clergyman living there, in consequence of the depth of the soil, the dirtiness of the roads, and the unwholesome air issuing from the neighbouring marshes’.¹⁴

¹³ Brazell, J. H., *London Weather* (1968), 149.

¹⁴ Hasted, E., iv, 2. The reference to 1760 refers to the actual date that this particular declaration was most probably written.

Indigenous malaria, on its own, is rarely fatal. As indicated by the quoted Romney Marsh sufferer, it was an illness which was simply accepted by those inhabiting marshland areas. A similar attitude prevailed on the Hoo Peninsula. In 1919, a government survey reported that a woman, who had contracted malaria on the Isle of Grain, had stated that most of the inhabitants of this area suffered from 'ague at one time or another, and that as a rule they did not call in a doctor, but treated themselves with quinine powders or pills bought from a chemist.'¹⁵ of course, malaria could prove somewhat more devastating if it was contracted in conjunction with a further illness. It was not uncommon for a recently recovered malaria sufferer, who would still be in a weakened state, to quickly succumb to a further illness. This would be particularly so prior to the nineteenth century, and the widespread use of quinine.

Quinine, as such, is not a cure for malaria. It simply reduces the virulence of malarial attacks, and so allows the patient to recuperate his strength. The substance known as quinine emanates from the cinchona tree of Peru. It was first used as a treatment for malaria by the Indians of that country and then brought to Europe by early explorers. A number of surgeons, in seventeenth-century England, are known to have used quinine for treating malaria, but this practice was neither widespread nor generally accepted. For one thing, the availability of quinine was limited, whilst its use as a medication was somewhat suspect. At this time, quinine was often confused with 'Miroxylon' – a rather similar substance whose use on malaria sufferers, however, had the effect of exacerbating rather than subduing the illness. It is possible that the death of one notable malaria victim, Oliver Cromwell, was brought about by the use of miroxylon.

Before the nineteenth century, victims of malaria simply had to 'sweat' the disease out of their systems. As such, the victim of a malarial attack would be much debilitated and extremely vulnerable to the ravages of any further illness. For the inhabitants of the north Kent marshes, the series of long hot summers which are known to have occurred during the middle of the seventeenth century must have been a particular trial. This fact is borne out by a closer examination of contemporary records relating to the marshland villages of Hoo St. Werburgh and High Halstow (both on the Hoo Peninsula) together with Minster-in-Sheppey (whose boundary includes Sheerness).¹⁶ The hearth tax assessment for the year 1664 would suggest that the entire

¹⁵ Report to the Local Government Board on Public Health and Medical Subjects (1919).

¹⁶ Contemporary records referred to are the Hearth Tax assessment of 1664 (Kent Archives Office Q/RTh) and parish registers for High Halstow (KAO P167/1/1), Hoo St. Werburgh (KAO P190/1/1) and Minster (KAO P254/1/1).

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north Kent marshland area was heavily underpopulated. For these three particular villages the hearth tax returns suggest a population of about one hundred and sixty for High Halstow, some two hundred and fifty for Hoo St. Werburgh and a figure somewhere in between for Minster-in-Sheppey.

Taking into consideration these population estimates, it is interesting to consider the number of recorded burials that occurred in these three villages during the period 1660 to 1679. Abstracted from the surviving church registers they show that, during these years, the average numbers of burials, per year, was as follows¹⁷

Hoo St. Werburgh	19.4
High Halstow	10.75
Minster-in-Sheppey	13.65

From these figures, the first thing that becomes clear is the enormously high number of deaths shared by these three parishes. Bearing in mind the already indicated population estimates, these figures suggest a death rate far in excess of non-marshland villages in Kent, and on a par with the prevailing death rates in London. London, at this time, was a most unhealthy city and suffered a normal death rate of between forty and fifty in every thousand.¹⁸

A further examination of the registers of the three marshland villages during this period elicits the information that during years of known hot summers, the numbers of those buried frequently far exceed the average number of burials for the period, as is indicated by the following:

NUMBER OF BURIALS AS SHOWN BY CHURCH REGISTERS			
Known hot summers ¹⁹	Hoo St. Werburgh	High Halstow	Minster
1666	16	34	16
1669	23	13	19
1678	49	unclear	33
1679	28	unclear	30

On the other hand, if we consider years that are known to have had particularly cool summers during this period, then we see that the situation is somewhat reversed:

NUMBER OF BURIALS AS SHOWN BY CHURCH REGISTERS			
Known cool summers ²⁰	Hoo St. Werburgh	High Halstow	Minster
1674	8	10	7
1675	18	12	13

¹⁷ Plague years excluded.

¹⁸ Clarkson, L., *Death, Disease and Famine in pre-industrial England* (1975), 28.

¹⁹ The summers of 1666 and 1669 are both referred to in the diaries of Samuel Pepys as being particularly hot. E. LeRoy Ladurie confirms this in his study of French wine harvests and further indicates the summers of 1678 and 1679 as being exceptionally hot. See LeRoy Ladurie, E., *Time of Feast, Time of Famine* (1971), 59. Brazell, *op. cit.*, produces additional evidence.

²⁰ Le Roy Ladurie, *op. cit.*, 58.

