

## THE MOORSTONE AGE, PART I

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I HAVE already published (vol. xvii, p. 163, *Transactions of the Plymouth Institution*, 1928) a paper under the title of *The Moorstone Age*. That paper was brief, one item was in error, and in the past twenty-one years I have become better informed on the subject.

Quarrying for granite was almost unknown on Dartmoor earlier than the opening years of the nineteenth century; then, at Heytor in Ilsington, and Foggintor in Walkhampton, quarries were opened from which large quantities of stone were ultimately taken. But surface granite, undressed, was already in use during the Early Bronze Age. And stone cut and dressed from surface blocks was in use before the Norman Conquest.

It must not be thought that these surface blocks necessarily yielded stone of poor quality; the larger masses are but superficially affected by weathering, and in some localities, such as Foggintor and Hentor, the stone is so far unaffected by exposure that the edges of the blocks are still sharply angular.

There were two excuses for the use of surface stone; the right to take stone did not extend to a right to quarry, also, the cost of quarrying was avoided. There was another good reason for its use—in the main it proved a durable material.

There were, however, rare instances of bad selection; for example there is in *Harford Churchyard* an altar tomb bearing the date April, 1633. The inscription is in raised letters, and is now almost illegible. Three hundred and seven years after the erection of the tomb it was with great difficulty, and only under the most favourable conditions of lighting, that I was able to decipher the inscription.<sup>1</sup> By way of contrast the inscription, also in relief, from the *Old Town Conduit* in *Plymouth*, erected in 1598 is still perfectly clear; so much depends on selection.

<sup>1</sup> It may be well to preserve the matter of this inscription:—

HERE LY(ETH)  
IOAN THE WIFE  
OF RICHARD  
PREDIOX WHO  
DIED THE XI OF  
APRILL 1633

AND THOMAS  
THERE SONNE  
WHO DIED THE  
XIX OF APRILL  
1633

Surface stone is still used for local purposes, and even at times in the making of granite setts for carriageways in towns. An interesting note on its use is to be found in the *Gentleman's Magazine* (1849, Part II, p. 494) where, writing of the danger to the *Men Skriffa* (Madron, Cornwall) which had fallen, a writer says that it had been re-erected some twenty years earlier, but had again fallen, adding: "At that period (the period of its re-erection) the act of raising it was simply one of laudable reverence, for, whether standing or prostrate, its situation in an out-of-the-way croft seemed to promise it a sufficient security from injury. The case is, however, widely different now, when there is such a demand for our granite; and as the surface blocks are specially coveted, not only because they are more durable than the quarried material, but also because they are cheaper—leave being readily obtained for their removal, which renders the land available for tillage—it is much to be feared that the inscribed stone, no longer distinguished by its upright position, will be treated with as little ceremony as the nameless ones amongst which it lies."

Such were the conditions in West Cornwall a hundred years ago, and on Dartmoor matters were certainly no better; indeed they are still very unsatisfactory.

So far as they gave it any thought it must have comforted the conscience of the stone-mason, and reassured his customers, to believe in the superiority of surface stone. At least it usually proved a sufficient and satisfactory material.

For this rock the constant name was *moorstone*; the word *granite* was foreign to the western vocabulary prior to the advent of the systematic geologist. A kindred material, the felsite which occurs as a dyke on *Roborough Down* (South Devon) was known as *Roborough Stone*. The quarries on the course of this dyke could not have yielded as much of this rock as is known to have been used, largely in ecclesiastical buildings; and much must have been derived from surface blocks. *Roborough Stone* was favoured by the church-builders of the Perpendicular Period. It was also in use for domestic utensils, such as mortars and troughs. RICHARD STRODE, in his will, Oct. 12, 1464, directs that a new window of "Rowburgh-stone" shall be placed in the chapel of the Guild of St. Catherine in the church of *Plympton St. Mary* and that, in an arch under this window, his tomb shall be constructed, "fact'. de petra vocat' vulgariter Bere Stone vel alias de petra vulgariter vocat' Rowburgh Stone." In the event *Roborough Stone* was used for the window, and *Bere Stone* for the tomb.

In the following notes I give some account of the many uses to which *Moorstone* and *Roborough Stone* were applied.



## GATE AND DOOR HANGERS

Certain holed stones, often found in use as gate-posts, have puzzled western antiquaries. I figure one such stone, from the head of *Poriland Lane, Sheepstor*, on Plate o, fig. o, now serving as a gate-post of an adjacent field. Alike in Devon, where the holes more usually extend but partly through the stone, and in Cornwall, where they more usually pierce the stone, they have been regarded as of prehistoric origin. In the Isles of Scilly where, on *Tresco*, there is a stone pierced with two such holes, the idea is accepted that lovers, standing one on either side passed their hands through the holes, and, clasping hands, plighted their troth. The impossibility of their clasping hands under such conditions is not regarded as relevant evidence to the contrary.

There is no call for ingenious speculation; the REV. S. ROWE, writing from personal observation (*Perambulation of Dartmoor*, 1st ed. 1848, p. 89) says: "The primitive contrivance for hanging gates of the moorland crofts and commons, may be seen employed in this neighbourhood (Chagford). No iron hinge of any kind, nor gate-post is employed. An oblong moorstone block, in which a socket is drilled, is built into the wall, from which it projects sufficiently to receive the back stanchion of the gate, while a corresponding socket is sunk in a similar stone fixed in the ground below, unless a natural rock should be found *in situ*, which is frequently the case. The gate, thus secured, swings freely, swivel-like, in these sockets; and thus, from materials on the spot, without the assistance of iron, a simple, durable and efficient hinge is formed by the rural engineer."

I doubt the strict accuracy of a part of this description. A wooden stanchion turning in a hole in granite, set at ground-level, and often filled with water mingled with sand from the adjacent track, would be fretted away and worn out in short time.

With one possible exception, near *Lydgate, Buckfastleigh*, I have found no trace of lower sockets in any way comparable to the upper. The bottom of the stanchion has always been armed with an iron pin, fitting into a small hole in a stone at or slightly above ground level. The bed stone of the gate-hanging at Portland Lane was not in granite, but in altered slate, and had been used for a sufficiently long time for the pin on the gate to wear a number of successive sockets until each in turn became too deep for convenience. Plate o, fig. o, gives a view of this stone. There is one other correction to be made; the holed-stone, the upper socket, was rarely built into the hedge but more usually laid upon the top of it.

