

# SOME NOTES ON THE LONG MAN OF WILMINGTON

By E. W. HOLDEN, F.S.A.

INTRODUCTION. The replacement with concrete blocks in 1969 of the bricks laid to mark the Long Man in 1874 (and later repair bricks) afforded a convenient opportunity for some minor investigations in the soil below the outline of the hill figure. At the request of the Council of the Sussex Archaeological Society and with the permission of the Ministry of Public Building and Works four cuttings were made in selected places. The new blocks having been laid on the western half precluded any digging on that section.

It was thought that if the makers of the Long Man had cut through the surface deposits down to, and perhaps into, the natural solid chalk, some traces of their work might still remain to be seen, provided that the brick outline was superimposed on the original lines. The person principally responsible for the brickwork, the Rev. W. de St. Croix, in 1875<sup>1</sup> quotes Horsfield: 'Various are the opinions respecting the origin of the figure; some have asserted that it was paved, but the most probable conjecture is that it was merely shaped in the turf so as to let the chalk appear through. It is only seen under peculiar circumstances, and to the best advantage when there is a small quantity of snow upon the ground. The indentation is so very slight as not to be visible on the spot, although it may occasionally be seen at a considerable distance of several miles.' Horsfield states also that the figure of a man 'may occasionally be seen by a remarkable difference in the verdure.'<sup>2</sup>

Despite the many words written about the Long Man, the period of his making has not been established beyond all doubt. A useful summary, claimed to be the known facts of the Long Man's history and the numerous theories of origin that had grown up concerning him, was compiled in 1939 by J. B. Sidgwick<sup>3</sup>. These theories suggested dates of construction ranging from prehistoric times to the post-medieval period. Marples, in 1949,<sup>4</sup> favoured the idea that the hill figure had been cut by monks not later than the 14th century. For the most recent survey the reader is referred to a paper by Professor Christopher Hawkes where similarities between

<sup>1</sup> *Sussex Archaeological Collections* (abbreviated hereafter to *S.A.C.*), vol. 26 (1875), pp. 97-112, see p. 107.

<sup>2</sup> Horsfield, *History and Topography of the County of Sussex*, vol. 1 (1835), p. 326.

<sup>3</sup> J. B. Sidgwick, 'The Mystery of the 'Long Man'', in *Sussex County Mag.*, vol. 13 (1939), pp. 408-20.

<sup>4</sup> M. Marples, *White Horses and other Hill Figures* (1949), pp. 180-203.

