Dartmoor.

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If Dartmoor were to be described by a single characteristic, it would be by isolation.

The highest land in the west of England, it reaches an elevation of over two thousand feet ; despite its surface relief it is a tableland in a country of hill and valley ; it is an island of granite in a sea of Devonian and carboniferous rocks ; an uncultivated expanse in an agricultural county.

The granite of Dartmoor occupies 248 square miles, from north to south it extends 22½ miles, and from east to west at its widest is 18 miles. One hundred and eighteen and a half square miles are above the 1,200-feet contour, and 28 square miles are above 1,600 feet.

The granite represents the root of a mountain, formed during a period of mountain-building which succeeded the Carboniferous Age, and preceded the Permian. During the Liassic and Cretaceous Ages the mountain, already greatly reduced by denudation, rose as an island from the sea.

In prehistoric times it was open country, when its surroundings were forest and scrub, and the days of early history must have seen this distinction largely sustained, since clearance and enclosure made but slow advance. The Saxons certainly made individual settlements around the borders and in the more favoured valleys, as evidenced by the many place-names containing the element "*worthy*," an element which had the value of the modern term "*new-take.*" The Celts, on the other hand, appear to have neglected the moor in favour of the shoreward lands, and especially to have favoured the estuaries. There is no place-name of undoubted Celtic origin on Dartmoor.

Much later there was still the severance between Dartmoor and its interests and the rest of Devon. When John disafforested Devon, Dartmoor and Exmoor remained royal forests, subject to the forest laws, the administration of which for Dartmoor then centred at Lydford. From which probably has been derived the ill odour of " Lydford " law "—*first hang and draw, and sit in judgment after.* Lydford to-day is but a small thing, even as a village, yet in Saxon times it possessed a mint, and coins minted at Lydford are well known, the best collection probably being at Copenhagen, reminiscent of the tribute paid to the Danes. In the year 997 the Danes sacked Tavistock, and attacked Lydford, with what success is not known, although it may be doubted they succeeded in rifling the mint, the treasures of which could readily have been conveyed to safety in the recesses of the moor. Before the Conquest Lydford was certainly the equal of any borough in the county.

In the year 1239 Henry III. granted to his brother Richard, Earl of Poictou and Cornwall, the manor of Lydford and the forest of Dartmoor, thus first associating Dartmoor with the Earldom of Cornwall. Incidentally forest status was lost, and Dartmoor became a free chase. The manor and forest reverted to the Crown on the death of Edmund, Earl of Cornwall, in 1300 ; and in 1336-7 Edward III. created his son, Edward, Prince of Wales, Duke of Cornwall, and granted him, *inter alia,* the castle and manor of Lydford and the chase of Dartmoor. Since which date, whenever there has been a Prince of Wales he has also been Duke of Cornwall and Lord of Dartmoor—with reversion to the Crown failing a Prince of Wales. It follows that on Dartmoor there is yet a mitigated feudalism, and it is in that respect once more an island, surrounded by what is a well-nigh unmitigated democracy.

It is doubtful whether the early prosperity of the municipal, and, later, the parliamentary borough of Lydford, can have been founded on its association with the forest. The rights of the burgesses were, in fact, in restriction of the dominance of the Crown in the forest, as were

also the rights of the venville men and the commoners of Devon. There is yet extant a document originating with the Duchy of Cornwall which sets forth that the venville tenants " shall have in the forest of Dartmoor all that may " do them good except green oak and venison."

But one must look further for the substance upon which the thriving borough was founded ; and in the mists of history one may well be lost. It may be ventured, however, that the tin of Dartmoor was the foundation upon which Lydford was built. In early days Dartmoor was an important source of tin supply, and if with the decay of the Bronze Age one use of that metal became less important, it is not to be forgotten that there was also, in a very real sense, a Pewter Age.

Certain it is that the working of tin had become a trade possessing peculiar privileges, and even a jurisdiction of its own, at a date before record ; and the tinners were a privileged class long before the grant of a charter by Edward I. in 1305, their privileges being expressed by that charter to be " of ancient custom."

Certain it is that they had a parliament of their own and waged strife with the Parliament of England, not by any means without occasional success. The stannaries were the refuge of the villein, who, when working in tin works, became the king's man and escaped the manorial lord. They called all men to their courts in matters touching the stannaries. They answered no bailiff but their own nor took account of hundred-men. In short the stannaries were a blot on the manorial system. But they were a source of revenue to the Crown, and their immemorial privileges received support accordingly. The castle of Lydford became the prison in which persons offending against the stannary laws were interned (1305). One of the conflicts between the parliaments arose over the imprisonment of Richard Strode at Lydford for using speech attributing to the tinners damage to the havens of Devon. This was in the reign of Henry VIII. Strode petitioned Parliament, and alleged that he had been detained in a " hainous,

" contagious and detestable " dungeon at Lydford, which is, perhaps, doubtfully a statement of precise accuracy, although there is a pit yet to be seen in the castle which would meet that description. Strode being Member for Plympton was supported by Parliament, and a special Act was passed in his favour declaring at the same time the right of free speech. And so the Mother of Parliaments asserted itself in defence of her son, and what may well have been the grandmother of Parliaments received a check. The victory was not on that occasion with the stannaries.

