

## COMBE-CLUSTER BARROW CEMETERIES IN THE ISLE OF WIGHT

A Locational Prediction Model

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### **A brief history of Isle of Wight barrows**

Ever since William Stukeley's observations in the 18th century, the great linear Early Bronze Age barrow cemeteries on the Dorset Ridgeway have been classic topics of archaeological literature. The narrow chalk cuesta of the Purbeck Hills reappears in the Isle of Wight, forming a median chalk ridge running east-west through the island from the Needles stacks to Culver Cliff (fig. 1).

The impressive barrow cemeteries on the Island's hills are perhaps less documented, although they certainly attracted attention in the past. Some were robbed as early as the 13th century when the Close Rolls of King Henry III reported that '*certain persons in the isle of Wight have dug certain barrows there, seeking treasure therein...*' (Close Rolls AD 1237, 433 & 434; Grinsell & Sherwin 1940, 185-6). Sir John Oglander (an eye witness to the Armada) records his own participation in barrow robbing in the 16th century when he had '*digged...in soome of the moore awntientest and...found manie bones of men formerly consumed by fyor*' (Long 1888, 117-18; Grinsell & Sherwin 1940, 215-222).

The history of the Island's Bronze Age legacy is indeed an unhappy one. During the 19th century further mounds in the western part of the Island were 'explored' by that indefatigable barrow digger the Reverend John Skinner of Camerton. John Skinner's diaries, with their little thumb-nail sketches of pots, contain exasperating comments on urns which were struck with a pick-axe, broken by the workmen, or trampled overnight by the sheep (Grinsell & Sherwin 1940, 215-222). Sadly, the later years too have their horror stories. In 1898 an interesting municipal debate was centred on a prehistoric burial mound inconveniencing the appearance of the public cemetery on Mount Joy hill, Newport (Groves 1898). The mound was summarily levelled.

The late 1930s saw afforestation in West Wight where many of the finer barrows were to become engulfed by branches and shot through by roots. These barrows were fortunately recorded in a detailed survey by Grinsell and Sherwin (1940). In 1979 a new survey was carried out by the Isle of Wight Archaeological Committee (Basford 1980) and it was to reveal that since 1940, damage to Isle of Wight barrows had more than doubled largely as a result of afforestation and agriculture.

A significant discovery of the 1980's has been the identification of a large dispersed group of barrow ring-ditches on the Bembridge Limestone terrain of the Thorley - Wellow area of West Wight (fig. 2). These barrows lie north of the chalk and they mark substantial Early Bronze Age activity in an area of more robust limestone geology (fig. 1). The groupings of these large ring ditches along the limestone outcrop nevertheless suggests a regard for accessibility to surface water sources which seems to mirror the clustering of the Island's chalkland barrows around the spring-served combes.