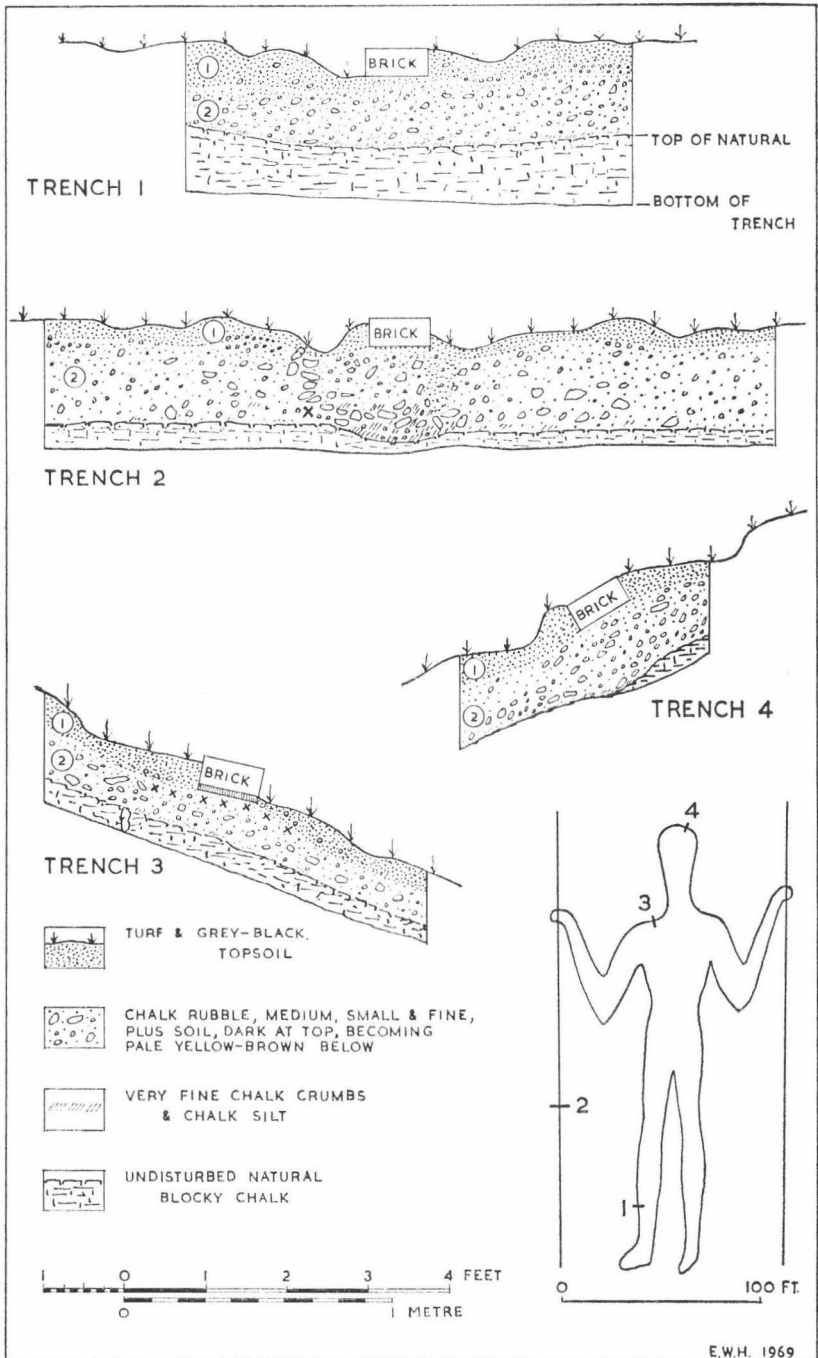


FIG. 1. Excavated sections. Trenches 1 and 2, south side; Trench 3, west side; Trench 4, east side. The plan (bottom right) showing the positions of the trenches, is after a survey by Petrie

the restored Long Man and the representation of a man on the 7th century A.D. Finglesham buckle are discussed<sup>1</sup>.

**GEOLOGICAL DETAILS.** The greater part of the Long Man lies on Upper Chalk and as far as may be judged from the 1in. scale geological map, the lower part of the Man's legs merge into Middle Chalk. The so-called 'natural' or 'solid' chalk was encountered between 10ins. and 15ins. below the surface, but it was unlike the 'solid' usually encountered on archaeological sites on flatter parts of the Downs where it is fairly homogeneous and not unduly broken up. The steep slope of Windover Hill where the Long Man lies (between 28 and 29 degrees), weathering and frost shattering, may have caused the upper part of the 'solid' to be friable. Weathering here is at an angle to the horizontal bedding planes of the chalk and this may be a contributory factor to the phenomenon. Mr. B. Walker, the contractor, informed the writer that there was little difficulty in driving an iron bar 2½ft. into the subsoil, whereas penetration to such a depth would be difficult, if not impossible, with ordinary hand tools on good solid chalk. Trench 1 was taken down 9ins. into the blocky chalk of the bedrock to ensure that the 'solid' had in fact been reached.

The soil above the 'solid' consists of a few inches of turf and dark topsoil (Layer 1), most uneven because of soil-creep and the tread of feet; below this, varying between 6ins. and 12ins. deep, is weathered, dirty chalk rubble of medium size, graduating to fine rubble (Layer 2). The rubble is bound together with chalky earth, brownish in colour at the top of the layer and yellow-brown below, derived from the topsoil, rainwash and the activities of earthworms. Only Trenches 3 and 4 had a few flints mixed with the chalk rubble.

The 1874 bricks, jointed with mortar, had been laid only in the turf and topsoil (Layer 1) without penetrating into Layer 2. When the bricks were lifted no white chalk was visible, only brownish earth and dirty yellow fragments of chalk rubble.

**DESCRIPTION OF EXCAVATIONS (FIG. 1).** All trenches were dug 1ft. 6in. wide.

**TRENCH 1.** This trench, 5ft. 6in. long, was cut across the outer line of the right (east) leg, 28ft. up the slope from the heel. Layer 2 showed no signs of disturbance, but the blocky chalk 'solid' was 2ins. lower below the line of the brickwork than at the extremities of the trench. This slight hollow had a top width of 4ft. 6ins. and a bottom width of 2ft. 6ins. It could be a natural undulation in the surface of the chalk, but occurring as it does, below the leg outline, it may represent the end-product of an ancient cutting into the soil above the 'solid' (Pl. IA).

<sup>1</sup> C. Hawkes, 'The Long Man of Wilmington: A Clue', in S. C. Hawkes, H. R. Ellis Davidson and C. Hawkes, 'The Finglesham Man,' in *Antiquity*, vol. 39 (1965), pp. 17-32, see pp. 27-32, Pl. IV.

