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TOPOGRAPHY, HYDROLOGY, AND PLACE-NAMES IN THE CHALKLANDS OF SOUTHERN ENGLAND: CUMB AND DENU

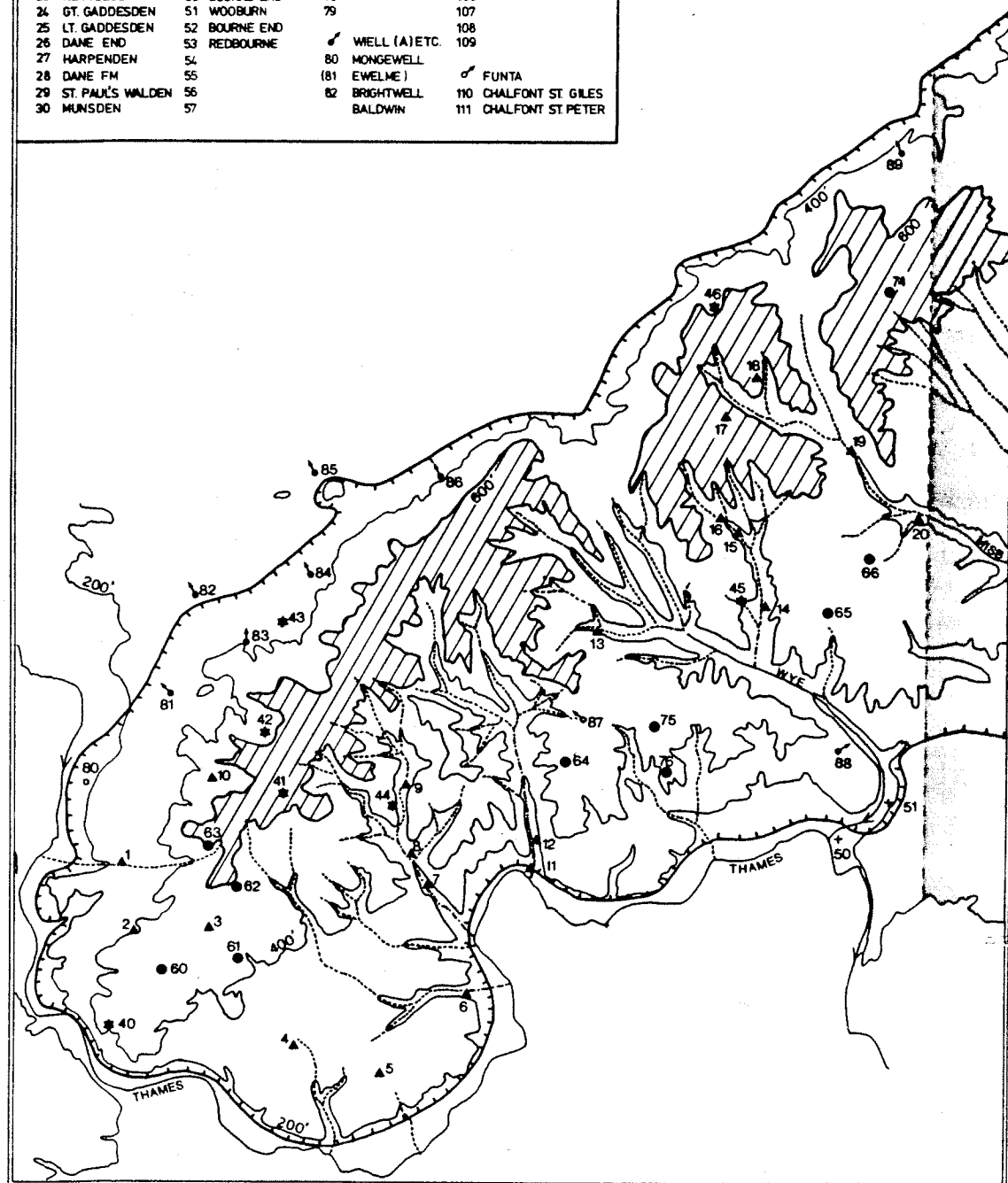
The purpose of this article is to examine the distribution of cumb and denu place-names in the Chalk escarpments of Southern England, and to suggest approximate definitions for these two name elements. The decision to publish research already in progress on this topic was prompted by the publication of Richard Coates's paper in NOMINA V in which he argued that the situations of cumb and denu place-names in South-Eastern England do not agree with Margaret Gelling's conclusions in relation to the Berkshire evidence, that 'cumb is used of a shorter, broader, shallower valley than denu' and that 'denu is mostly used of valleys which are long and narrow' (Gelling 1976, p. 925). Coates presents evidence which leads him to believe that the difference was not one of size and shape but of the presence or absence of water, that 'cumbs were valleys containing flowing water, specifically a burna, and that denus were dry or at least devoid of flowing water' (art. cit. p. 30).