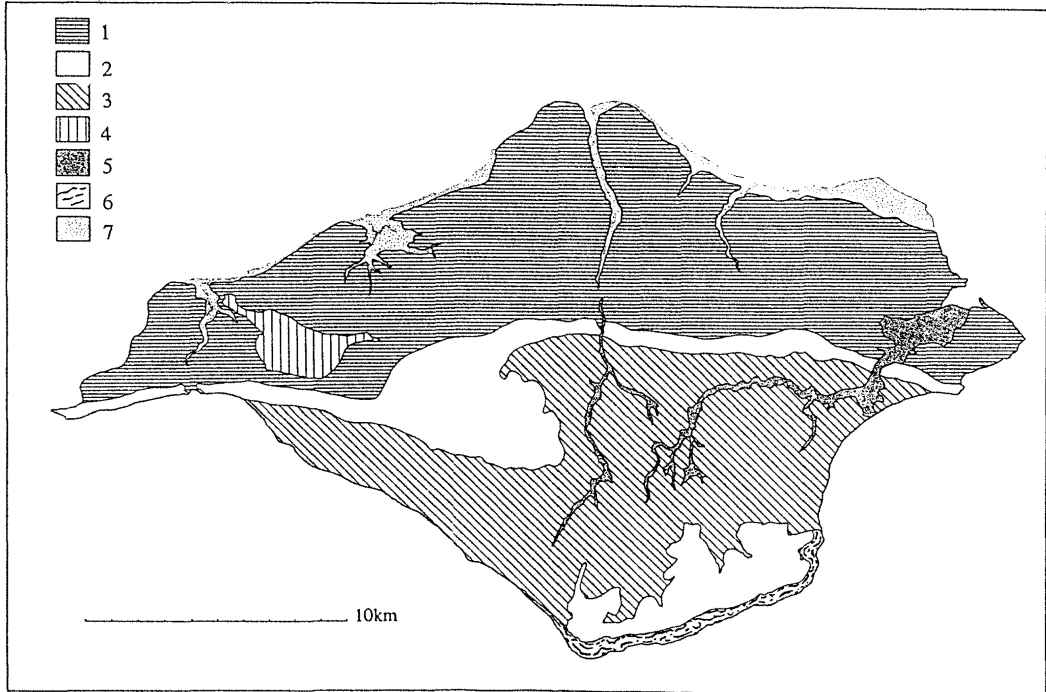


Figure 1: Physiographic zones of the Isle of Wight. 1: Tertiary claylands of the Hampshire Basin. 2: Chalk Downs. 3: Greensand vale. 4: Bembridge Limestone plateau. 5: River valley gravels. 6: The Undercliff. 7: Coastal saltmarsh and intertidal wetlands.

### Round barrows as indices of human settlement

Since the 1970's, a number of researchers have attempted to calculate the patterns of past human populations from the distribution of funerary monuments. For Atkinson (1972), round barrows could be used as a means to postulate past population densities in England and Wales. To Renfrew (1973), differential densities in the general distribution of round barrows on the Wessex chalk served to corroborate the persistence of territorially established polities. These geographically discrete groups could claim ancestry within the social organisations responsible for the construction of causewayed enclosures and henges which served as the focal Neolithic monuments within the same chalkland localities.

In 1971 a more detailed analysis of the groupings of Wessex round barrows was proffered by Fleming who sought to identify territorial boundaries on a more localised scale. This study was the first to give serious thought to a causal link between the siting of the barrow groups and the land-use potential of the neighbouring terrain. In discussing his observations, Fleming encountered the perennial problem of assessing the relative importance of sedentary agriculture and mobile pastoralism in the lives of the Early Bronze Age communities settled on the Chalk. He nevertheless concluded that pastoralism seemed to have predominated in the land use of the Wessex chalklands and that pastoral communities may, moreover, have dominated the Early Bronze Age social structure of the region (Fleming 1971 & 1973).

In 1975, some further demographic calculations based on barrow and ring ditch densities were proffered by Green when presenting survey data drawn from the mature river valley of the Bedfordshire Ouse. Green concluded that an unquantified cattle-based economy was operating within the river valley and that the relationship between the siting of barrows and the siting of settlement in this region was probably far closer than previously suspected. Such an