The holed-stones, a term which I confine to the upper hangers, varied in size. They had to be sufficiently heavy to

resist the pull of the gate, and sufficiently long to balance securely on the top of the hedge. It must be remembered that, when they were in general use, few gates much exceeded five and a half feet in length, yet some of the stones were sufficient and adequate to be retained in use in days when eight, or even nine feet gates had come into favour. Many of the holed-stones were fitted by size and shape for use as gate-posts of the modern type, and many were ultimately so used, remaining thus on their original sites.

The combined gate and hanger were usually called a "wood-and-stone" gate, a term frequently corrupted to "wooden stone."

On plate 0, fig. 1 is a view of a wood-and-stone gate on *Peck Farm*, in the parish of Lustleigh, at the point where the track from South Harton to Peck enters the enclosures of the latter farm (six inch O.S., sheet c, N.E., lon.  $3^{\circ}-44'-58''$ , lat.  $50^{\circ}-37'-47\frac{1}{2}''$ ); and fig. 2 is a view of the gate at *Wormhill* in the parish of North Bovey, 350 feet east of the entrance to *Wormhill*, and on the north side of the Tavistock—Moreton road (six inch O.S. sheet xc, s.w., lon.  $3^{\circ}-48'-54''$ , lat.  $50^{\circ}-38'-53''$ .) Originally this was a six-foot gate, but at the time the photograph was taken it had been enlarged to ten feet, an alteration which overtaxed the capacity of the holed-stone, and eventually led to the use of the modern type of gate-hanging. Here, as is frequent, the pin on the bottom of the hanging style of the gate had occupied a succession of sockets in the foot-stone, a new socket being formed when its predecessor became unduly worn.

Plate 0, Fig. 3 is from a photograph of the wood-and-stone gate at *Cockstor* in the parish of Petertavy, at the east end of the *Cockstor* moor-lane (six inch O.S. sheet cvi. N.W., lon.  $4^{\circ}-5'-15''$ , lat.  $50^{\circ}-33'-46\frac{1}{2}''$ ). The remaining figures on the plate give details of structure, and of some holed-stones.

Of the three gates mentioned above, that at *Peck Farm* was in decay when last I saw it; I do not know whether it has been restored, nor whether the restoration has been on the old lines. The gate at *Wormhill* was a ten-foot gate hung on a holed-stone originally intended to take a six-foot gate; when last I saw it the attempt to hang the longer gate in this manner had been abandoned, and a gate-post of modern type has been substituted; this example was thus lost. As to the gate at *Cockstor*, MR. BELLAMY tells me that, as long as he occupies the farm, no change will be made, beyond necessary repair and renewal; for that determination we are grateful to him. *Cockstor* affords one of the few Devonshire examples of a holed-stone in which the hole completely pierces the stone. I know of but one other instance, and that disused, built into the western hedge of the track leading from *Merrivale* to



*Davytown*, at a point 450 feet north of the *Davytown* court-gate: *Walkhampton* parish (six inch O.S. sheet cvi. s.e., lon.  $4^{\circ}-2'-51''$ , lat.  $50^{\circ}-32'-29\frac{1}{2}''$ ). On this same track there is, near *Little Wonder Bridge*, over the *Pila Brook*, a holed-stone of ordinary type, which has been broken and built into a wall, and at *Hucken Tor*, worked in *in situ* rock, at road level, are the marks left by the iron pin which shod the hanging style of a former gate.

Although usually lying free on the hedge-top, holed-stones were at times built into masonry. Thus, at *Forder* in the parish of *Gidleigh* (six inch O.S., lxxvii, s.e., lon.  $3^{\circ}-52'-53''$ , lat.  $50^{\circ}-41'-24''$ ) one side of the entrance to the yard is formed by the quoin of a building, and built into that quoin is a holed-stone, at seven feet above ground level, which once formed the upper socket in which turned the yard gate or door; see fig. 1 in text.

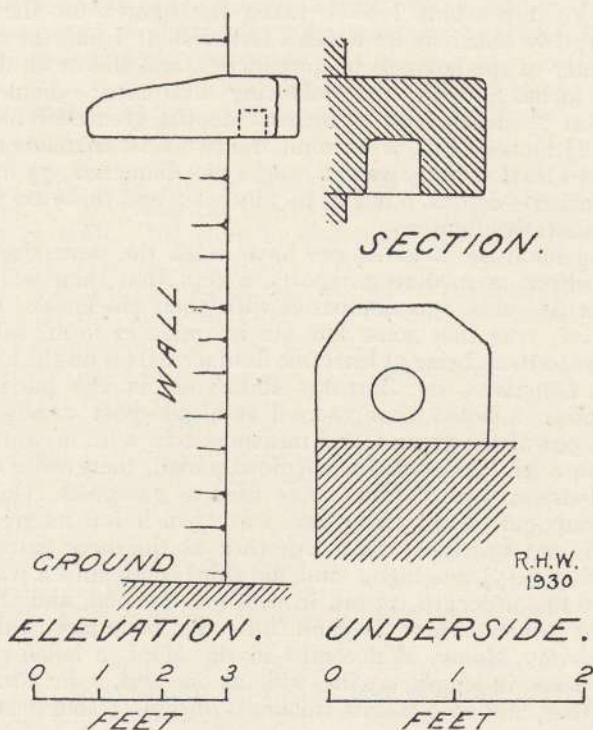


FIG. 1.

Holed-stones were also used as hangers for barn doors. Examples can be seen at *Foxworthy* in the parish of *Lustleigh*

(six inch O.S., c. N.E., lon.  $3^{\circ}-45'-21''$ , lat.  $50^{\circ}-37'-28\frac{1}{2}''$ ), and at *Peck*, in the same parish (six inch O.S., c. S.E., lon.  $8^{\circ}-45'-14''$ , lat.  $50^{\circ}-37'-52''$ ).