In view of this sharp difference of opinion, it has seemed worthwhile to look at the toponymic and hydrogeological data for the Chalk escarpments and plateaux of southern England, viz, the Chilterns, North Downs, South Downs, Berkshire Downs, Salisbury Plain, Dorset Downs and parts of the Isle of Wight, and to examine the results from the Chilterns and South Downs in some detail. Availability of water was inevitably of special importance to the Saxons in Chalk areas where water supply was often difficult, a fact which would have affected the use and meaning of a number of place-name elements, not only cumb and denu, but also burna, winterburna, wiell(a), āewiell, āewiellm, funta and mere. It will be noticed that the distribution of these latter terms for streams, springs and ponds is included on Maps 1 and 2. To do justice to this distribution will however require further research and it is hoped to publish a discussion of the topic on a future occasion, but it cannot be wholly divorced from the present consideration of cumb and denu, and the maps have been prepared with this in mind. The patterns of occurrence for all these place-name elements depend not just on onomastic choice between alternative items in the name stock or between competing types of name formation, but also on different ways in which landforms and water supply interrelate in the Chalk regions.

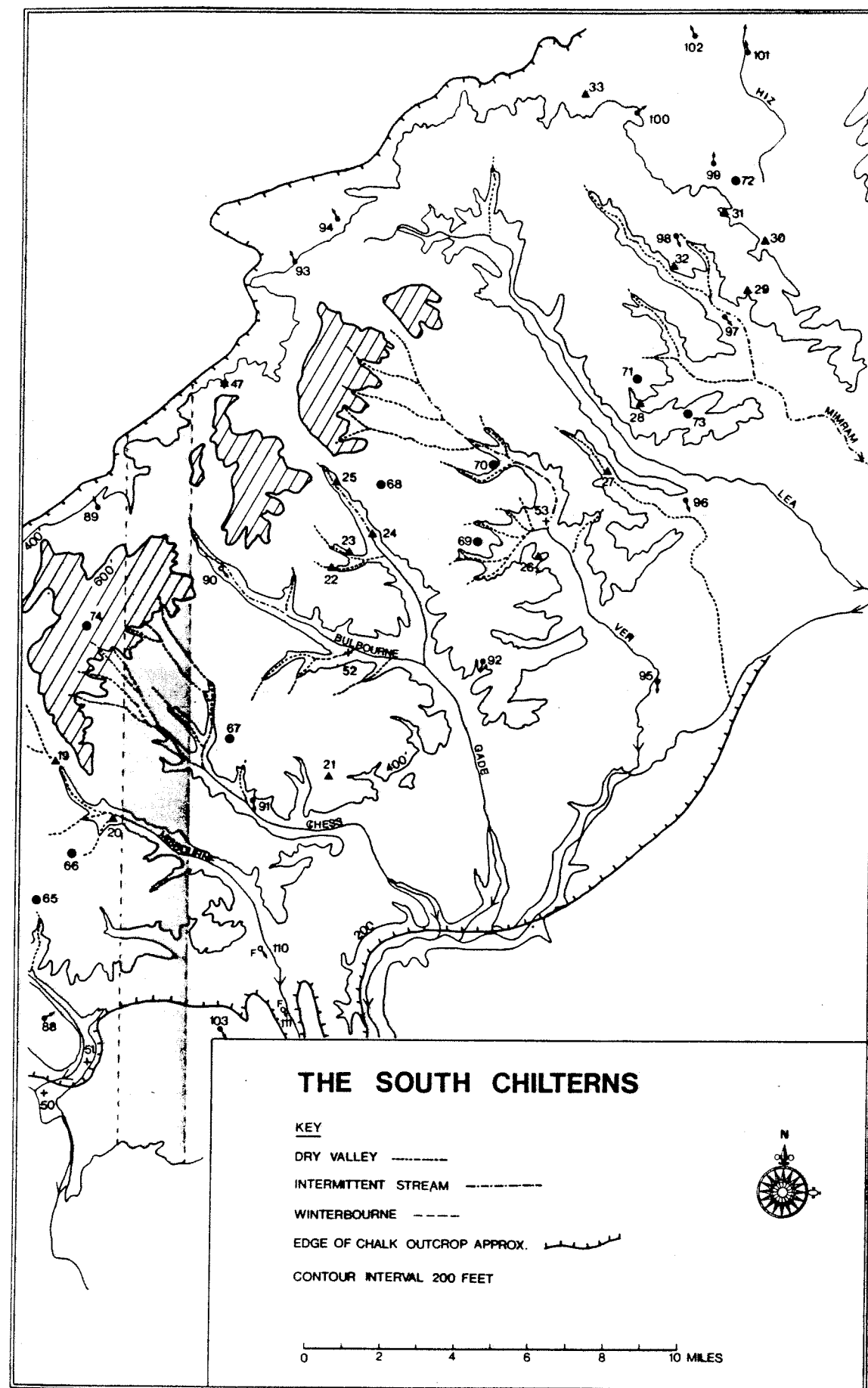
Figure 1 illustrates the terms used in connection with escarpments and their hydrology. The usual escarpment is a hill ridge with a steep scarp slope and a gentle dip slope. The watertable is the level below which the rock is saturated. It varies seasonally, reaching its lowest point in about October and its highest point in about February, after being replenished by the winter rain. The water is trapped in the Chalk aquifer by impermeable rocks either side, usually Clay. Where the watertable intersects the surface, springs occur. Scarp slope springs vary little in position and are generally reliable. Dip slope springs emerge higher up the valleys and flow more prolifically in late winter than they do in summer. This means that on the dip slope only the lower stretches of the valleys will have a perennial stream in them; the upper parts of the valleys are always dry, while the middle parts of the valleys have seasonal streams in them. The lower parts of these seasonal streams rise regularly every year, flow for several months and contain an appreciable volume of water, except for very rare occasions such as in 1976. They will be referred to as winterbournes. The upper stretches of the seasonal streams will rise only in some years and flow only for a few weeks or days. They will be referred to as intermittent