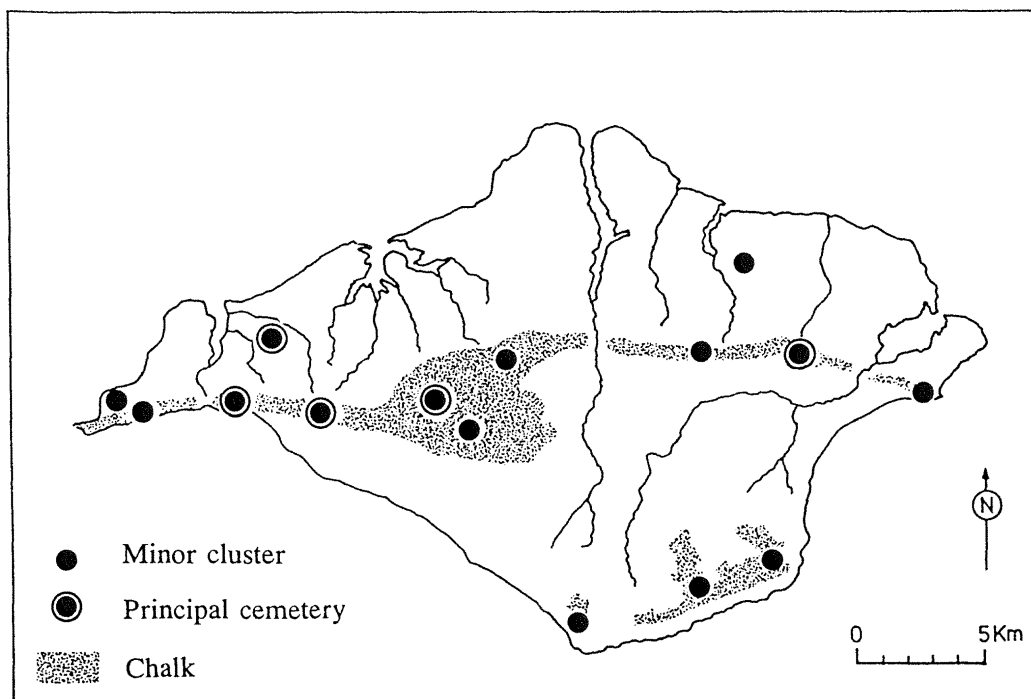


Figure 2: Barrow cemeteries in the Isle of Wight

association between pastoral communities and valley bottom barrow cemeteries has since been emphasised by the remarkable ritual deposit of bovine remains discovered in Barrow 1 of the Irthlingborough barrow cemetery on the floor of the valley of the river Nene in Northamptonshire. Here the remains of over 200 cattle were associated with the burial of a single individual in a beaker grave (Halpin 1987, 5-8; Davis 1990, 5-6; Davis & Payne 1993).

#### The association between chalkland combes and barrow cemeteries

Whilst a case for river valley pastoralism might readily be argued for the barrow cemeteries lying in proximity to mature Wessex rivers such as the Avon, Bourne and Winterborne, the importance of water supply is less overtly demonstrated for barrow-building communities active amongst the dry chalk valleys and the intervening interfluves of Wessex chalk massif.

The Eighteenth Century antiquary, William Stukeley was the first to postulate a connection between such hill-top barrow cemeteries and adjacent valleys when also commenting, for the first time, on the siting of barrows on false crests. 'I observe', he remarked, '*the barrows on Hakpen Hill and others are set with great art not upon the very highest part of the hills but on so much of the declivity or edge that they make appearance as above to those in the valley*' (Bodleian MS Eng. misc b.65; cited by Piggott 1985, 68).

In the case of the Isle of Wight, the opportunity can be seized to examine the relationship between barrow groups and chalkland topography in a uniquely delineated area. The insularity of Wight is a valuable geographical tool and it is particularly apposite for investigating the distribution of Early Bronze Age round barrows.

The median chalk cuesta of the island proffers a rare opportunity to examine the siting of round barrows in an attenuated test strip. This strip reveals a most striking co-incidence between the clustering of round barrows and the incidence of dry chalk combes (fig. 3). This phenomenon has been termed in this account a 'combe cluster' and it should be compared, in

particular, with the Purbeck chalk cuesta where a similar coincidence of combes and barrow cemeteries can be observed.

### Island combes and settlement

As early as 1932, evidence had been gathered by Dr Gerald Dunning to suggest that Early Bronze Age houses were to be found in at least one combe or embayment on the Isle of Wight chalk. Dunning's evidence comprised the floor of a house, associated with Food Urn pottery, set into the side of a south-facing embayment on Gore Down in the parish of Chale. A spring and the putative site of a second hut were noted nearby (Dunning 1932).

In 1976 an Early Bronze Age barrow, represented by a ring ditch, was discovered on the chalk floor of Apesdown combe and in 1978 the first fieldwork was carried out which was to confirm Early Bronze Age occupation in the head of the substantial combe at Newbarn in the parish of Calbourne (reports by Tomalin and Allen forthcoming).

With the implicit evidence that dry valley sites such as these might be the focal points of Island's population in the early 2nd millennium BC, it was decided that the combes themselves should be viewed as potential archaeological sites in which colluvial infill might preserve significant palaeochronological sequences as well as traces of habitation. Such a theoretical evaluation of Island combes might assist the preliminary ranking of potential settlement sites in order that they might receive some element of protection by inclusion in the County Sites and Monuments Record.

In the absence of resources for extensive colluvial sampling and analysis, it was decided that a prediction model might be sought in which combe size, accessibility to water and the perceived status of adjacent barrow cemeteries might be fruitfully compared (Tomalin 1983). The ensuing part of this report first sets out the theoretical parameters of this prediction model and then proceeds to demonstrate the results of its application.