TRENCH 2. A longer trench was dug in the hope that if traces of an early channel were existing and the brick line was not exactly above the original groove there would be a better chance of finding the latter. This trench was 9ft. long, cut across the right (east) staff, 80ft. up the slope from its base. A depression, 16ins. wide and 2ins. deep in the centre was visible in the blocky chalk on the south (upper) side, while the corresponding face of the trench on the north side showed a narrower and more shallow hollow. In the bottom of the depression was a concentration of very fine yellowish chalk crumbs and silt, with a slight admixture of earth. Above this and passing up through Layer 2 on the east side, in a curve, were lumps of medium-size chalk rubble (Pl. IB). The earth in Layer 2 above the hollow was somewhat lighter in colour than that in the same layer at the ends of the trench. It was noticeable that the turf on each side of the staff is hollowed, which may indicate an earlier gully, accentuated more recently through the tread of feet and the effect of rainwater run-off. The evidence here suggests that a channel had been dug into Layer 2 at some time in the past. One small fragment of fired clay, marked X in the section drawing (FIG. 1, 2) was found 3ins. above the bottom on the east side of the hollow.

TRENCH 3. A trench, 4ft. 9ins. long, crossed the brickwork of the right (east) shoulder some 3ft. to 4ft. from the junction with the neck. The bricks here (repairs) had a thick layer of mortar under them. The constituent materials of Layer 2 were homogeneous throughout, with no signs of disturbance. There were some enigmatic finds in the top 2ins. of Layer 2, below the line of bricks and extending a few inches on either side, but not at the north and south ends of the trench. These are marked X in the section drawing (FIG. 1, 3). The finds are twelve small irregularly-shaped fragments of fired clay, soft and friable. They range from  $1\frac{1}{2}$ ins. x 1in. down to pea-size, with a maximum thickness of  $\frac{3}{4}$ in. One piece has a flat surface and the colour runs when the pieces are washed. While the 1874 bricks are yellow in colour, repairs from time to time have been made in red bricks and there were red bricks where the trench was dug. Samples chipped from various red bricks from above this trench and elsewhere (which are well-burnt stocks) do not agree in fabric or colour with the fired clay finds.

TRENCH 4. A 3ft. long trench was dug across the brickwork line at the top of the head some 6ft. east of the western side. Layer 2 contained the usual mixture of chalk rubble and earth, but there was no clear sign of a cut channel. The blocky chalk from the middle to the east face of the trench was somewhat hollowed and silty. This faint hollow could be seen in the eastern section (FIG. 1, 4) but there was no corresponding depression in the west face of the trench. The hollow and the silt may, very doubtfully be considered as representing some traces of an earlier channel, but it

could equally be argued that the chalk at this point is more 'rotten' than usual.

**THE FINDS OF FIRED CLAY.** Two pieces of fired clay from Trenches 2 and 3 were submitted to Dr. I. W. Cornwall of the Institute of Archaeology, London, who kindly reported on thin sections made from the specimens as follows:

No. 1 (from Trench 2). 'This is a fine-grained brick-red body with an adherent pale cortex. This is, in fact, not part of the body proper but a layer of calcareous mud, containing, in addition, many quartz-grains much coarser than those in the body. The body is a mass of very well sorted fine quartzes, mostly finer than 0.02 mm. (medium silt), with a comparatively small proportion of ferruginous clay matrix, which has been fired relatively high (> 800° C) in fully oxidizing conditions. There is some indication of flow-structures consisting of indistinct streams of somewhat oriented quartz grains, showing that the material was once plastic and subject to deformation while in that condition.

Notable among the quartzes are numerous splinters, thin, acute-angled sharp 'razor-blade' flakelets. Such are extremely rarely, if ever, seen in natural sedimentary materials and are the product of mechanical crushing or pounding of coarser grains. They almost certainly represent a deliberately comminuted and perhaps sifted (uniformly graded) addition to the clay, as a 'filler.' A few larger, black, opaque bodies represent organic inclusions carbonised by the firing.

It is clearly an artifact—prepared pottery-clay in fact.'

No. 2 (from Trench 3). 'This is a fine-grained porous, pinkish-red fired body. It shows in thin section a generally finer, more clayey paste than No. 1, including a few bigger quartzes of fine-sand grade (> 0.06 mm.) and many inclusions. Some of these are carbonaceous, some streaks of ferruginous, formerly hydrated colloidal clay-material, incompletely mixed with the quartzose fraction, now almost entirely dehydrated by the firing. Most prominent, however, are small rounded masses of up to 1.5 mm. in diameter, of grog, broken pottery, these generally also of a rather less ferruginous fine, silty clay than the ground-mass. A few are more ferruginous, on the contrary. In both cases, their contrasting colours give them clear outlines as individual solid grains in the still-plastic body.

This is also evidently (though for different reasons) an artifact—a grog-filled, slightly under-fired pottery paste.'