KEY TO PLACE NAMES

▲ DENU	31 WAIN WOOD	58	83 BRITWELL SALOME
1 IPSDEN	32 KING'S WALDEN	59	(84 SHIRBURN)
2 DEAN	33 PEGSDON	(84 SHIRBURN)	85 ADWELL
3 CHECKENDON	34	● MERE	86 CROWELL
4 GREEN DEAN WD	35	60 GREENMOOR HILL	87 MUZWELL FM
5 DUNSDEN	36	61 RUMER HEDGE WD	88 FLACKWELL HTH
6 HARPSDEN	37	62 UXMORE FM	89 MISWELL
7 LR. ASSENDEN	38	63 HOMER FM	90 DUDSWELL
8 N. ASSENDEN	39	64 PARMORE	91 BLACKWELL HALL
9 UP. ASSENDEN		65 HAZELMERE	92 WELL FM
10 GANGSDOWN	● CUMB	66 HOLMER GREEN	93 SEWELL
11 YEWDEN	40 COOMBE END FM	67 CODMORE	94 BIDWELL
12 HAMBLEDEN	41 HUNTERCOMBE END	68 WIDMORE FM	95 SOPWELL
13 FILLINGTON FM	42 SWYNCOMBE	69 HOLTSMORE ?	96 AMWELL
14 HUGHENDEN	43 WATCOMBE	70 DELMERE END FM	97 WHITWELL
15 LR. N. DEAN	44 WARMSCOMBE	71 PLUMMERS	98 KINGSWELL END
16 UP N. DEAN	45 COOMBS FM	72 GOSMERE	99 WELL HEAD
17 GT. HAMPDEN	46 COOMBE	73 BLACKMORE END	100 WELLBURY HD.
18 LT. HAMPDEN	47 COOMBE BOTTOM	74 BLAKEMERE	101 CADWELL
19 GT. MISSENDEN	48	75 BARMORE FM	102 HOLWELL
20 LT. MISSENDEN	49	76 WIDMERE	103 STAMPWELL
21 FLALNDEN		77	104
22 FRITHSDEN	+ BURNA	78	105
23 NETTLEDEN	50 BOURNE END	79	106
24 GT. GADDESSEN	51 WOOBURN		107
25 LT. GADDESSEN	52 BOURNE END	♣ WELL (A) ETC.	108
26 DANE END	53 REDBOURNE	80 MONGEWELL	109
27 HARPENDEN	54	(81 EWELME)	♣ FUNTA
28 DANE FM	55	82 BRIGHTWELL	110 CHALFONT ST GILES
29 ST. PAUL'S WALDEN	56	BALDWIN	111 CHALFONT ST PETER
30 MUNS DEN	57		



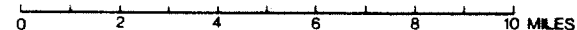
MAP 1a



THE SOUTH CHILTERN

KEY

- DRY VALLEY -----
- INTERMITTENT STREAM - - - - -
- WINTERBOURNE - - - - -
- EDGE OF CHALK OUTCROP APPROX. - - - - -
- CONTOUR INTERVAL 200 FEET



MAP 1b

CROSS-SECTION OF AN ESCARPMENT

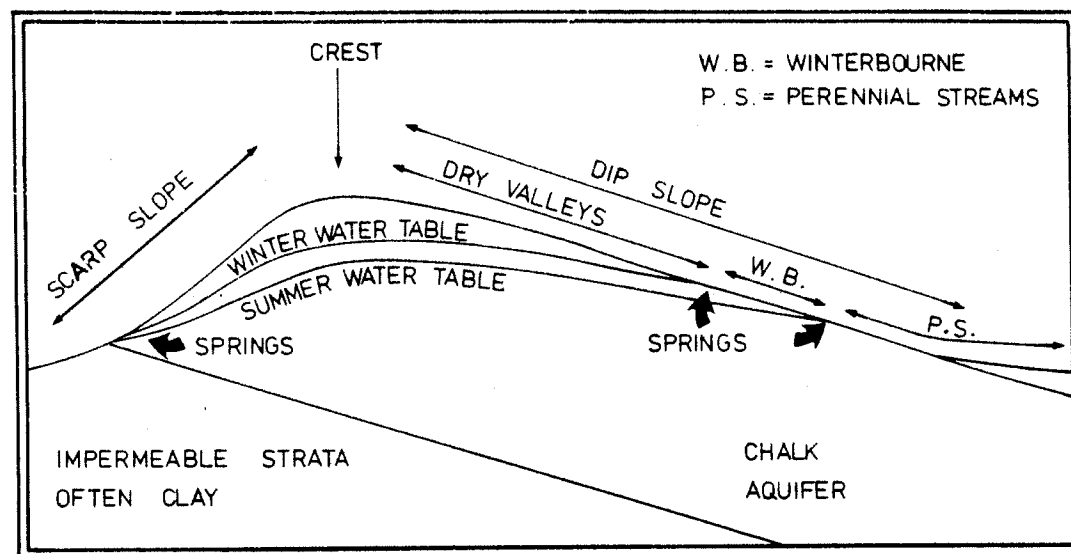


FIG 1

streams. Maps 1 and 2 show the extent of the dry valleys, the valleys with seasonal streams, and the valleys with perennial streams.