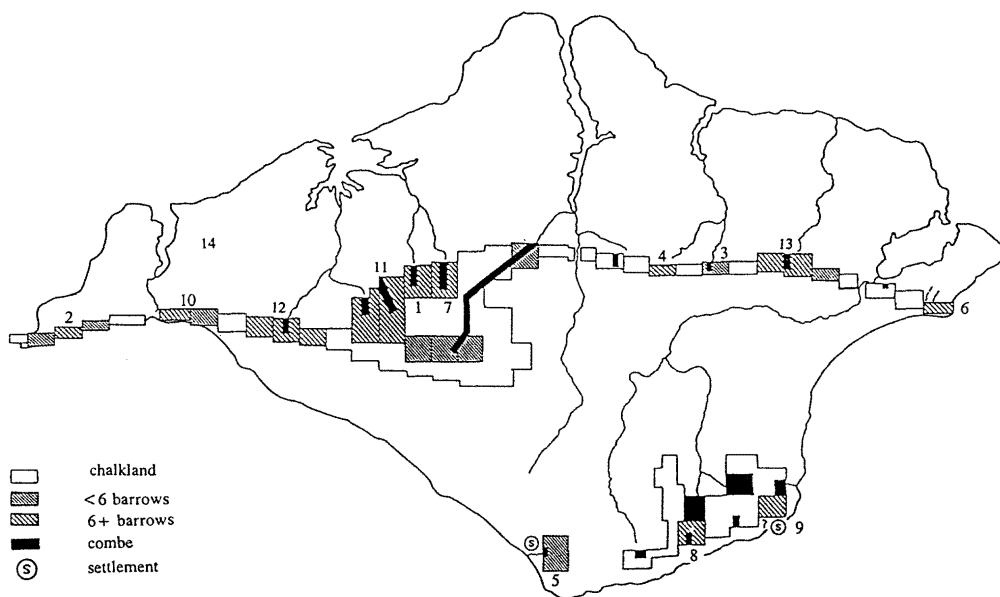


Figure 3: Distribution of principal barrow groups and Chalk combes in the Isle of Wight

Since reviewing the results of the applied model, some significant combe colluvial sequences have been investigated by archaeological excavation at Newbarn combe and Duxmore combe and by augering at Eaglehead combe. At Newbarn and Duxmore the archaeological and palaeoenvironmental evidence for Early Bronze Age occupation, found deep beneath the valley colluvium, has served to confirm the importance of these combes. The results of these excavations will be the subject of a further report.

### Size parameters in Island barrow groups

The application of size parameters to eleven Island barrow groups reveals a general low intensity distribution. In the terms employed by Clarke (1978, 88), this might be described as a background or 'noise' phenomenon. Prominent against this background is a small number of high intensity barrow clusters which may be provisionally identified with the epicentres of human activity in the Island's Early Bronze Age landscape.

The contrast between minor scatters of up to five barrows and the high density clusters comprising 25 to 35 barrows is revealed by the application of class-categories dividing the total barrow population into five divisions based on group size. In histogram form these class-categories show that 63% of the island's barrow groups comprise minor groupings of less than 10 barrows whilst 26% comprise major cemeteries (fig. 4).

When viewed parametrically as a size progression, the scores for these class-categories tend to emphasise the polarisation of the sample towards the extremities of the size scale (fig. 5). Certainly the 11% of barrows falling within the intermediate class B are insufficient to suggest the spontaneous and varied growth of cemeteries within a general range of sizes. Whilst at Headon Warren, Limerstone Down, Apesdown and Bembridge Down the groups nominally exceed the five barrow class, it is only at Week Down and Boniface Down that sufficient barrows are assembled at any one location to suggest the abortive development of major cemeteries.

From these preliminary observations it may be concluded that size parameters provide a useful classification for Isle of Wight barrow groups. This classification reveals the incidence of eleven barrow clusters and four major cemeteries. To this latter class may be added the two abortive or 'failed' cemeteries on the southern chalk outcrop.

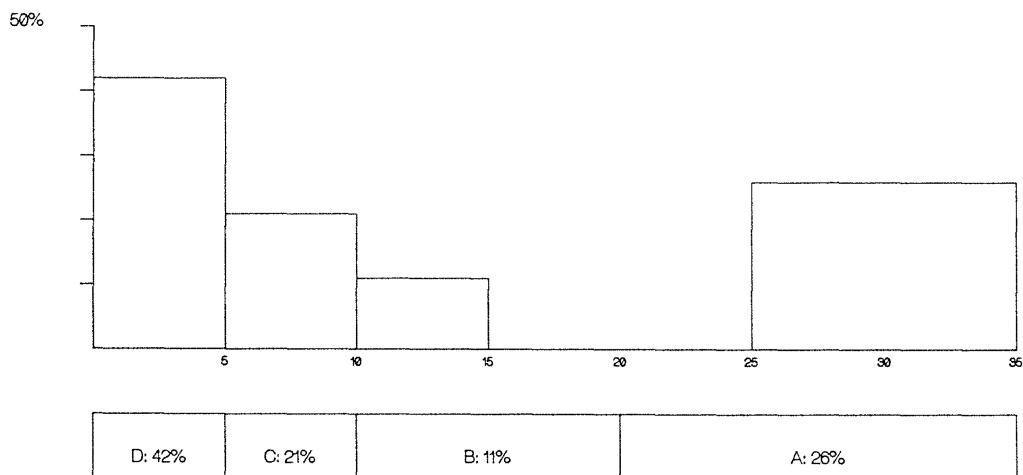


Figure 4: Histogram of barrow group sizes for the Isle of Wight. Horizontal scale indicates the number of barrows in the group