A copy of Dr. Cornwall's report was sent and all the specimens were kindly examined by Professor B. W. Cunliffe and several of his colleagues at the University of Southampton. The presence of grog in some pieces caused the writer to ask if the fired clay could possibly be from Beaker period pottery. Prof. Cunliffe wrote:—

'We spent some time the other day looking at your samples from the Long Man. The general opinion was that there was nothing Beaker about them. No one had seen or handled anything from Beaker contexts like them. My own feeling is that the fragments are of Roman tile. Grog is sometimes used in Roman tile, the colour and texture are right and one of the pieces has a good surface exactly like the finish of Roman tiles. One cannot be certain but we all felt that it was the most likely explanation.'

The reason for the presence of tiny pieces of burnt clay, possibly derived from Roman tile, from Trench 3, and one piece in Trench 2, cannot satisfactorily be explained. An extract from the *Eastbourne Gazette* of 29th April, 1874, reads: 'In the work which has been

lately carried out, it was necessary to remove the turf in some places and in so doing fragments of Roman brick were discovered, which would clearly point to a much earlier than Norman date.' Why were such fragments not recorded by de St. Croix? Sidgwick notes that Gough in his edition of Camden (1806), says: '... in the different structures of the grass ... formed by a pavement of bricks under the grass, which gives a difference of colour,'<sup>1</sup> but how much reliance can be placed in Gough it is impossible to say. If the bricks mentioned by the newspaper were in fact of Roman origin, as may be the fragments excavated recently, they are unlikely to have slipped down the hill from above the figure, no Roman remains having been noted by Curwen and others among the prehistoric barrows and flint mines on the hill above, and the 'Giant's Causeway' track is unmetalled. The hilltop would be a most unlikely site for a Roman building; bricks would have to be brought up from the adjacent scarp-foot zone, where Roman remains, including brick and tile, are not unknown (e.g. Arlington Church). But who would take the trouble to carry bricks up a hill if not for some definite purpose? Were, perhaps, some bricks used as markers for outlining the salient points of the figure before cutting, but would not wooden sticks have been more suitable for that purpose? If the burnt clay fragments are Roman (which is not certain) and are connected in some way with the first cutting of the hill figure, then we have an earliest possible date. The recent excavations, however, were too limited in scope to permit any conclusions to be drawn from the presence of these fragments of fired clay.

**MOVEMENT OF SOIL BY NATURAL FORCES.** The fact that the evidence revealed by the minor excavations for an earlier dug channel is vague rather than conclusive is perhaps not surprising. Soil scientists and allied workers have demonstrated that the upper layers of soil on hillsides are not static. Soil creep is a continuous process whereby gravity, frost-heave, water erosion, earthworm activity and chemical weathering of the subsoil combine to cause the soil to move imperceptibly downhill<sup>2</sup>. That the turf is on the move is evident for terracettes have formed on the slopes to each side of and across the Long Man and even in the nearby old chalkpit. These are the so-called 'sheep-tracks' mentioned by the Rev. de St. Croix<sup>3</sup> and which he saw as a danger to the preservation of the outline. It is known that such 'tracks' are not caused by sheep or cattle (although animals may utilise them), but are the results of soil creep. The grass over the Long Man and for some yards east

<sup>1</sup> Sidgwick, *op. cit.*, pp. 408-9.

<sup>2</sup> P. A. Jewell (ed.), *The Experimental Earthwork* (Brit. Assn. Adv. Science 1963), pp. 77-89; R. J. C. Atkinson, 'Worms and Weathering,' in *Antiquity*, vol. 31 (1957), pp. 219-33; C. Darwin, *The Formation of Vegetable Mould through the action of Earthworms* (1881), (1908 reprint), p. 245.

<sup>3</sup> *S.A.C.*, vol. 26, p. 103.

and west of the staves has been trodden by the feet of visitors for many years so that the terracettes have become broken and irregular. In many places they look like steps, hence the lumpy profiles of the surface delineated in the section drawings (FIG. 1). If the thin turf is moving downhill then so is the mixture of comminuted chalk and earth between it and the natural blocky chalk a short distance below, although at a slower rate, the movement diminishing as the depth increases. An accumulation of soil caused by soil-creep may be seen in Pl. II, just above the lower horseman. Natural weathering would cause shallow trenches to become filled or almost filled with material derived from the trench sides, eventually grassing over, provided they were not scoured periodically. As this filling would be the already broken down chalk rubble from Layer 2, plus topsoil from Layer 1, it could be that there would be little difference in composition between the undisturbed soil and the silted channels after a long time of slight movement downhill and mixing by the forces previously described. Yet there ought to have been some variation in soil composition to account for Horsfield's 'remarkable difference in the verdure', if by this he means a change of colour,<sup>1</sup> either darker or lighter than the surrounding turf which could be caused by more or less humus. There appears to be no difference in the subsoil below the bricks (Layer 2) in any of the trenches, except Trench 2. A slight indentation in the turf remained in the 19th century as recorded by Horsfield and others so if the humus of Layer 1 in the grooves was thinner than elsewhere that could account for the seasonal change of vegetation colour. The feet and bottoms of the staves, being at the lowest points, are likely to have been vague and indistinct, as they would tend to retain more of the material washed down or otherwise descended from higher up the hill and thus to become practically obliterated.