First we must establish the situations in which cumb and denu occur in the southern Chalklands. We shall then be in a position to review the definitions of these two terms.

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CUMB

CUMB in The Chilterns

Map 1 of the South Chilterns (unfortunately not detailed enough at this scale to show every little hollow and valley) shows five cumbs on the scarp slope - the N.W. slope. Huntercombe End (No. 41 on the map) overlooks a bowl-shaped hollow, a coombe, eaten into the steepest part of the scarp slope; a more gentle valley leads out of this coombe. Swyncombe (42) lies within a broad, short, deep valley. Coombe (46) is a small settlement in a deep hollow, while Coombe Bottom (47) is a striking, deep, steep-sided trough near Ivinghoe. It is a notable landmark, but has too limited an area of floor to attract a settlement. Watcombe Manor (43) is an interesting example. It lies on the edge of Watlington, about one mile from the scarp foot, and one and a half miles from the heart of the nearest coombe. It is on almost flat land. This unexpected, un-cumb-like site for a cumb place-name is explained by the transfer of the name from its original location. Formerly, Watcombe Manor was in, or near, the present day hamlet of Howe, which lies at the mouth of the nearest coombe at the foot of the escarpment. In about the eighteenth century the owner built a new dwelling on the site of the 'lost' village of Ingham on the

edge of Watlington, and gave it the name of his old home (V.C.H. Oxfordshire VIII, p. 214). So Ingham has been replaced by Watcombe, an inappropriate name. In fact the original Watcombe had a site akin to the other scarp slope cumbs.

Warmcombe (44) and Coombes Farm (45) on the other hand, both occur in dip slope valleys, but they do not occur in the main valley. They are both in short side valleys, tributary to the main valley. Finally, Coombe End Farm (40) occurs in the 'gorge' known as the Goring Gap, where the Thames breaks through the Chalk ridge of the Chilterns-Berkshire Downs. The gorge here is steep-sided, and Coombe End Farm lies in a small valley opening onto the gorge. It is in a strike valley, that is, a valley running parallel to the main rock outcrop.

The typical situation for a cumb place-name in the Chilterns is thus in a short, usually steep-sided valley, or in a hollow, five out of the eight names occurring in the scarp slope valleys. The Chiltern denus will be considered in more detail later, but it is worth noting at this point that, in contrast with the cumbs, nearly all of them are in long dip slope valleys (cf. Fig. 2A).

EFFECT OF DIP OF STRATA ON POTENTIAL VALLEY LENGTH

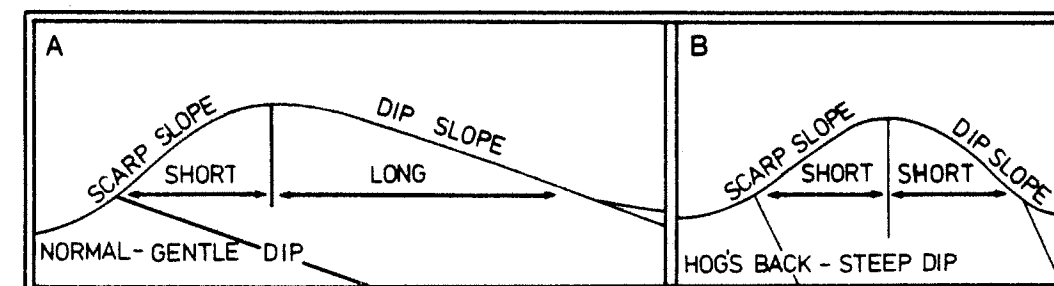
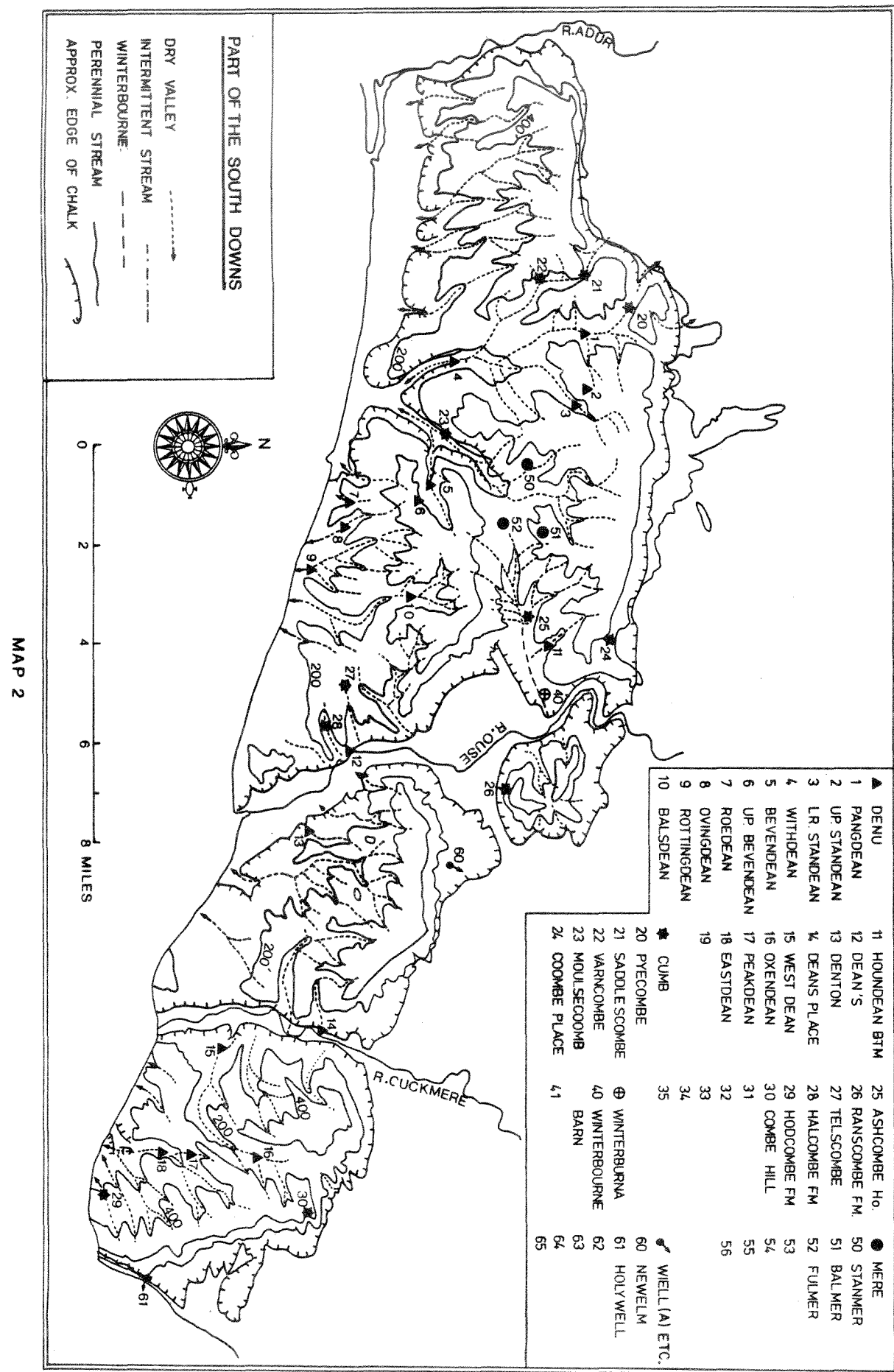