So high was the death rate for these marshland villages that it was, indeed, a rare year that the birth rate exceeded, or even equalled, the death rate. In Hoo St. Werburgh, for instance, between 1660 and 1679, a period of twenty years, the number of registered baptisms only exceeded the number of burials on three occasions, whilst on five occasions the number of burials is twice as high as baptisms. Even allowing for the inherent inaccuracies prevalent in basing demographic information upon baptismal records, it is clear that the marshland villages of north Kent would have had considerable difficulty in maintaining their numbers. One can only assume that the population was maintained by a certain amount of migration into the area. This assumption is partially supported by Daniel Defoe who, in his 'A Tour Throughout the Whole Island of Great Britain', described a number of marshland villages in Essex. Noting the high number of fatalities, he describes how the young men of the village frequently went to the upland areas in order to gain a spouse.

Turning to the nineteenth century, it is clear that malaria was still proving a considerable disadvantage to the area. In 1895, C. B. Burnett, the writer of a general history of the Isle of Grain, wrote:

'As late as 1876, ague, or marsh fever, was very prevalent, as many as seventy-five per cent of the population – old and young – being subject to the attacks of this distressing malady.'²¹

In 1874, whilst inspecting the village school at Grain, one of H.M. Inspectors recorded the area as being:

'... low lying, aguish, and unhealthy, where no one would live if they could help it.'²²

Despite these comments, however, the seriousness of malaria had, to a certain extent, diminished. This was mainly due to the widespread availability, and general acceptance, of quinine as a means of treating the illness. Nevertheless, the death rates for the Peninsula do show a very slight tendency to be above those of the national average. As a result, warm summers no longer brought with them the heavy toll upon life that such summers had once brought. This can be shown by reference to church registers for three of the parishes situated within the bounds of the Hoo Peninsula – those of High Halstow, Hoo St. Werburgh and St. Mary's Hoo. The following table sets down the number of burials which took place in each of these parishes during the 1850s. The last column gives the mean average summer temperature as

²¹ Burnett, C. B., *A History of the Isle of Grain* (1906), 18.

²² *Ibid.*, 21.

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recorded at the Greenwich Observatory.²³ It should be noted that the last three years of this decade enjoyed exceptionally fine summers:

Year	High Halstow	Hoo St. Werburgh	St. Mary's Hoo	Mean Average Summer temperature
1850	9	31	2	61·7°F
1851	6	23	5	61·4
1852	8	27	8	63·2
1853	10	44	1	60·9
1854	9	30	8	60·9
1855	11	18	6	61·7
1856	4	22	7	62·8
1857	3	23	7	65·5
1858	9	30	13	64·5
1859	9	32	8	66·1

In 1857, the registrar of Strood reported:

‘An unusually hot summer has operated still more to make the marshes and adjacent districts intensely unhealthy. Many deaths have been registered from intermittent fever directly or indirectly. The disease is rarely fatal (under favourable circumstances). The chief mortality is among indigent and debilitated persons and their families, who have fallen an easy prey to diseases of general character in consequence of their reduced condition’.²⁴

Nevertheless malaria, during these final years of the 1850s, was coming to the end of its vice-like grip of the Hoo Peninsula. Referring once more to C. B. Burnett, again written in 1895, he states of marsh fever:

‘But this is one of the by gones for now we believe that there is not a more healthy place round the English coast, though what has induced this change is not easy to determine’.²⁵

In fact, the change which Burnett found difficult to determine was the extensive draining of the marshes which had occurred during the 1860s and 1870s. Initially this work was undertaken by one Henry Pye, a farmer who moved onto the Peninsula during this period. Because the draining of his farmland turned fairly mediocre land into good farmland, many of the other farmers on the Peninsula followed suit. Within a period of twenty years most of the stagnant waters of the marshlands had disappeared and the anopheles mosquito, although not totally eradicated, was considerably reduced in number. With this

²³ Brazell, *op. cit.*, appendix III.

²⁴ MacArthur, *op. cit.*, 78.

²⁵ Burnett, *op. cit.*, 21.

successful attack upon malaria, the long-term downward trend of the Peninsula was reversed. Between 1851 and 1901 the area's population all but doubled, as not only the mortality rate declined, but people started moving onto the peninsula. In the 1870s the 'Hundred of Hoo' Railway Company was formed, whilst the village of Cliffe, within a few years, had witnessed the arrival of both cement and gunpowder works. The present century saw the establishment of the petrochemical industry on the Peninsula, an industry which currently dominates the Isle of Grain.

Malaria, for its part, raised its head but once more. This was in 1917 when a number of troops, some of whom had contracted malaria whilst serving in Salonika, were billeted at Grain and Sheerness. The fact that it was one of the warmest summers of the decade created ideal conditions for malaria, with the result that a number of the soldiers who had been invalided home from Salonika, relapsed. The area's remaining anopheles mosquitoes soon proceeded to spread the disease further afield, and before the year of 1917 was out some 136 cases of malaria were recorded in the Sheppey/Grain region.

Following upon this particular outbreak, the authorities took a number of steps designed to eliminate malaria in this country. For a start, it became a notifiable illness, whilst marshes known to harbour the anopheles mosquito were regularly sprayed. As a further precaution, during the war years of 1939 to 1945, all troops moving into areas with a high malaria risk were carefully vetted.