A PREVIOUSLY UNRECORDED PHOTOGRAPH OF THE LONG MAN (Plate II). Four descendants of the Rev. W. de St. Croix were approached to see if they had any early papers referring to the Long Man. By good fortune, our member, Mr. F. W. de St. Croix, M.B.E., a grandson of the restorer, possessed among papers originally belonging to the Rev. W. de St. Croix, an undated photograph of the Long Man, which, from the pristine condition of the figure and piles of turf at the foot of the hill, suggested that it was taken soon after the bricking in 1874. The *Eastbourne Gazette* for 29 Apr. 1874<sup>2</sup> notes that 'it was necessary to remove the turf in some places,' also

<sup>1</sup> Horsfield, loc. cit. The Burrell Coll. drawing (dating c. 1779-87) has written on it as part of its description, 'The spot being covered with grass may be plainly discovered in summer by the colour of the grass.' This drawing is reproduced in *Sx. Cty. Mag.*, vol. 13 (1939), p. 657 and again in our FIG. 2, 1.

<sup>2</sup> The *Eastbourne Gazette* files for 1874 (vol. 15) have been searched. Copies of 1873 and earlier do not exist at the newspaper offices nor at Eastbourne Reference Library. Other sources have not been approached.

that G. & R. Lavis, of 71 Terminus Road, Eastbourne, photographers (and advertisers on the front page of the paper), had just issued a series of three photographs of the Giant; the first and second taken from the main road (Mr. F. W. de St. Croix also has one of these, which is of interest but of little value for our purpose as the distant figure is hazy), while the third was exposed at the base of the Downs, the lens covering 400ft. This description agrees with Pl. II and as the photograph bears on the reverse side the stamp of G. & R. Lavis, there seems no reason to doubt that this photograph was taken shortly before 29 Apr. 1874, just after the work was completed. It is a pity, however, that no photograph of the Long Man has been traced which was exposed before the insertion of the bricks.

DISCUSSION OF ILLUSTRATIONS DATING FROM BEFORE 1874 (FIG. 2). There are, however, some early drawings, the first so far discovered being that in the Burrell MSS.<sup>1</sup> in the British Museum (FIG. 2, 1). Apart from the facial features which are likely to be artistic licence, the principal differences between the Burrell drawing and de St. Croix's restoration lie in the rake and scythe at the head of the staves and the posture of the Man's left (west) leg, which foot points west and not east as now.

*S.A.C.*, vol. 4 (1851), p. 63, shows an engraving of the Long Man, which block is repeated in vol. 26 (1875), p. 97, the latter saying: 'Giant as seen in 1850' (FIG. 2, 2). This impression does not show the rake or scythe, neither does it depict the feet, the bottoms of the legs appearing to fade away, but the Man's left leg below the knee is more in sympathy with the Burrell sketch, than with the brick restoration. The missing left foot in the 1850 illustration would be more likely to point west (as in Burrell) rather than east (as restored).

In de St. Croix's paper of 1875, *S.A.C.*, vol. 26, there appears on p. 102 an engraving entitled 'Wilmington Giant 1874,' which shows the hill figure as restored, i.e., with both feet pointing east. Below the sketch is a note '(A similar illustration, from a sketch by Dr. Phené, appeared in the *Graphic*, February 7th, 1874)'.<sup>2</sup> Few

<sup>1</sup> Dr. Curwen and other writers state that the Burrell drawing is the earliest reference to the Long Man, but are we aware that any really extensive search for earlier records has been made?

<sup>2</sup> For details of Phené and his connection with the Long Man, see *S.A.C.*, vol. 26, p. 97 ff. The paper by Phené quoted by de St. Croix is in *Trans. R.I.B.A.*, vol. 23 (1872-3), pp. 181-196, see p. 191 ff. This journal has no illustrations of the Long Man, it appearing that Phené displayed drawings at his lecture given 19 May, 1873. Enquiries at the R.I.B.A. and Society of Antiquaries show that no drawings were deposited by Phené with either institution. In the discussion that followed Phené's lecture (p. 195) he stated, 'I have here, also, some remarkable flints . . . They were obtained from under the turf on the great figure at Wilmington.' Nothing further was said about the flints and they have not been traced. As restoration work had not started, Phené appears to have done a little digging on his own account.