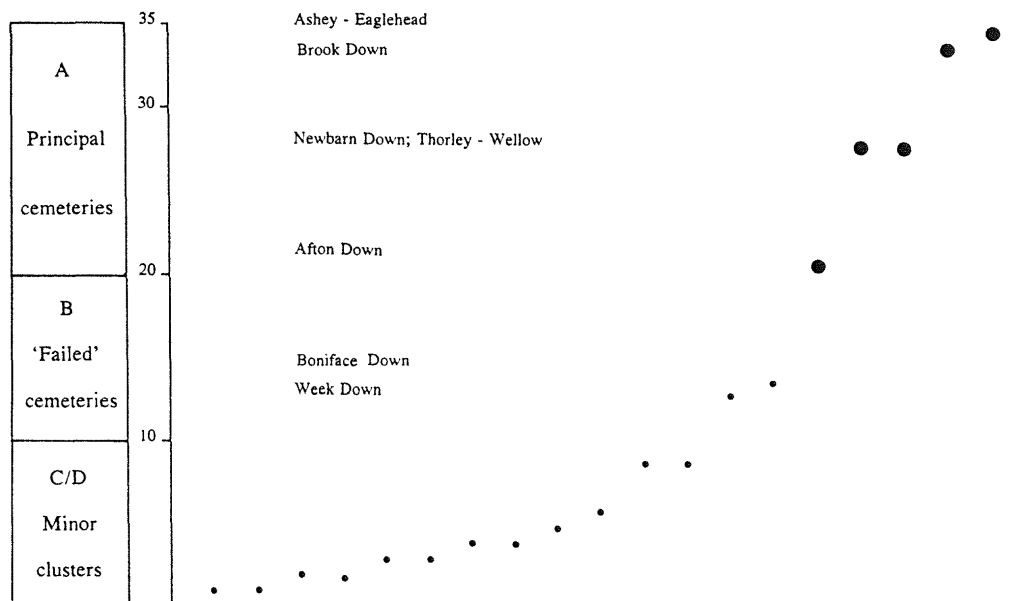


Figure 5: Isle of Wight barrow groups in ranked order. Vertical scale denotes the number of barrows in the group

### Locational Considerations

A glance at the solid geology of the Isle of Wight reveals that with one major exception, there is an almost exclusive correlation between the barrow distribution and the chalk outcrop. The principal cemeteries are all situated on the median chalk. In the West Medine the maximum proliferation of barrows clearly coincides with the widening of the outcrop. In the East Medine, broadening of the chalk cuesta in the vicinity of Ashey Down seemingly assists the development of the single major cemetery in this half of the island.

The attenuation of the median chalk outcrop serves to accentuate the locational factors affecting cemetery development. The outstanding factor concerns the location of the deep combs in the northern dip slope of the Chalk. Of the eleven combs occurring along the 35 km outcrop, nine examples are accompanied by barrow cemeteries. With the exception of Afton Down, which adjoins the Western Yar gap, no chalkland barrow cluster or cemetery is devoid of its accompanying combe or embayment. At the major cemeteries at Shalcombe, Newbarn Down and Ashey Down the combes are deep, sheltered and are well developed in length. All are marked at their mouths by substantial springs.

### The significance of water supply

An important observation, made by Fleming concerned the accessibility of water to barrow-builders on the Wessex chalklands. The siting of cemeteries like Lambourne Seven Barrows, Rockley and Upton Lovel Golden Barrow suggested a contemporary interest in water and water sources. Moreover, areas of major barrow concentration all seemed to be sufficiently well placed to overcome potential problems in times of drought.

Whilst water supply may be acknowledged to be a critical factor governing Early Bronze Age settlement on the Chalk, the probability of a subsequent fall in base level, assisted by progressive permeability in valley floors suggests that the number of spring-served combes proffering a ready surface-water supply was greater during the 2nd millennium BC than the

number which is to be found today (Small 1954; Small & Lewin 1965; Fermor 1977). In the past, it has been suggested by Lewis (1949) that the water table within the Chalk was higher during some part of the last glaciation whilst Arkell (1947) has suggested that the many of the chalk dry valleys last accommodated surface streams during the damper climatic conditions of the Atlantic Period.