FIG 2

CUMB in The South Downs

As can be seen in Map 2, the Chalk of the South Downs runs roughly east-west. Most of the scarp slope is north-facing and the dip slope south-facing. There are two cumb place-names on the scarp slope. Coombe Place (24) lies near one of the larger coombes and Combe Hill (30) is a topographical feature, a hill between two prominent coombes, not a settlement. The scarp slope valleys of the South Downs are much smaller than those of the Chilterns, and they appear to hang half way up the hillside. Moreover they are in shade for most of the winter months, so they were not attractive as settlement sites. People preferred to settle further north on more open, sunny land. This is probably why there are so few cumb settlements on the scarp slope of the South Downs. However, a fold in the Chalk has produced a short stretch of south-facing scarp slope on Mount Caburn, and here, on a small area of flat land between the Ouse's marshes and Mount Caburn, lies Ranscombe Farm (26). It is in the joint mouth of three short coombes which enjoy winter sunshine.



MAP 2

As with the Chilterns, there are several cumbs on the dip slope. Moulsecoomb (23) is in a very short tributary valley. Varncombe Barn (22) and Halcombe Farm (28) are in fairly short tributary valleys, and both are at the mouths of even shorter side valleys within those tributary valleys. Hodcombe Farm (29) is in a dip slope valley that has been truncated by coastal erosion.

Telscombe (27) illustrates another situation in which cumb can occur. This village lies at the head of a long denu-like valley, but the head is bowl-shaped, rising steeply on three sides, but open to the valley on the fourth. The neighbouring valleys do not have this bowl-shaped head, nor do they have cumb settlements in them.

Pyecombe (20) and Saddlescombe (21) both have unusual sites. They lie in cols where now long vanished streams flowed right across the South Downs. These cols, or saddles, are at the highest point between a scarp slope and a dip slope valley. The names must originally have denoted the scarp slope valleys, and have been transferred to the villages whose sites, unusually overlooking the valley instead of being in it, were probably chosen to catch the winter sunshine and avoid the deep, shady, north-west-facing valleys.

Although the picture is more complicated in the South Downs than in the Chilterns, the situations of cumb place-names will suggest a similar contrast with the situations of denu place-names, as we shall see later.

CUMBS associated with hog's back ridges

A hog's back occurs where the strata dip steeply (see figure 2B). In this situation both scarp and dip slopes are short and steep, and so the valleys that develop are short on both sides of the ridge. It is necessary to have a dip slope of two or three miles width for a good valley system to have developed, such as is found on the dip slopes of the more gently dipping Chilterns and South Downs (see Figure 2A).

There are several stretches of Chalk hog's backs in southern England; The Hog's Back near Guildford, the Purbeck Hills in Dorset, and parts of the central ridge of the Isle of Wight such as Tennyson and Arreton Downs. There are two coombes with cumb settlements on these scarp-like slopes, Brenscombe Farm (Purbecks) and Shalcombe (I.o.W.). In general the coombes are so small that few settlement sites are available. There are no denus, since, as already noted, they occur in long valleys.