In the old house at *Yardworthy*, in the parish of Chagford (six inch O.S., lxxxix, S.E., lon.  $3^{\circ}-52'-9\frac{1}{2}''$ , lat.  $50^{\circ}-39'-2''$ ) there are two interesting examples of this type of hanging. In the stone which forms the roof of the porch is a hole  $2\frac{3}{4}$  inches deep and  $2\frac{3}{4}$  inches in diameter which formed the upper hanging of the entrance door; the sill has been lost, and with it the bearing of the lower hanging. There is, however, a window opening, which was never glazed but was closed with a shutter, the upper hinge of which was formed by a hole in the lintel, two inches in diameter and two inches in depth. The lower hinge was formed by a slight hole in the sill; the dimensions of this hole are sufficiently small to indicate that an iron spill must have been used at this bearing. I regard the building as being fourteenth century work.

As to dimensions I have taken the figures for the first twenty-two holed-stones which I have listed. I find the mean diameter of the holes to be 4.92 inches, and the mean depth 4.24 inches; with the following extremes:—diameters, greatest  $7\frac{1}{2}$  inches, least  $2\frac{1}{2}$  inches: depths, greatest 6 inches, least  $2\frac{1}{4}$  inches. But, if we omit the two least diameters and the two least depths, we get ranges of—diameters,  $7\frac{1}{2}$  inches to 4 inches—depths, 6 inches to 3 inches: and these are more representative figures.

In general the holed-stones have much the same size and proportions as modern gateposts, except that their width is somewhat greater as compared with their thickness. It is, however, true that some few are irregular in form, subject always to there being at least one flat face to rest on the hedge.

At *Longstone*, by Burrator Reservoir, in the parish of Sheepstor, a holed-stone re-used as a gate-post stands 5 ft. 5 ins. out of the ground, and measures 2 ft. 1 in. in width at the top. At *Fernworthy*, in Lydford parish, there were three holed-stones, two of which were used as gateposts. One, at the court gate stood 3 ft. 5 ins., was 27 inches at its greatest width, and 13 inches thick. Another, at the moor gate, still stands 5 ft.  $5\frac{1}{2}$  ins. high; and the third, built into a wall, is 5 ft. 6 ins. in length, 23 ins. in width at one end, and 18 ins. at the other. There is built into the boundary wall of *Natsworthy Manor*, Widecombe in the Moor, a holed-stone, 6 ft. 9 ins. in length, 13 ins. wide at one end, 2 ft. 3 ins. at the other, and with a least thickness of 9 ins.; longer stones are known.

The general principle of the wood-and-stone gate was probably in early use; it has certainly not been confined either to Dartmoor or the British Isles, and it is known in



China. In our local form it may be primitive, but it is not the simplest device which has been used. It has disadvantages ; it needs a real gate, a piece of carpentry ; the head of the hanging style must of necessity become worn by the friction of the stone in which the hole is formed ; the iron pintle at the foot of the hanging style is probably but slowly affected, but it wears the socket in the foot-stone, and a new socket is then necessary. Against these disadvantages it has one quality which specially suited it for certain positions ; it can be easily and quickly opened and closed. A man on horseback can open the gate, ride through, and then close the gate behind him without dismounting. The slip-bar gate, presently to be described, involved that the rider should dismount, tether his horse, take down the bars, lead his horse through, replace the bars, and remount. Hence it came that the wood-and-stone gate was rarely used except at the entrances to courts or yards, or across accommodation roads, or public roads where these needed to be closed, as at moor gates ; while slip-bar gates were never used in such places, but were essentially field gates.

### SLIP-BAR GATES

Slip-bar gates are found in four variants :—

(A) With two granite posts, each post being vertically slotted at intervals, the spaces between the slots being the same in both. The slots in one post are made twice the depth of those in the other. These posts are set vertical. Then, if a clear opening of, say, six feet is required, the posts are set at that distance apart ; in one the slots will be two inches in depth, in the other four inches.

Bars or poles of 6 ft. 4 ins. in length are then inserted in the deeper slots, and pushed well home ; the free end of the bar is brought opposite the shallower slot in the other post, and again pushed well home, being thus partly withdrawn from the deeper slot. There is left a bar 6 ft. 4 ins. in length, spanning the 6 ft. space between the posts, and resting 2 ins. at either end in the slots. A peg put through the bar against the post with the deeper slots fastens it securely.

There is a pair of posts of type A, now diverted to use as ordinary gate-posts at *Cudliptown*, in the parish of Petertavy (six inch O.S., xcviij, s.w., lon. 4°—5'—11", lat. 50°—35'—40½"). Some work was added on conversion to present use. The slots in the right-hand post are four inches deep, those in the left-hand post are two inches deep.

(B) *Slot and L gates*. In this type one post is slotted precisely like the posts with the shallower slots in type A. On the other post, in position corresponding to these slots, a series of

grooves is cut, in the form of inverted L's. The horizontal arm of the L forms a notch in one face of the post. In general the slots in the one post, and the grooves in the other are about  $1\frac{3}{4}$  ins. in depth. In these gates the length of the bar should be equal to the distance between the posts, plus the depth of the slot and the groove; the bar cannot be removed by endwise movement. But, at the groove end, with vertical posts, it would be in no wise fixed. It is possible to devise methods of fixing this end, but they would not be simple, and would be tiresome to apply.

Short of absolute security, relative security might serve all practical purposes; and this was accomplished by setting the posts leaning somewhat away each from each. The ends of the bars can then be pressed down in the vertical leg of the L, and thus jammed into position. This was apparently sufficient to meet the difficulty.

At *North Creber*, in the parish of Gidleigh (six inch O.S., lxxxix, N.E., lon.  $3^{\circ}-53'-47''$ , lat.  $50^{\circ}-40'-33''$ ) there still stands a gate of this type, complete in all respects, and preserving its original dimensions. Two other posts, one from *South Creber* in the parish of Chagford, and one from *Lakeland*, in the parish of Chagford have been noticed. The stone from *S. Creber* has been shaped by the old method of cleavage, as to which see later. The stone from *Lakeland* has L-shaped grooves on two adjacent sides, having served two adjoining gateways.

Type B was the most popular of all, and among the many posts which yet remain some few show divergencies from the type, as, for example, the post from *N. Creber*.

(C) *Slot and Arc Gates*. This type is rare. One post is of the common slotted type. In the other, in place of slots of even depth throughout, the upper end of the slot starts flush with the surface of the post and then proceeds in a curve, deeper and deeper into the post, reaching at the bottom of the slot the same depth as in the ordinary type. The posts were set slightly farther apart at the top than at the base. The wooden bars were first inserted in the slots of the post with normal slots, and were then dropped vertically into the curved slots of the other, and pressed down. They were thus jammed between the two posts, and held relatively firm.