Seminal studies since carried out in 1964 on the Kent dry valley known as the Devils Kneading Trough have demonstrated that the floors of such chalk combes can be readily buried during episodes of massive colluvial infilling. At the Kneading Trough it could be demonstrated by deeply buried sherds that this event had occurred in post-Neolithic times (Kerney, Brown and Chandler 1964). The widespread occurrence of this type of colluvial event has since been confirmed by work on Chalk dry valleys of North Wiltshire and Berkshire (Paterson 1975) and the Sussex Downs (Bell 1984). The rapid nature of these events has also been argued by Burrin and Scaife (1988) who have recognised that substantial contemporary sediments have been inwashed into some principal Sussex river valleys such as the Cuckmere. These Sussex studies, together with some recent work on the palynology and terrestrial palaeomollusca of the soil horizons in chalkland colluvium (Waton 1982a & 1982b) suggest that such rapid infilling was principally induced by forest clearance and the inexorable advance of prehistoric farming communities across the chalkland and Greensand landscape.

On the Isle of Wight, this type of anthropogenically induced infilling may have served to engulf or bury formerly open streamways in Chalk valleys such as Newbarn combe and Eaglehead combe. This possibility creates an acknowledged uncertainty when postulating the potential amount of combe floor space available for Neolithic and Bronze Age pastoral activity and settlement.

Physical explanations for the formation of the deep and narrow chalk dry valleys similar to those of Newbarn combe and Eaglehead combe have been advanced by Sparks and Lewis (1958) who have argued that jointing within the chalk may have played a key role in association with a spring-sapping process.

At Newbarn combe we can observe surface features which suggest that subterranean physical processes have been sapping the head of the valley since Early Bronze Age and subsequent colluviation has covered the valley floor. Evidence for this is provided by a series of flint-filled chalk dolines which descend the eastern fluvial at the head of the combe. Further dolines are to be found in adjacent combes at Bunkers Bottom, Fern Bottom and Rowborough Bottom where they were once fancifully interpreted as 'British pit dwellings' (Hillier 1860, 14-15; Kell 1855, 305-313; Lockhart 1870, 33-35; Stone 1912).

### **Towards a Locational Prediction Model**

One approach to the analysis of the barrow distribution of the island might involve the use of a prediction model based on the prospective settlement qualities offered by each of the Chalk combes. Positive factors promoting the selection of combes for settlement purposes might be:-

- A. Sufficient combe floor pasture.
- B. Accessibility to a permanent water supply.
- C. The potential development of arable land on adjacent Chalk slopes.

Whilst a high score for these factors might facilitate the development of a successful community displaying a substantial cumulative array of funerary monuments it must be recognised that an adequate timespan would also be necessary to attain a mature cemetery. The caveat should therefore be applied that whilst the presence of high score combes might prove to be critical in determining the development of mature cemeteries, retarded take-up of certain other combes could result in 'failed' or incipient cemeteries such as those we may perceive on the island's southern chalk. The absence of high score combes in any given area should also

preclude the development of a major cemetery in that locality. In the case of the Isle of Wight chalklands, this law would certainly seem to apply.

### The scoring system

The ranking of combes has been based upon the following simple scoring criteria:

	Score
<i>Combe capacity</i>	
poor	1
average	3
high	5
<i>Water supply</i>	
undetected	0
accessible	5
plentiful	10
<i>Accessibility to potentially arable chalkland</i>	
poor	0
good	1
plentiful	5

These ratings have been weighted in favour of combe capacity and the availability of water. High combe capacity is defined by the presence of a relatively flat combe floor which is capable, without significant restriction, of accommodating a settlement of one hectare as well as proffering potential valley floor pasture. A combe classed as 'average' is capable of accommodating similar settlement given adaptation for the topography. A combe with 'poor' capacity might accommodate some permanent occupation given careful siting. It should be noted that value of these general classes can be impaired by colluvial processes which have changed the combe topography in the post-Bronze Age period.

Water supply rated as 'accessible' is that which can be obtained within 0.5 km of the mouth of the combe. 'Plentiful' water supply is that which is dependable and accessible within the combe or its mouth.