However, geological conditions in the vicinity of a hog's back produce another situation in which cumb can occur. This is a small valley developing in a narrow outcrop of a soft stratum between two outcrops of more resistant strata. Compton (Surrey), Compton Farm, Rancombe, and Coombe (all I.o.W.) are examples. In the I.o.W. examples the soft stratum is Clay sandwiched between Chalk and Lower Greensand. The valleys are short and parallel to the rock outcrop, and are further examples of strike valleys. Strike valleys may vary enormously in size. It is only the smaller ones which contain cumbs.

CUMB in Dorset

Dorset is particularly rich in cumb settlements and landforms. It provides

excellent examples of cumb in most of the situations discussed. For example East Compton, Batcombe and Longcombe Bottom all occur in scarp slope valleys, while Compton Valence and West Compton occur in bowl-shaped heads of long valleys. It also adds one further situation, namely, at the head of a long dip slope valley, especially where the valley head is very abrupt, such as Ashcombe Bottom and Malacombe Bottom (Dorset-Wiltshire border).

Summary of situations in which CUMB occurs

- i) Scarp slope valleys and hog's back valleys. 13 examples.
- ii) Small tributary valleys of dip slope valleys. 7 examples.
- iii) Heads of dip slope valleys. 2 examples.
- iv) The bowl-shaped heads of long valleys, whether scarp, dip or strike. 3 examples.
- v) Cols overlooking scarp slope valleys. 2 examples.
- vi) In small strike valleys. 5 examples.

The number of examples cited refers only to those appearing on Maps 1 and 2, with the addition of any others alluded to in the text. There is a potential overlap between categories ii) and vi) as some strike valleys are tributary to dip slope valleys.

If we exclude situation v) (cumbs in cols where a name has been transferred from a valley to a settlement overlooking that valley) cumbs occur basically in one of two situations; firstly in short valleys and secondly at the heads of long valleys. In almost all cases they have quite steeply rising ground on three sides.

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DENU

DENU in The Chilterns

33 denus are shown on the map of the Chilterns. 29 of these are in dip slope valleys. Even on a map of this scale their sites in long, fairly narrow valleys show up clearly in most cases. Checkendon (3) is an exception, as only part of this straggling village lies in a valley, which is too shallow to show.

There are four denus (1, 2, 10, and 33) which do not lie on the dip slope. Ipsden (1) and Dean (2) lie in fairly long strike valleys, leading down to the Goring Gap, which are very similar to the dip slope valleys in appearance and so the names are still appropriate. Gangsdown Hill (10) (Gangvlvesdene 1086, Gelling 1953/54) now refers to a ridge road running down the escarpment between Huntercombe on its north and another valley to the south. Huntercombe is a steep scarp slope valley at its head but it flattens out into a more gentle valley as it crosses the Lower Chalk. It is not clear which valley Gangsdown refers to, but both the lower end of the Huntercombe valley and the other valley can be regarded as denu-like, that is, a

valley long compared to its width. Although this is an unusual situation for a denu, it is not unacceptable. Pegsdon (33) - if it is a denu name at all - is also in a scarp slope valley, though an unusually long, denu-like one. The name is uncertainly identified with Peacesdele 1014 (recte Peacesdene?).

Most of the 29 dip slope denus have one other important feature in common. The majority, 23 of them, are in a dry valley, that is, in the part of the valley where streams never flow. Four lie on intermittent streams (7, 8, 11, 12). Two lie at the perennial heads of rivers. These two are Little Missenden (20) and Great Gaddesden (24). In both cases there are other settlements of the same name in the dry part of the valley, and it might have been these to which the name was first applied. The four non-dip slope denus are also in dry valleys. Apart from Little Missenden and Great Gaddesden no denu place-names occur on the winterbourne or perennial stretches of the streams.

DENU in the South Downs

There are 18 denus shown on the map of the South Downs. 13 lie in dip slope valleys. Two are on valley sides overlooking a settlement of the same name in the dip slope valley. Upper Standean (2) overlooks Lower Standean (3) and Upper Bevendean (6) overlooks Bevendean (5). Three are at the mouths of strike valleys: Dean's (12) Deans Place (14) and West Dean (15). These three are so near the flood plains of the Ouse and the Cuckmere that drainage ditches are necessary nearby, but the strike valleys are dry. All these 18 denus are associated with dry valleys.

The hog's backs

No denus occur in the hog's backs mentioned earlier, since the valleys are too short for suitable sites.

DENUS in Dorset

Denu is a rare place-name element in Dorset, although the horse-shoe shaped Chalk outcrop contains many dip slope dry valleys offering suitable sites for settlements containing the element denu in their names. Most of the denus occur on the Chalkland east of the River Tarrant. Here there are six settlements whose modern names incorporate the element dean, two of which, Dean and Dean Farm certainly derive from denu (Mills 1977, 1980). They are all in dry stretches of winterbourne valleys in sites akin to those on the dip slopes of other escarpments. Denu occurs as a minor name, mostly for woodland, in the upper reaches of several of these easterly valleys. It appears to be absent or very rare in the Chalkland further west. However, this picture may need revising when the remaining volumes of the English Place-Name Society Survey, The Place-Names of Dorset, are published.