An example is to be found by the roadside opposite *Northaway*, in the parish of Widecombe in the Moor (six inch O.S., c. s.w., lon.  $3^{\circ}-48'-12''$ , lat.  $50^{\circ}-34'-34''$ ). A similar stone is to be found at *Poundsgate*, in the parish of Widecombe.

(D) *Locked bar gates*. This is not a common type, but it is less rare than type C. As in all the types, one post is an ordinary slotted stone; the other post has no slots, but cut out from one face of the stone at a corner are rectangular



depressions, corresponding in number and in height above the ground to the slots in the former. These depressions are deep enough to take the whole thickness of the bars.

The gate is mounted by placing one end of each bar in a slot of the slotted post, and then bringing the other end, keeping the bar level, to and into a depression in the other post. When all the bars have been so placed the gate has been closed; but the arrangement is unstable; a moderate breeze, or the slightest pressure, displaces the bars. The difficulty is met by placing a slip of wood, set vertical, over the ends of the bars as they lie in the recesses, and securing the wood to the post by an iron eye, set in the moor-stone and passing through a slot in the wood, through which eye a wooden wedge is passed. A similar device is that used for simultaneously locking a set of drawers in a cabinet. Thus types A and D are the two in which positive locks hold the bars.

There is a recessed post which stands at *Cudliptown* in the parish of Petertavy (six inch O.S., xxxviii, S.E., lon.  $4^{\circ}-5'-49\frac{1}{2}''$ , lat.  $50^{\circ}-35'-11''$ ). A similar gate is still in use at the entrance to the field in which lies the *Puggiestone*, in the parish of Chagford (six inch O.S., lxxxix, N.E., lon.  $3^{\circ}-51'-32\frac{1}{2}''$ , lat.  $50^{\circ}-40'-21\frac{1}{2}''$ ).

The distribution of these gate-hangers and posts is interesting; I have specifically mentioned but few out of many. They are most frequent on the east of Dartmoor, and especially around *Chagford*, in an area extending west of the town to the unenclosed moorland. There are three holed-stones at *Fernworthy*, and several slotted posts. In *Widcombe*, *Manaton*, *North Bovey* and *Moreton* parishes, to the west and south, holed stones and slotted posts are common. In the Ancient Tenements of the *Dart Valley* these relics are less frequent, but far from rare; while, to the south-west, there are two holed stones and several slotted posts in *Sheepstor* parish; at least three holed stones, and several slotted posts in *Walkhampton* parish; and, further west, a number of slotted posts in *Marytavy* and in *Meavy*; to the south there are occasional slotted posts in *Plympton St. Mary* and *South Brent* parishes. As far south as *Prawle* I have found a slate post in which the slots were carried right through the stone, Cornish fashion. Lastly, there are wooden posts, a few on Dartmoor, and a few in the South Hams, which in form and purpose simulate the granite posts which I have described. It would appear that these gates attach to the earlier agricultural enclosures, but not to the earliest. I doubt that any, except those with wooden posts, have been constructed since wheeled agricultural vehicles came into use, although many remained in use after alteration to suit the new con-

ditions. This consideration does not carry us to any really early date. The grandfather of the brothers FABYAN and JOHN AMERY, was the first in the parish of *Lustleigh* to employ a wheeled cart in agriculture, and his neighbours held him to be foolish, in that such employment brought the need for altering the width of all his gateways. With greater precision as to date I may quote FRASER, who, writing in the year 1794, says of the South Hams: "Carts are little used for the purposes of agriculture, but when they are, they are of the common kind, and drawn both by oxen and horses." MARSHALL, 1796, with even greater particularity, writes: "Formerly, CARRIAGE of every kind was done entirely on the BACKS OF HORSES, except in harvest, when sledges, drawn by oxen, were sometimes used; also heaps of manure, in the field, were dragged abroad in small cart sledges, either by oxen or horses. Twenty years ago, there was not a 'pair of wheels' in the country, at least not upon a farm; and nearly the same may be said at present." The change from pack-horse to horse and cart was far from complete in the early years of the nineteenth century.

One other attempt may be made to establish some form of chronology in the matter. All the holed stones and slotted posts which I have seen, so far as they have been shaped by cleavage, show the use of the earlier method of splitting the stone. I except two examples to which I will later refer. The earliest date for the use of the later method of splitting, the use of the drill, which I can establish on Dartmoor, is 1803. But no industrial technique is ever abruptly abandoned; it lingered on here and there.

There are two slotted stones which have been split from their parent masses by the use of the drill. Neither of these presents good workmanship; the slots are no more than roughly shaped depressions, which serve their purpose, but mark the stones as makeshift replacements. The more presentable of these two stones is to be found at the south end of *Blackslade Drive*, in the parish of Widecombe (six inch O.S., cviii, N.W., lon.  $3^{\circ}-48'-2''$ , lat.  $50^{\circ}-33'-51''$ ). Its companion in the gateway is a normal L stone.

I think that none of the holed-stones or slotted-stones, with the possible exception of two last mentioned, have been made since the year 1800, and that most are much older.

There is one stone which is both slotted and holed. It stands beside the *Mariners Way*, at *Yardworthy*, in the parish of Chagford. Since it stands erect, its last use was as a slotted stone. (Six inch O.S., lxxxix, S.E., lon.  $3^{\circ}-52'-6''$ , lat.  $50^{\circ}-39'-11''$ .)



## PINNACLE TO GATEPOST

In the village of *Gidleigh*, at the south end of a footpath which leads to Moortown, stands a gatepost the form of which I was long unable to explain. It is a dressed stone, square in section, with an interrupted chamfer at each angle. At the top is a drilled hole, indicating that there was a spill for the attachment of a finial.

During our *Chagford* meeting, 1947, we visited *Throwleigh*, and there, in the churchyard, found a short length of similarly dressed stone forming part of the base of a memorial cross. Enquiry revealed no more than that this stone had been found in the hedge of the churchyard. A later visit disclosed a further fragment lying in the yard. This seemed to connect it with the church, and, in fact the pinnacles of the tower were found to consist of four similar stones, each standing on a plate on a short square base.