The first available evidence as to the extent of the tin production of Dartmoor indicates that in 1156 it was somewhat in excess of 70 tons a year. Thereafter for many years it fell at times to less than a third of this weight. With many fluctuations the produce of stream tinning and shallow workings reached a maximum of 207 tons in the year 1524. During the reign of Elizabeth the average production was approximately 100 tons a year. Most of the old smelting-houses and other mining remains on the moor are apparently of Elizabethan date. Small as the trade may appear to have been, many were concerned in it, mostly men of other occupations, tinners perhaps at times, farmers at other times. Even the churchwardens of Chagford invested parish moneys in tin ventures—they appear to have been men of sound judgment, since their accounts show a profit. By the year 1643 the trade or industry had perished, and was only revived when more modern mining methods came in being. Now, as far as Dartmoor is concerned, it has ceased to be.

We know something, therefore, of the growth and decay of the industry since the days of Henry II., but as to its origin we are ignorant. The identification of Devon and Cornwall with the *Cassiterides* of the Greek and Roman writers seems certain, but they wrote at a period late as compared with the first European use of bronze.

With one possible exception no trace has been found of the occupation of Dartmoor by any race earlier than the

first users of bronze in England. But the men of the Early Bronze Age have left their mark upon its hills and valleys. Their habitations are represented by the circular walls of approximately four feet in height which formed the enduring part of the dwelling. These circles vary between twelve and thirty feet in internal diameter. At places the huts are gathered in clusters within circular enclosures, now known as "pounds," rather for security of the flocks, as it would appear, than as works of defence. Their graves, all probably originally covered by round barrows of cairns, are strewn over the moor. Many of the graves were kistvaens, small stone chests with sides and ends of granite slabs, and coverstones also of granite. The evidence is that cremation was invariably practised. Many of the barrows had retaining circles of stone, set in the subsoil.

Larger circles, up to eighty and more feet in diameter, are found, the stones standing at intervals. These have yielded no evidence of interments, but traces of large fires have been found within them.

Lines of stones, either double, single, treble, or even sevenfold are found. The stones are mainly small, perhaps an average height above ground would be less than three feet six inches. These are always associated with graves. Sometimes the alignments are of great length, one, in the valley of the Erme, extends two and an eighth miles. If the intent or use of either the larger stone circles or the stone rows is sought—the only honest answer is "It is not "known." The same answer must be given as to the menhirs, or large standing stones, which are sometimes associated with the stone rows and circles but are at times isolated.

In none of these remains, huts, graves, stone circles and rows, and menhirs, will any worked stone be found. The natural jointing of the granite supplies all forms—blocks fitted for cyclopean masonry, slabs for lining huts and building kistvaens, and columnar stones.

Patient excavation and search have established that the builders of the huts and of the stone monuments were in

the stage of culture known as the "Early Bronze." Did they raise tin on Dartmoor for employment by themselves or other more skilled metallurgists in the manufacture of the bronze alloy? No answer is available. It is known that tin was worked in Cornwall when the land was materially above its present level relative to the sea, but that affords no date. Only it is possible that the hut dwellers may have been tinners, and local patriotism inclines to that belief. Nevertheless no evidence of their work has been found as yet; which is the less surprising considering the completeness with which the mediæval and Elizabethan tinners worked over the whole area, and in working destroyed all previous evidence.

One of the charms of Dartmoor is that it affords a complete museum of the culture of the Early Bronze Age: a museum whose treasures are well-nigh inexhaustible.

It has been suggested that in the days of the hut dwellers the climate of Dartmoor was less severe than in these our days. For this there is no evidence; of a well-nigh arctic climate long before their coming we may speak with some certainty; we may even claim that in those days of cold the moor had much its present contour.

The old men knew their business; their selection of site was admirable. Their houses, lined with granite slabs, which were when necessary backed with dry-stone walling, and always backed with soil to a thickness of seven or eight feet, were snug and warm. The entrances were always small, and always faced towards the south or south-west; the floors were the subsoil of decomposed granite, the surface peat having been removed; often the floors were paved. Fires they had, and from the evidence of the charcoal they did not stint the fuel. Skins and pelts they may safely be assumed to have had, and they knew how to spin, so that woollen clothes were available.

If men could live and bring up families in some of the modern huts which I have known on Dartmoor, they could certainly winter in the hut-circles.