Summary of situations in which DENU occurs

- (i) In dip slope valleys. The majority are on the main valley floor. A few are on valley sides, and a further few are in long tributary dip slope valleys. In almost every case they occur in the dry valley section. 43 examples are shown on the two maps.

- (ii) In strike valleys, where these are long and dry. 6 examples.
- (iii) In scarp slope valleys if these are long and dry. These cases are rare 2 examples.

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Coates, it will be remembered, has suggested that the difference between a cumb and a denu is that a cumb is a valley with flowing water in it, whilst a denu is a valley without flowing water in it. In the southern counties which he considers he lists 61 cumbs with 'flowing water' in them and 20 which are 'dry', and he lists 10 denus with 'flowing water' and 39 which are 'dry'. There certainly appears to be a correlation here, but not a very convincing one.

The weakness in Coates's argument is that he considers valleys on all rock types represented in his southern counties together, without taking account of the rocks' porosity and permeability. All the areas he considers have considerable outcrops of Chalk, which is a permeable rock; surface water in the form of streams and rivers is therefore scarce whatever the shape and size of the valley. Most other rocks, except Limestone and Gravel, are much less porous or permeable and so there are numerous streams and rivers in a wide variety of valleys.

The South Downs of Sussex are Chalk, with little surface water, whilst further inland are clays, sands, and Greensands, with an abundance of surface streams. It would not be surprising if the cumbs and denus listed which appear on Chalk lacked flowing water, and if the cumbs and denus listed which appear on other rock types contained flowing water.

Using Coates's lists of cumbs and denus for Sussex a table has been drawn up showing:

- i) if the place was on Chalk,
- ii) if the place was not on Chalk,
- iii) if the valley had flowing water, according to Coates,
- iv) if the valley was dry, according to Coates,
- v) if the valley had flowing water, according to the writer,
- vi) if the valley was dry, according to the writer.

Nine of the 30 cumbs listed by Coates have been omitted; the sites of five cannot be identified with certainty by either of us; the other four only appear on large scale maps. Six of the 28 denus listed by Coates are omitted; the sites of four cannot be identified with certainty, and two only appear on large scale maps. The results are as follows.

Cumbs

	<u>Coates</u>	<u>Cole</u>
On Chalk and with flowing water	8	0

	<u>Coates</u>	<u>Cole</u>
On Chalk and dry	4	12
Off Chalk and with flowing water	8	7
Off Chalk and dry	<u>1</u>	<u>2</u>
	21	21

Denus

	<u>Coates</u>	<u>Cole</u>
On Chalk and with flowing water	5	2
On Chalk and dry	14	16 + 1?
Off Chalk and with flowing water	2	2
Off Chalk and dry	<u>1</u>	<u>1</u>
	22	22

There is good agreement between the two sets of figures for places off the Chalk. The two discrepancies among the cumbs arise from one mis-identification of a place - Molecomb for Malecomb, and one, Gotham, which is close to, but not on, a stream. For places on the Chalk there are rather more serious discrepancies, especially with the cumbs. This appears to be due in many cases to the interpretation by Coates of the hydrological data.

Data for the flow of intermittent streams on Chalk is hard to find, frequently vague and ambiguous, and therefore hard to interpret. The data for the South Downs is no exception, as a few examples will show.

It seems most likely that Withdean is the main Patcham-Brighton valley. The Wellesbourne flowed, before it was culverted, in this valley. In the very wet season of 1875-6 it rose at Waterhall, but more often appeared lower down the valley at Patcham. It is described as an 'intermittent stream' (Whitaker 1911, p. 241) which 'flowed at times' through the streets of Brighton (Osborne White 1924, p. 100). It is not possible to tell from this whether the stream was a winterbourne rising regularly every year (although if it was, surely its channel would not have been obliterated by streets) or a stream which flowed only in some years. In any case it was not a perennial stream. This valley, therefore, should not be considered to be a valley with flowing water. To have a denu place-name in a valley with an intermittent stream is perfectly consistent with the examples from the Chilterns.

There are references to occasional bourne flow in a number of other places, which appear to be Coates's 'historically attested' streams. In fact these valleys are normally dry; Ashcombe, Compton, and Moulsecoomb are three good examples. The winterbourne usually rises near Ashcombe House, and there is no permanently flowing water there. The winterbourne in the valley where Compton lies, rises one-and-a-quarter miles down-valley from Compton (Whitaker 1911, p. 145). Moulsecoomb is in a small side valley, not the main Falmer-Brighton valley, as can be seen on early editions of the one-inch O.S. maps (such as the first edition or the 1904 edition) and has no stream in it. In any case the Falmer-Brighton valley must also be considered dry, as its bourne flow is so irregular (Osborne White 1924,

pp. 99-100). Varncombe Barn, whose site Coates has not identified with certainty, lies at GR.275099, where the ruins of the old barn can still be seen. It is well above the old high rising point of the Wellesbourne at Waterhall, and contains no flowing stream. East Dean occidentalis has no stream, seasonal or perennial, flowing through it. West Dean is on a winterbourne. It is possible that East Dean is the original settlement and West Dean a later, daughter settlement. A similar situation occurs in East and West Dean orientales (cf. Missenden and Gaddesden in the Chilterns). Malecombe (East Dean occid.) is dry and was seemingly confused with Molecombe (Westhampnett). Coombes is on a drainage ditch at the mouth of a dry valley. Saddlescombe and Pyecombe have no stream flowing through the village, although the coombes from which they probably took their names do have.