At *Gidleigh* church the bases still stand, but the pinnacles are missing. It is evident that the gatepost is a deposed pinnacle. At *Chagford* similar pinnacles have recently been taken down, presumably as needing resetting, but have not been replaced; because, it is said, they are unorthodox and cannot be true pinnacles. They should certainly be restored to their position on the tower, as evidence of a local contribution to architectural design. The evident intent of the builders was to obtain, in a manner suited to the moorstone's intractability, something of the effect of crocketing.

The location of the *Gidleigh* gatepost is, six inch O.S., lxxxix, N.E., lon.  $3^{\circ}-52'-54\frac{1}{2}''$ , lat.  $50^{\circ}-40'-50''$ .

## STILES

An occasional stile will be found consisting of two slotted moorstone posts set in the ground, with wooden bars set in the slots. I have seen such a stile near *Bowden*, in the parish of Hennock. The bars are not removable, except by taking down one of the posts.

A more interesting type of stile consists wholly of moorstone; the design is such as might have been originated by a carpenter, involving mortices, tenons and rebates. I give details of the posts of a stile, now dismantled, at *Sortridge*, in the parish of Whitchurch; it has the advantage of being dated. (Six inch O.S., cvi, s.w., lon.  $4^{\circ}-6'-27''$ , lat.  $50^{\circ}-31'-9''$ .)

The posts are squared and wrought; one face of each bears a mortice and a rebate, one face of each has an inscription, the remaining two faces are plain. The mortice is vertical, thirteen inches in length, three inches in width, and one and a half inches deep. The rebate is horizontal, extends across the full width of the stone, is four and a half inches wide, and

one and a quarter inches deep. A vertical slab of stone, which formed the riser or bar of the stile was formerly supported in the mortices, and a horizontal slab, forming a step, rested in the rebates. These two slabs have been removed, and the posts are used as gateposts. I am indebted to Major MARWOOD TUCKER for permission to measure and photograph these stones. The initials on the stone are those of John (or Julius ?) and Elizabeth Glanvill, the date is 1666. A few years later, in 1681, the southern approach to *Walkhampton* church was improved, and a stone stile erected ; of this the two posts and the step remain. There is an inscription on the adjoining wall : " T B 1681," the initials being those of the Vicar.

Two stiles in *Meavy Lane*, in the parish of Meavy, are undated, but valuable as being complete. The first of these stiles is on the left-hand side of the road, from Meavy to Yelverton, at the entrance to a field path leading to Gratton and at a distance of 1660 feet from the Great House, Meavy ; the other is on the right-hand side, 500 feet nearer Yelverton, at the entrance to a footpath leading to Lower Lake. I call these the Eastern Stile and the Western Stile respectively. (Eastern : six inch O.S., cxii, N.W., lon.  $4^{\circ}-3'-53\frac{1}{2}"$ , lat.  $50^{\circ}-29'-14\frac{1}{2}"$ . Western : same sheet, lon.  $4^{\circ}-3'-58\frac{1}{2}"$ , lat.  $50^{\circ}-29'-20"$ .)

There is a slight difference in the design, the Western Stile being on steeply sloping ground ; a strut has been placed between the feet of the posts. Both these stiles would appear to be on church paths.

A similar stile once stood at the entrance to *Sheepstor* churchyard from the east. Of this the posts remain ; a complete example is to be found at *Moretonhampstead*.

## CLAPPER BRIDGES

In any country where the native rock yields large slabs of sound stone, it is to be expected that streams should be crossed by bridges in which the roadway is formed with such slabs as imposts ; especially where the bridges are for the use of foot-passengers, or packhorse traffic. And on Dartmoor, clapper bridges, some very small, others as large as those at *Postbridge* and *Belliver*, are numerous. It is probably misleading to term the larger of these structures " cyclopean," and thus suggest by one phrase, not only an exaggerated magnitude, but also an antiquity which can not be proven. Fords and stepping-stones preceded bridges ; and it seems certain that bridges were not early features on Dartmoor tracks, since, in 1260, Bishop Bronescombe could determine, on the evidence of credible witnesses, that it was eight miles from Babeny and Pizwell to Lydford in fine weather, and



fifteen miles in time of storm, when tempest and overflows of water prevailed. At such times fords and stepping-stones are of little avail.

There yet remain some of the fords and stepping-stones which preceded the bridges. On the East Dart at *Postbridge* the stepping-stones still remain at a point a little less than 150 yards above the clapper bridge. The stones are exceptionally large, and have been so little disturbed by floods that passage is still practicable for the active and surefooted. (Six inch O.S., xcix, S.E., lon.  $3^{\circ}-54'-42''$ , lat.  $50^{\circ}-35'-38''$ .)

At *Marchants Bridge*, in the parish of Meavy, on the direct line of the road there are stepping-stones and a ford, both still in use. But for greater convenience the road has at some time been diverted along the right bank of the river to a point 250 feet above the ford, and an arched bridge of the old pack-horse type has been constructed. This involved some very awkward angles, not too troublesome to the traffic of the day; but difficult during the late war to the mechanised army of the U.S.A., which, after breaking down the parapet and part of the arch of the bridge, took perforce to the ford.

At *Gratton*, also in Meavy parish, and a little over a mile below *Marchants Bridge*, a ford for cattle and vehicles and a "clam" for foot-passengers afforded the only crossing until, in 1887, a substantial arched bridge was constructed. The difficulties for armed forces were here more tragic; a quartermaster and his horse were drowned during the Autumn manoeuvres of 1873, when attempting the ford during a flood.

But clapper bridges, when with growing traffic necessities they were constructed, did not prove an answer to the threat of the floods. Of the four largest, at *Dartmeet*, *Postbridge*, *Belliver* and *Cadworthy* (on the Plym), *Dartmeet* has been twice damaged by flood within memory, and *Belliver* also stands incomplete. *Postbridge*, as far as is known, has only been damaged by human action; and there is no record that *Cadworthy* bridge was other than perfect up to the time of its replacement by the modern structure.