Fig. 6 shows, in its upper histogram, the predicted barrow cemetery class size calculated from the combe quality scores of 13 Isle of Wight chalk combes and their settings. The lower histogram shows the actual barrow cemetery class for the same combes. This prediction model shows a high level of correlation, including the prediction of the 'failed' cemetery at Week Down. The prediction of the Afton Down cemetery is interestingly impaired, no doubt due to the fact that this location appears to be associated with a river valley gap rather than a combe.

### The Model applied

The Wight combe quality model may be tested in other regions of Wessex. On the Purbeck chalk cuesta between Handfast Point and Worbarrow Bay five chalk combes occur along the 20 km outcrop. Of the four of these combes which are adjoined by nearly springs, all are associated with significant minor barrow clusters.

On the broad chalk downlands surrounding the Dorset Ridgeway the distribution of combes becomes more complicated and due to the overall intensity of barrows the size parameters for the ranking of the barrow groups has to be revised. In this region there are five high scoring combes on the southern slope. All are adjoined by major linear cemeteries which appear to mark a common boundary with the north-facing combes. The role of these latter combes

A = >20 B = 10-19 C/D = <10

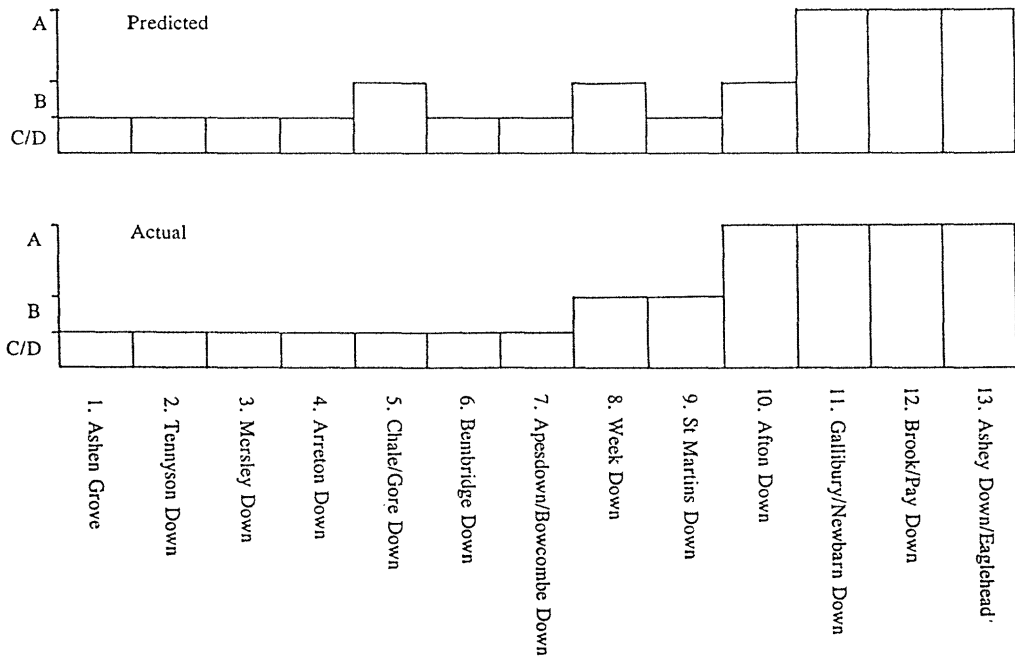


Figure 6: The locational prediction model applied in the Isle of Wight

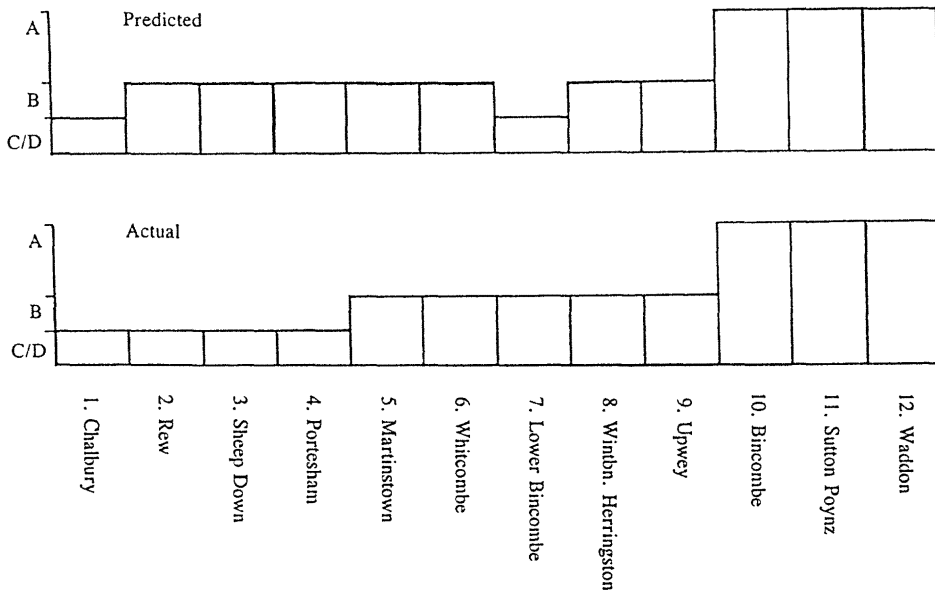


Figure 7: The locational prediction model applied to the South Dorset Ridgeway

remains problematical. At Martinstown however, twin combes would certainly appear to have been responsible for development of the major cemetery on Four Barrow Hill. Certainly no major cemetery on the Dorset Ridgeway can be convincingly disassociated from the southern high-score combes. The result of applying the model to these Dorset combes is shown in the histograms of figure 7.

Other chalkland areas of Southern Britain might be used to examine potential associations between barrow cemeteries and water sources. In Surrey, a region which is marked by its sparsity of round barrows, the chalk cuesta known as the Hog's Back offers a topography comparable with the examples of Purbeck and the Isle of Wight. A single dispersed group of barrows on the south scarp face of the Hog's Back at Puttenham overlooks the dry Greensand valley which is now served by a spring rising some 3 km south at Shackleford. Two kilometres to the west of the barrows, the functioning scarp-foot springs at Shoelands and Seale show no apparent association with past barrow-building activity.

Although the general distribution of round barrows in Surrey shows little association with the North Downs chalk outcrop, a number of barrows lying on the Wealden and Tertiary terrain of Surrey and east Hampshire do, however, show a positive association with water sources. This is very well demonstrated at Woolmer, Petersfield Heath, Frensham, Wisley and Silvermere, where barrows have all been constructed in close proximity to substantial meres (Tomalin 1985).