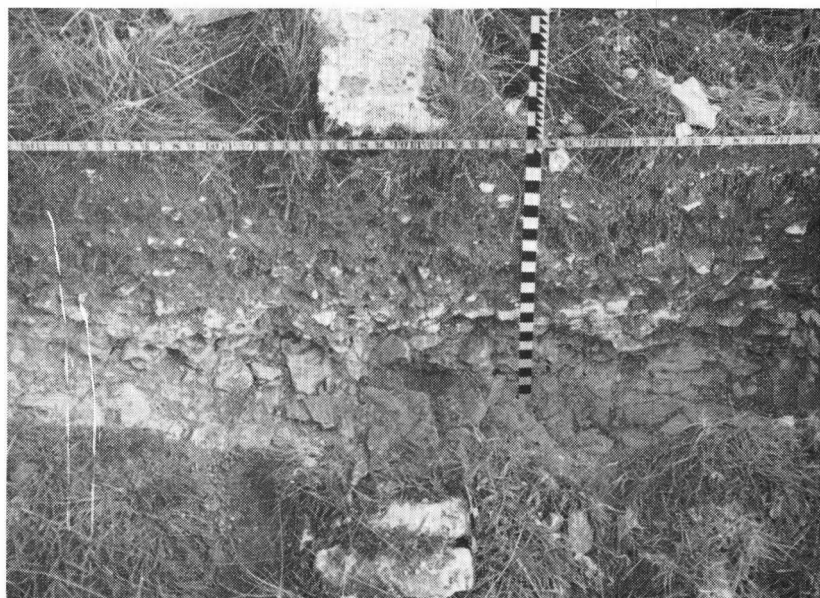


PLATE IA. Trench 1, south side (looking uphill)



PLATE IB. Trench 2, south side (looking uphill)

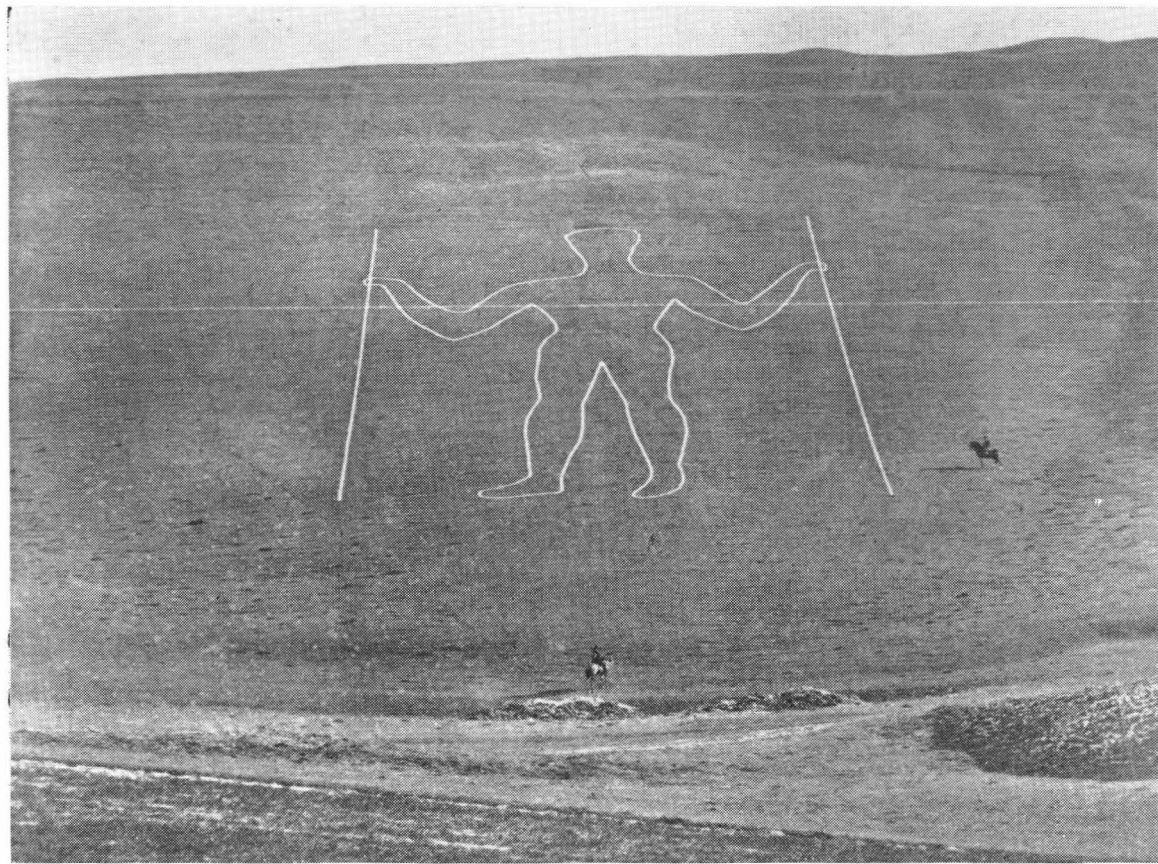


PLATE II. The Long Man of Wilmington, from a photograph taken by G. & R. Lav's soon after the outlining with bricks in 1874 (by permission of Mr. F. W. de St. Croix)