A clapper which apparently spanned the West Dart at *Twobridges* as late as 1765, was probably removed when the new road was constructed shortly after the year 1772, and diverted to cross the West Dart below its junction with the Cowsic. DONN, in his map published 1765, shows the track crossing both streams above their point of junction; and shows, in place of the present Plymouth Road, a moorland track, marked out by guide-stones at frequent intervals. It was from the presence of *two bridges*, the one over the West Dart, and the other over the Cowsic, that the locality took its

name, with the alternative of *Potato Market*, the spot to which potatoes from the Moretonhampstead district were brought for sale to buyers from Plymouth and Tavistock. The clapper across the *Cowsic* still stands. It is a structure little above the water level, and was washed away by the great flood of 17th July, 1890, a flood which at *Postbridge* just overtopped the lowest of the imposts. *Postbridge* stood unharmed; and the *Cowsic* bridge was later restored by the Dartmoor Preservation Association.

On lesser tracks, such as the *Lychway* and the *Mariners Way*, which have never been formalised into roads, there are still many clappers of relatively small size, a few of which I have illustrated in a paper on "Dartmoor Tracks" (*Trans. Plymouth Inst.*, vol. xvii, p. 350 *et seq.*).

I doubt that any of the larger structures is other than post-medieval, say, not earlier than 1400. The latest, which already might, at sight, be judged the contemporary of its fellows, was erected at *Teignhead* in or about the year 1780, to give access to some new enclosures. *CROSSING* gives its length as *c.* 28 feet with a width of 6 ft. 9 ins. The same author gives the dimensions of *Postbridge* as 42 ft. 8 ins. in length, and from 6 ft. 9 ins. to 6 ft. 5 ins. in width. The width in each instance affords sufficient proof that the bridges were not intended for wheeled vehicles; and so we find that at *Teignhead* there is a ford beside the bridge, and that at *Postbridge* the riverbed is well adapted for fording. Both bridges are of three spans, and both are in the parish of Lydford, and the Forest of Dartmoor.

By the kindness of our member, Miss Ernestine Symes Saunders, I am able to supply, as plate o, a reproduction on a reduced scale of a drawing of *Postbridge*, made by her great-grandfather, Emmanuel Jeffery of Exeter; this is the earliest view of the bridge of which I have knowledge.

There is an example of a small clapper in private lands, at *Rowbrook*, in the parish of Widecombe in the Moor. (Six inch O.S., cvii, s.e., lon.  $3^{\circ}51'32''$ , lat.  $50^{\circ}32'9\frac{1}{2}''$ .)

## QUERNS

I myself have stayed in a cottage where the bread supply was all baked on the hearth; and the flour was from corn grown in the parish, and ground at the local mill. But I have not been able to trace, within living memory, the use in Devon of the hand-mill or quern. Yet at one time they must have been common objects of domestic economy; and their remains are to be found, from *Axmoult* in the east to *Beer Ferrers* in the west, and from *Tiverton* in the north to *Ivybridge* in the south. Only the under-stone is usually found; that was a substantial object, and had the further



advantage that, divorced from its original purpose, it remained of use as a small, shallow trough. The upper-stone was a mere disc, rarely exceeding two and a half inches in thickness, and when it lost its job it was not worth preserving.

It has been said that the upper-stones are rare because the lords of the manors regarded querns as illicit competitors with their manor mills, in the interest of the franchise of which they seized the upper-stones and destroyed them. The output of a quern was so small, and the labour involved so considerable, that its competition with the mill can hardly have roused the most rapacious miller to such action. The querns were standbys to meet occasional need ; at all times at least after the manorial system was fully established. It would be strange had the destruction been confined to the upper-stones, were such destruction purposeful ; strange also if all the under-stones which remain had been in use in households which owed suit to the manor mill. Notwithstanding which the Abbot of St. Albans sought, in the fourteenth century to prevent the use of querns by the townsfolk, and claimed the monopoly of grinding his tenants' grain. Thirteen of the tenants, however, maintained their right to use hand-mills, as having been enjoyed of old, and some claims were raised to the privilege of grinding oat-meal only, by means of a hand-mill." (EVANS, *Ancient Stone Implements of Britain*, second edition, p. 258.

The manorial lords had no statutory right to the assize of mills, which could only arise by custom ; thus the tenants on their part could also plead custom, and sometimes, as in this case, they succeeded in the plea.

The complete quern, omitting from consideration prehistoric examples, was constant in its essentials. A good specimen, of which nothing but a part of the ironwork is missing, is preserved at *Sortridge House* in the parish of Whitchurch. The under-stone is approximately circular, its mean diameter is 16 ins., and its thickness is 5 ins. In this stone a shallow, circular trough is cut,  $8\frac{1}{2}$  inches in diameter, and  $1\frac{1}{2}$  ins. in depth. Radially from the circumference of this trough a channel has been cut, through which the ground material escapes and is collected. At the centre of the trough in the under-stone there has been set a vertical spill of iron ; of this little is now left above the level of the stone. The upper-stone is  $8\frac{1}{2}$  ins. in diameter at the top and 8 ins. in diameter at the bottom being tapered somewhat, which involves that the sides of the trough in the under-stone are also tapered, though this is not a constant feature. The stone is pierced with a central hole,  $1\frac{1}{2}$  ins. in diameter ; it is  $2\frac{1}{2}$  ins. thick at the centre, and  $1\frac{1}{2}$  ins. thick at the circumference. On the upper surface are four small holes or depressions, set symmetrically ; and on the

lower face there is a slot  $4\frac{1}{2}$  ins. in length by  $\frac{7}{8}$  in. in width, and about  $\frac{1}{4}$  in. in depth. In this slot once fitted an iron strip, passing across, but not completely blocking, the central hole in the stone; and itself drilled at the centre to permit the spill in the under-stone to pass through. The spill and plate together held the upper-stone approximately centred. In all its working parts this example is typical. In its external form and the manner in which the flour is delivered it corresponds with most of the querns of the *Isles of Scilly*, where there are many, but with few Devonshire querns. We may safely apply what we know of the manner of working the querns in the Isles to meet the absence of any Devon record.

In the few upper-stones which have so far been found in Devon there is no adequate provision for setting a handle or handles. The four shallow holes which are found are neither sufficiently large nor deep enough for this purpose. The same is true in the Scillies.

BUT BORLASE (*Observations on the Ancient and Present state of the Islands of Scilly*, 1756, p. 69) gives an account of the manner of use of the querns; and TROUTBECK (*A survey of the Ancient and Present State of the Scilly Islands*, ? 1793) copies this and makes some slight additions.