Thus Coates's interpretation of the hydrological data could be improved, having due regard for the nature of stream flow in Chalk areas. In particular, three of his denus with flowing streams become three dry denus, and his eight cumbs with flowing water should be reduced by six, with Saddlescombe and Pyecombe remaining as debatable sites. This strengthens his argument that denus are valleys without flowing water, but weakens his argument that cumbs contain flowing water.

Using the revised data it is evident that denus on Chalk are normally dry (17 examples), the two West Deans being exceptions. On other rock types, two denus have flowing streams in them and one has not. Since there are other denus in other areas on flowing streams (such as Bradden and Helmdon in Northamptonshire and Biddlesden and Lavendon in Buckinghamshire), not all denus can be regarded as dry. Of the cumbs on Chalk, ten are certainly dry and two are debatably so. Of the cumbs on other rock types, eight are in valleys with streams and one is in a valley without a stream. There are therefore eleven 'dry' and eight 'wet' cumbs. This does not support the suggestion that a cumb can be defined as a valley having flowing water in it.

Coates's suggestion that denus are streamless valleys therefore requires the qualification that this only holds good in Chalk country. His suggestion that cumbs are valleys with flowing water does not stand up to close examination.

If the presence or absence of flowing water in a valley does not distinguish cumbs from denus adequately, it is necessary to look for some other diagnostic features. Gelling (1976, p. 925) put forward the suggestion that cumb is 'mostly used of shorter, shallower, broader valleys than denu' and 'denu is mostly used of valleys which are long and narrow. The perfect example is the long and twisting valley in Kintbury . . .' Coates, however, ignores Gelling's comments on the relative lengths of cumbs and denus; he dismisses her breadth criterion by citing only two denus and two cumbs, the sites of both cumbs being unusually steep, narrow, and long (art. cit., p. 29). He seeks to disprove the depth criterion and adds a 'pitch' (i.e. gradient) factor of his own; he also adds a 'windingness' factor, apparently assuming that the comment on the twistiness of the valley in Kintbury means that all denus are twisty, and, by implication, cumbs are not. His evidence is presented on Table 1 (ibid., p. 30) using seven examples from South-East England. This sample is far too small to be representative. He quantifies the topography of four cumbs and three denus only, in contrast to the 130 valleys cited in his paper. There are problems, too, in comprehending his term 'windingness' (sinuosity?) which is not

quantified, and his definition of the 'pitch' of a valley, which does not acknowledge that the long profile (or gradient) of a valley is variable and generally steepens upstream. Coates's data must therefore be considered quite inadequate, either to disprove, or lend support to Gelling's proposition.

If we are to understand the meanings attached to the valley (and other) terms the Saxons used we must try to see the landscape as through their eyes. We need to remember that although they probably recognised many different rock types, they had little or no understanding of how those rocks were moulded into hills and valleys, nor why in some areas streams were seasonal. They would not have measured a valley's width, length, depth, or gradient with the scientifically minded approach we use today, nor would they have labelled them by their mode of origin as we often do. They were nevertheless acute observers of the landscape, and their assessment and naming of a landform was due to long experience and was intuitive.

To judge by the evidence considered in the present paper, the Saxons appear to have perceived a denu as a valley long compared to its width and with moderately steep sides. It could be winding or it could be straight, although very few valleys are entirely straight unless they follow fault lines. These valleys will have resembled the urstromtåler of the North German Plain, which were long valleys between the huge arcs of terminal moraine left by the ice sheets, and which sometimes had streams in them and sometimes did not. The earliest Saxons may have been familiar with these valleys. When they arrived in England they found not only long valleys, but also many short ones; some were bowl-shaped and some trough-like, but they were short compared to their width, and frequently deep for their size. A new term seems to have been needed and cumb, apparently a loan-word from British speakers, was adopted.

Probably size was not very important within quite wide limits as far as cumb and denu are concerned, so long as the whole valley could be experienced. A 'denu' may be three-quarters-of-a-mile long, like the Dunsden 'denu', or almost nine miles long, such as the Harpsden 'denu'. 'Cumbs' may be equally variable in size, from the large Winchcombe 'cumb' in Gloucestershire to the small Ranscombe 'cumb' in Sussex. It is the relative proportions and resulting overall shape that are important.

Gelling's definitions come close to this intuitive, descriptive approach which the Saxons would have used, since the features she mentions, breadth, length and depth, if taken together, produce the all-important shape.

In conclusion, there is still so much work to be done on cumbs and denus outside Chalk areas, and so much to be done on other valley terms describing slightly different valley shapes, or offering an alternative local word, that it would be premature to try to give an exact definition of cumb and denu at this moment. We need to continue our research using today's knowledge and technical terms as pegs to hang our discoveries upon, and to arrive at successive approximations to the truth. In the long run the definitions are likely to be descriptive rather than quantified. From the Summary of situations in which CUMB occurs (above), the reader can judge how difficult it is to define cumb in modern terminology. As a start we can hardly do better than to return to Gelling's glosses and modify them slightly to read:

'Cumb is mostly used of shorter, broader valleys than denu, and these valleys are usually bowl- or trough-shaped with three fairly steeply rising sides, whilst denu is mostly used of long, narrow valleys with two moderately steep sides and a gentle gradient along most of their length.'

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