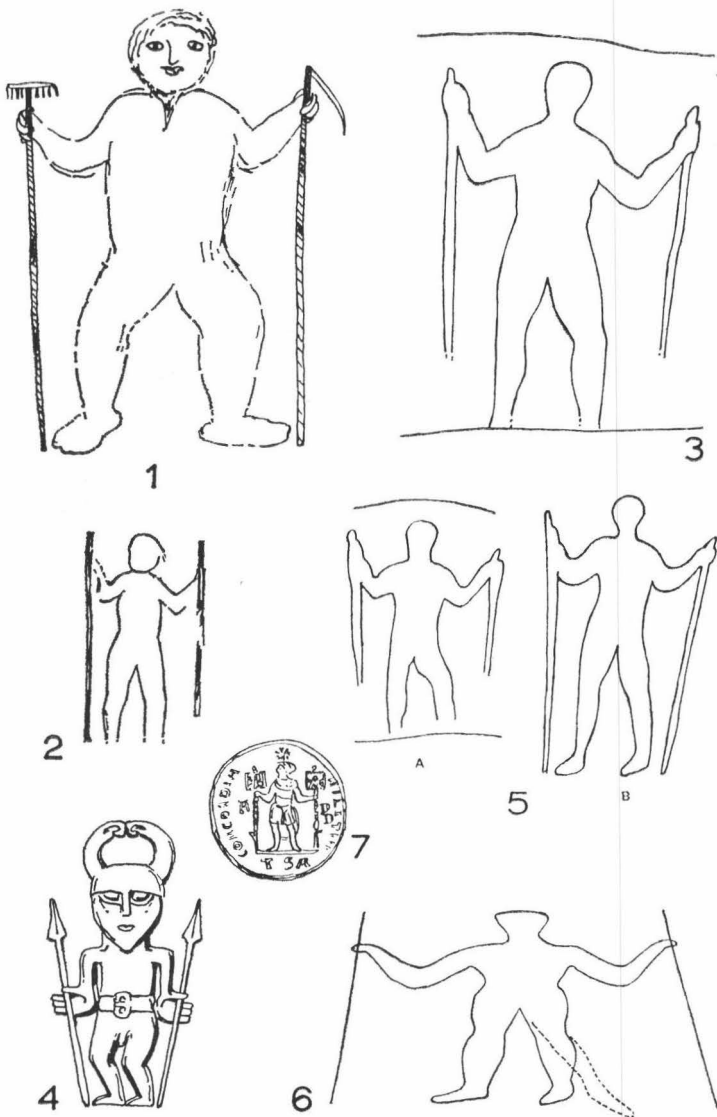


FIG. 2 (not to scale)

1. The Long Man as in the Burrell ms., late 18th century.
2. Ditto in *S.A.C.*, vol. 4, p. 63, as in 1850.
3. Ditto in the *Graphic*, 7 Feb. 1874, from a drawing by Phené.
4. Gilt-bronze buckle, Finglesham, Kent, grave 95, 7th century A.D. Height, 2.84ins. (73mm.) (after S. C. Hawkes, by permission).
- 5A. The Long Man in Plenderleath's own copy of his 1892 book, as a sketch (not published) (after Marples).
- 5B. Ditto as in Plenderleath (1892), FIG. 36.
6. Ditto in the 1874 photograph (Pl. II). The dotted lines indicate marks in the photograph suggesting an alternative left leg.
7. Denarius of Vetranius, diam. c. 21mm. (after Heron-Allen).