BORLASE writes:—"Every house is furnished with a Handmill. This Mill consists of two small stones of about two feet in diameter, and four inches thick, in the shape of common Mill-stones, which may be set closer to one another or wider (as they chuse to have coarser or finer Meal) by raising or depressing the upper stone; the Mill is placed at such a height from the ground [TROUTBECK says in a square frame of wood] as a man may stand and easily turn the upper stone by means of a stick five feet long, and one inch and a half in diameter, one end of which rests in a socket made for it in the middle of the *Radius* of the upper stone, and the upper end is inserted in a hole in a beam of the chamber above; in these two holes, the long stick standing obliquely, turns easily with the hand, but the stones being of small *Area*, and little weight, the Corn is a long while a grinding."

BORLASE is mistaken as to the size of the stones; very few ever attained a diameter of two feet; a more usual diameter for the upper-stone was one foot or less. The hole for the driving-stick was not set at half the radius of the upper-stone, but was distinctly nearer the circumference. There was not one hole only, but for the more part there were four holes; and, by shifting from one to the other the wear of the stone was kept more uniform. He does not say how the stones were spaced nearer or farther each from each, but this was readily done by varying the thickness of the strips of iron let in to the underside of the upper-stone.



The following notes may give some idea of the varied detail to be found in the querns.

1. *Axmouth*, from *Oxdown Farm*, but now forming a cap on the gate-pier of a house on the south side of the Seaton Road, near the river. Perhaps the most elaborately decorated of any that I have seen in Devonshire. Is ten-sided, with panel ornament; and, on two opposite sides, are projections much like trunnions, for which there would be no purpose. Probably these fitted into sockets in the wooden frame which held the quern. The diameter of the trough is  $14\frac{1}{2}$  ins. and its depth  $3\frac{1}{2}$  ins. The stone is unusually thick and heavy, being twelve inches in depth. The aperture for the escape of the flour is placed at an angle and not on the centre of a face.

2. *Barnecourt*, Lustleigh parish. A small and plain example. Octagonal. Trough 9 ins. in diameter and  $1\frac{1}{2}$  ins. deep. Total thickness of stone  $7\frac{1}{2}$  ins. Channel for flour in centre of one side of octagon, an open channel, extending the whole depth of one side.

3. *Bere Alston*, in church. A small octagonal stone, diameter of trough 11 ins., depth 3 ins., total depth of stone  $5\frac{1}{4}$  ins. Flour aperture at one of the angles of the octagon, a plain hole, with no external groove or lips.

4. *Buckland Abbey*, Buckland Monachorum. Now set on a lawn, forming with the annular trough of an apple mill, the stonework of a fountain. This stone is Roborough Elvan. The quern is octagonal, diameter of trough  $17\frac{1}{4}$  ins. depth 4 ins., total depth of stone 13 ins. One side of the octagon is occupied by a mask, gargoyle fashion. Through the widely opened mouth of the mask, stretched the wider by the first fingers of two sculptured hands, the flour was delivered.

5. *Cockstor Farm*, Petertavy. Octagonal, now set in the paving of the yard as a small trough.

6. *Corntown*, Cornwood. Octagonal. Diameter of trough  $11\frac{1}{4}$  ins. at top, 10 ins. at bottom, the sides being tapered; depth of trough  $2\frac{1}{2}$  ins.; total depth of stone  $7\frac{1}{2}$  ins. Two sides of the octagon are produced to form a spout for the delivery of the corn.

7. *Ditsworthy Warren*, formerly at *Longstone*, Sheepstor. Material Roborough Elvan. Octagonal. Diameter of trough  $10\frac{7}{8}$  ins., original depth 3 inches, has been deepened to 5 ins. to adapt the quern to use as an ordinary trough. Total depth of stone  $7\frac{1}{2}$  ins. Outlet for flour in middle of one side, and on either side of the hole a fillet  $\frac{3}{4}$  in. wide, raised approximately  $3/16$ ths of an inch. One of the many devices used to prevent the flour from "straying." This is the quern which, from lack of experience, I falsely identified as a form of

cheese-press base. The owner, MRS. E. WARE, had no knowledge of its former use.

8. *Goodameavy House*, Meavy. Material Roborough Elvan. Octagonal; diameter of trough 15 ins., original depth  $2\frac{1}{2}$  ins., has been deepened to 4 ins. (as at *Ditsworthy*). Total depth of stone 9 ins. Flour discharged at centre of one side, projecting from which is a spout.

9. *Harford Bridge Farm*, formerly at *Harrograve*, Marytavy. Octagonal. Diameter of trough  $9\frac{1}{4}$  ins.

10. *Ivybridge*, Western Road. In the garden of Mr. J. T. YABSLEY'S house; original location unknown. Material Roborough Elvan. Circular, but divided by filets into eight panels, one of which, larger than the others, bears a mask, the mouth of which forms the outlet for the flour. Diameter of trough  $11\frac{3}{4}$  ins., depth  $2\frac{1}{4}$  ins. The rim of the stone ornamented with a lightly incised chevron.

11. *Sortridge House*, Whitchurch. Approximately circular. Diameter of trough  $8\frac{1}{2}$  ins., depth  $1\frac{1}{4}$  ins. Total depth of stone 5 ins.

12. *Tiverton*. Octagonal, dimensions not taken.

Collecting the dimensions, we get :—

	Diameter of Trough	Depth of Trough	Depth of Stone
(1)	$14\frac{1}{2}$ ins.	$3\frac{1}{2}$ ins.	12 ins.
(2)	9 ins.	$1\frac{1}{2}$ ins.	$7\frac{1}{2}$ ins.
(3)	11 ins.	3 ins.	$5\frac{1}{4}$ ins.
(4)	$17\frac{1}{4}$ ins.	4 ins.	13 ins.
(5)	not measured		
(6)	$11\frac{1}{4}$ ins.	$2\frac{1}{2}$ ins.	$7\frac{1}{2}$ ins.
(7)	$10\frac{5}{8}$ ins.	3 ins.	$7\frac{1}{2}$ ins.
(8)	15 ins.	$2\frac{1}{2}$ ins.	9 ins.
(9)	$9\frac{1}{4}$ ins.	—	—
(10)	$11\frac{3}{4}$ ins.	$2\frac{1}{4}$ ins.	$5\frac{3}{4}$ ins.
(11)	$8\frac{1}{2}$ ins.	$1\frac{1}{2}$ ins.	5 ins.
(12)	not measured		
MEANS	11.81 ins.		
GREATEST	17.25 ins.		
LEAST	8.5 ins.		