One positive case of association with a water source on the Surrey chalkland might perhaps be claimed for the Newlands Corner bowl barrow (Albury G1) which shares its environs with the substantial scarp-foot spring known as the Silent Pool. The Weston Wood settlement lying 0.5 km west of the pool confirms the presence of Bronze Age occupation in this locality.

### **Conclusion**

An analysis of the round barrow distribution in the Isle of Wight suggests that both known and prospective settlement areas in spring-served chalk combes share a consistent geographical association with the location of barrow clusters and cemeteries. At Chale (Dunning 1932), Apesdown and Duxmore evidence of contemporary settlement has been confirmed within the floors of the adjacent chalk combes. At Week Down, a scatter of lithic material, perhaps intimating settlement, has been observed in the adjacent southerly combe at Watcombe Bottom.

Comparison with the round barrow distribution in South Dorset reveals a similar combe cluster phenomenon and it suggests that a model for the prediction of Early Bronze Age settlement can be applied where the outcrop of the Chalk presents a linear configuration. The model can be less effective however, when applied to a large desiccated chalkland plateau. This means that until more specific data concerning palaeohydrology of the Wessex chalklands can be obtained, our understanding of the prospective settlement sites of the barrow-builders in this most important area is likely to remain impaired. The consistent association between barrow clusters and water supply is undoubtedly important and it should not be overlooked that the principal cemeteries are all associated with plentiful supplies of water, including access to the Western Yar river at Afton. The implication here seems to be that the largest barrow cemeteries in the Isle of Wight arose where pastoral interests were best served. That the chalkland landscape of the Island's Early Bronze Age was indeed employed for open grassland grazing is well attested at the Newbarn barrow cemetery. Here a pollen sample from the old ground surface beneath barrow IW 427 attests open grassland with only minor evidence of tree cover and some possible suggestion of some abandoned arable land (Scaife 1980, 271-2).

### **Acknowledgements**

I am grateful to my colleagues Rob. Scaife, Mike Allen, Frank Basford and David Motkin for fruitful discussion during the preparation of this paper. I am also indebted to Mr and Mrs C.

Spence of Newbarn Farm, Calbourne, and to Mr and Mrs P. Kennerley of Duxmore Farm, Arrreton for their kind permission to investigate the chalk combs on their land. The contents of this paper have been enhanced by the information contained within the Isle of Wight County Sites and Monuments Record and the resources kindly provided by the Cultural Services Department and the Amenities and Countryside Committee of the Isle of Wight County Council.

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