And what is the climate of Dartmoor?—it is that of a

Devon upland. Allowing for elevation it is still a favoured region. Here, in Torquay, you must speak, and even think, respectfully of the climate. Princetown, on Dartmoor, lies 1,347 feet above the meteorological station at Torquay. It is commonly assumed that there is a fall of one degree Fahrenheit for every 300 feet rise in ground level, so that temperatures at Princetown should be $4\frac{1}{2}$ degrees lower than at Torquay. The mean temperature at Torquay is 51·1 degrees, at Princetown it is 46·2. The mean of the yearly minima at Torquay is 45·6 degrees, and at Princetown 40·9. While the mean of yearly maxima is 56·0 at Torquay, and 51·4 at Princetown. Buxton is colder than Princetown.

In the matter of rainfall there is wide variation at the Dartmoor stations. Where there are hut-circles the rain will rarely be found to average more than from 76 to 80 inches per annum, and above 1,200 feet fogs are fairly frequent. But rain does not in itself render a district uninhabitable, it does not even inhibit agriculture of a primitive nature.

A much worse enemy is the wind, the nor'-nor'-west wind of Dartmoor can kill anything except man and beast. It does not kill the modern Dartmoor man nor the Dartmoor pony, where the latter is not excluded from the more sheltered coombes by new-take walls. But it prohibits afforestation, as may be judged by inspection of the primitive oak-woods of Wistmans Wood, Black Tor Beare, and Piles Wood.

Primitive forms of agriculture were certainly possible on the moor, but as regarding modern requirements it is probably no exaggeration to estimate that, except in a few favoured spots, it costs a shilling to make sixpennyworth of arable land, and threepence a year to keep it. It is an old saying that if you scratch the back of Dartmoor she will slit your purse ; and yet in each succeeding century you will find " improvers " of Dartmoor, each with his formula for making the desert blossom as the rose. But Dartmoor is no desert, it has its use as rough pasture, and

in these days it has its use as a source of water supply. All the larger communities of South Devon are now dependent on Dartmoor for their water. The ample rainfall—at rare intervals it will reach within a very little of an inch a day average over thirty successive days—is aided by the nature of the watersheds. These have, over large areas, a subsoil of decomposed granite lying under a surface soil of peat. The decomposed granite stores the water, the peat prevents evaporation, and thus, although the floods are great and brief in duration, the summer flow is also unusually large. A common value for Dartmoor watersheds is a summer flow at the rate of 0.7 cubic feet per second per thousand acres ; in less favoured parts of England one-third of this discharge would be reckoned high.

The total yield is also high, 92 per cent. of the rain falling upon a Dartmoor watershed may find its way into the stream, as an instance 71·32 inches flowed off a watershed in a year in which the rainfall was 77·48 inches.

From the smaller watersheds, up to 1,000 acres in extent, there may be occasional floods of extreme character. Thus, on the 17th August, 1917, 990 acres of the Redaven valley yielded a flow at the rate of 3,900 cubic feet of water per second, more than 3,900 times the ordinary summer flow. These catastrophic floods do little harm beyond the destruction of an occasional bridge ; and happily they are rare, possibly occurring once a century on the average.

It may be thought that some of the data are inconsistent with the claim as to the habitability of the moor ; the fact remains that it is inhabited, and that no Dartmoor man ever complains, while many of us, whose lot is cast elsewhere, devote to the moor as large a part of our lives as circumstances can be made permit.

There is also a convincing piece of evidence: as late as the end of the seventeenth century, and even during a part of the eighteenth, the traffic between West and East Devon, rather than face the roads of the South Hams, pursued

tracks across the open moor ; even in the last year of the seventeenth century we find the Corporation of Plymouth contributing to the erection of guide stones on Dartmoor, " in the way leading from Plymouth towards Exon for the " guidance of travellers passing that way." Earlier still the main tracks were marked by stone crosses, often supposed to mark the routes followed by the monks in travel from and to the abbeys of Tavistock, Plympton, Buckland and Buckfast. No doubt the monks used these tracks, but there is evidence that they were routes of trade and travel before the days of the monasteries. As to the so-called roads of the lower lands, in 1411 Bishop Stafford of Exeter described a road hard by Plymouth as " deep, deep " and full of mud, exceeding perilous and harmful to " travellers and toilers thereby."

In part the modern roads occupy the sites of these primitive tracks, but mainly they represent new routes. The roads, and even the railway, are not sufficient to rob Dartmoor of its characteristic isolation, although the road menders have robbed it of many of its ancient remains ; even within the past few years two whole pounds with all but one of their huts have gone to repair the road between Princetown and Moreton.

It is well that the roads are few ; they bring, aided by modern transport, that scourge of the countryside, the tripper. Two years ago he had accumulated at Hey Tor more than ten tons of broken glass, and sufficient paper to utterly obscure the heather over an area of two acres.

The enemies of Dartmoor are many ; there can be no peace for her except in the assured status of a national park. That status she may well claim as the last piece of unspoiled England still substantially unaltered in natural features since the days of the first users of metals, and still preserving complete record of the culture of those days.