I believe the above figures to be representative, and I doubt if there are many true querns in Devonshire in which the troughs are more than eighteen inches in diameter, or less than eight inches; although one, at least, cannot have exceeded six inches.

## QUERNS, UPPER-STONES

Upper-stones are rare. One is to be found at *Sortridge*, still associated with the under-stone; it is described above, on



page 325. Two others have come to rest in ecclesiastical surroundings, to which they were admitted probably by reason of the raised crosses carved upon their upper faces.

*Tavistock*, in the Church of St. Eustachius. Diameter of working part  $5\frac{3}{4}$  ins. Greatest thickness of stone  $2\frac{3}{8}$  ins. Under surface is not plane, but concave to the extent of  $\frac{3}{8}$  ins. Feed hole  $1\frac{1}{4}$  ins. in diameter. The underside is recessed for an iron plate, such as I have described in the general description. Since, however, in this instance the recess is  $\frac{3}{8}$  ins. in depth, either the plate must have been unusually thick, or oak may have been used in place of iron, but the width of the recess does not seem sufficient for the use of wood. The trough in the under-stone cannot have been of greater diameter than six inches, nor of greater depth than one inch. The possible output in flour from such a quern must have been small, but other things than grain may have been ground.

*Fillham*, Ugborough. At Lower Fillham House, in the ruined chapel in the grounds, there lies an upper-stone.

*Nosworthy*, Walkhampton parish. Mr. G. W. COPELAND found, in the ruins of Nosworthy farm, a broken upper-stone, of which he has kindly given me details. The break coincides with a diameter, so that one half of the stone is all that remains. The diameter is 10 ins., and the greatest thickness of the stone is  $3\frac{5}{8}$  ins. The central aperture is *c.*  $1\frac{3}{4}$  ins. in diameter. On the upper side is a hole or depression near the margin; this is 1 in. in diameter, tapering somewhat downward, and is  $\frac{7}{8}$  in. deep. No handle could have been set in it, but it would serve well to take the end of the sloping stick with which BORLASE says the stone was turned in the Isles of Scilly. It is usual to find four such holes, but in this instance there can, at the most, have been but two. The under face is slotted for the usual iron plate.

*Millbay*, East Portlemouth. I have seen a stone from *Millbay*,  $17\frac{1}{2}$  ins. in diameter, which was said to have been the upper-stone of a quern. I cannot accept the identification, some of our smaller water-mills had some pairs, at least, of quite small stones. I take this to be a stone from the mill which gave its name to the bay.

## BASES OF CHEESE-PRESSES

In general the stone base of a cheese-press was a flat stone of a few inches in thickness, more usually circular in outline, but always with a prolonged projection, or "snout" extending from the circle. Concentric with the outline of the circular part of the stone a shallow channel was cut, making a complete circle. Within this circle, diametrically, two other channels were formed at right angles, the one extending to the circumference of the circular channel, but no farther, the

other produced at one end to the extremity of the "snout," which was throated.

Upon this stone, within the circular channel, was placed the curd, with a layer of straw, and possibly of cheese-cloth, between it and the stone. The curd was confined by a hollow cylinder of wood, also lined with cheese-cloth. A circular board was placed on the top of the curd, and upon this a heavy stone weight.

The whey, expressed from the curd, found its exit by the cross diameters or direct to the circular channel; thence the extension of one of the cross channels conducted it to the end of the "snout", which, being throated, did not permit the liquid to run back along the underside of the stone, but confined the drip to one point, where it was readily caught in a bucket or other vessel.

There were, of course, modifications, but the principle remained the same; and such variations as were made will be sufficiently illustrated in the examples given.

(1) *Brisworthy Farm*, parish of Meavy. Stone circular. Diameter of circular channel 18 ins., thickness of stone  $5\frac{1}{4}$  ins. Two diametrical channels. "Snout" throated.

(2) *Gidleigh Park*, Gidleigh. Stone octagonal. Diameter of circular channel  $14\frac{1}{2}$  ins., thickness of stone 9 ins. Two diametrical channels. "Snout" lost by breakage.

(3) *Gratton*, Meavy. Stone circular. Diameter of circular channel 16 ins., thickness of stone  $6\frac{1}{2}$  ins. "Snout" rather unusually prolonged.

(4) *Longstone*, Sheepstor. Stone circular. Diameter of circular channel 15 ins., thickness of stone  $6\frac{1}{2}$  ins. "Snout" broken, but has been rather unusually prolonged. One diametrical groove extending from the "snout" to near the farther circumference of the circular groove.

(5) *Greencliff*, Milton Combe, parish Buckland Monachorum. Stone pear-shaped. Mean diameter of the misshapen circular groove, 19 ins.; one diametrical channel, extending from the "snout" to join the farther circumference of the circular groove. "Snout" but slightly protuberant. Thickness of stone not known.

(6) *Sheepstor Churchyard*. Stone circular. Diameter of circular groove  $12\frac{1}{2}$  ins. Two diametrical grooves. The throating of the "snout" is well marked.

Presumably because this stone bears a cross within a circle, it has been placed in the churchyard; where one hopes it may long be preserved. For a similar reason CROSSING has stated that there is the head of a wheel-cross in the farmyard at *Gratton* (3).



## STONE BASES OF CIDER PRESSES

The cider press base is but an enlarged edition of the cheese press, without the diametrical channels. These are not needed, since the apple juice can escape freely from all faces of the pile of alternating layers of straw and crushed apple pulp. One example will suffice.

*Longstone*, Sheepstor. Stone circular, with moderate extension of "snout." Diameter of stone 5 ft. 10 ins., thickness 9 ins. Internal diameter of circular channel 4 ft. 6 ins., width of channel  $3\frac{1}{2}$  ins. at top and  $2\frac{1}{2}$  ins. at bottom, 1 in. deep at the shallowest, deepening to  $1\frac{3}{4}$  ins. at the outlet.

There are many such cider press bases, which are to be found throughout Devon and Cornwall. The smallest example which I have seen is at *St. Michael's Mount*, Cornwall. The width of the stone is 3 ft. 0 ins. and the length 3 ft. 7 ins.

The author had intended to illustrate this paper, but regrets that illness has prevented him. He hopes to supply the illustrations with part two of the paper, next year.