writers on the Long Man, with the exception of Marples, seem to have looked at that issue of the *Graphic*, for de St. Croix's note is far from correct; the picture of the Long Man in the *Graphic* for 7 Feb. 1874 is an engraving of the Long Man *before* restoration, not after the bricking (FIG. 2, 3) and is very different from de St. Croix's illustration in vol. 26, p. 102. There are discrepancies in topographical detail, e.g., the figure is shown extending from the plain almost to the top of the hill, whereas Pl. II shows that it occupies less than half the vertical height. The figure, however, seems to have been drawn with some care. Like the 1850 sketch the rake and scythe are not shown and both feet are missing, likewise the lower parts of both staves. It is clear from this sketch (if it can be relied upon) that the feet should point in opposite directions, following Burrell. The text (on p. 122 of the *Graphic*) accompanying the engraving (p. 125) confirms that Phené provided the sketch for the engraving and mentions 'that this remarkable figure is about to be restored' thus confirming that the drawing had been made before the restoration. It continued, 'The first sod for the restoration has already been turned by Mr. Phené, but the work has been suspended for a time to allow persons interested to see it in its original condition.' This is confirmed in the *Eastbourne Gazette* for 4 Feb. 1874 where de St. Croix had written to say that 'the delineation of the Long Man is now far advanced; but before the lines are marked out, it is hoped the public will finally inspect the figure and express their opinion thereon.' In the same paper for 18 Feb. 1874, 'The Rev. W. de St. Croix states that the illustration of the Wilmington Giant or Long Man, published in the *Graphic* of Saturday last [actually two Saturdays before] is admirably done and affords a very good view of the hill on which the figure is traced and gives also a tolerably correct representation of the figure itself.'

The words 'tolerably correct representation' suggest that de St. Croix was not entirely happy with Phené's sketch reproduced as an engraving in the *Graphic*, but the same might be said of Phené's remarks regarding the restoration when addressing a Society meeting at Wilmington on 17th Oct. 1874, quoted in *S.A.C.*, vol. 26, p. 101. His remarks about the original design are far from easy to understand: '... his [Phené's] own opinions of the original design were not at first as positive as at present, although he now found they were quite correct; his careful comparison of the figure with that in Dorsetshire [the Cerne Abbas Giant] left no possible question in his mind on that point.' This seems to imply that Phené's first opinions of the original design, i.e., as depicted in the *Graphic*, with the Long Man's left knee facing west and not east as in the restoration, still held; but as he does not condemn de St. Croix's interpretation (except to object to the bricks) it could be that, after inspecting the Cerne Abbas Giant, which has both feet turned to the figure's right in a similar manner to the restored Long Man,

reluctantly he accepted the reversal of the Long Man's left knee and calf muscle. The Rev. de St. Croix was indisposed and therefore absent from the Wilmington meeting, as reported in the *Eastbourne Gazette* for 21 Oct. 1874, where Phené's speech is noted in similar terms, but not the exact words, as in *S.A.C.*, vol. 26, p. 101. Therefore, de St. Croix had the report at second hand which may account for the somewhat peculiar wording.

**THE POSITION OF THE FEET.** It is of importance to determine, if possible, the correct positions of the feet of the Long Man, as they have an influence on theories as to the figure's origin. One of several factors in favour of comparison with the 7th century A.D. Finglesham buckle (FIG. 2, 4) is that in both instances the feet point to the figure's right. Let us consider the points in favour of the Long Man's feet pointing east as outlined by de St. Croix. Apart from de St. Croix himself there is little support from others. Petrie, in 1918, quotes a Farmer Dumbrell, 'who remembered all about the bricking,' as agreeing with the restoration of the feet.<sup>1</sup> Then there is the negative evidence of no public outcry against a bad restoration. What does seem certain is that in the middle of the 19th century there was some doubt about the feet. The Rev. G. M. Cooper, in 1850, omits them from his illustration (FIG. 2, 2) and following Horsfield, states, 'The outline is so slightly indented in the turf that to a close inspection it is imperceptible; but when viewed from a distance with a strong side-light, i.e., either in the morning or evening, it may be plainly seen; and yet, even then, an unpractised eye will have some difficulty in tracing out the figure, of which the lower parts are at all times extremely indistinct. The thawing of a slight snow brings it out into the boldest relief.'<sup>2</sup> The next dated drawing is that of Phené in the *Graphic* for 7 Feb. 1874, already referred to, preceding the brick outline and which has no feet at all, but the knees face east and west (FIG. 2, 3), thus being contrary to de St. Croix's interpretation. Marples shows two sketches of the Long Man:<sup>3</sup> (B) as printed in Plenderleath's book<sup>4</sup> (FIG. 2, 5B), this following Phené's drawing as to the upper two-thirds of the figure, but with the stave bases lengthened and the feet as the 1874 restoration. Marples suggests that Plenderleath added the feet as in sketch (B) to sketch (A) (FIG. 2, 5A) which is a pen-and-ink sketch, existing in ms. form only, in Plenderleath's own copy of his book. Marples considered it possible that (A) was of pre-restoration Long Man, probably copied from the *Graphic*. This would appear to be a correct assumption as Plenderleath's sketch (A) is virtually the same as the *Graphic* drawing by Phené.

<sup>1</sup> Flinders Petrie, 'The Hill Figures of England,' in *Royal Anthropol. Inst. Occ. Paper*, no. 7 (1926), see pp. 7-16, Pls. I and II.

<sup>2</sup> *S.A.C.*, vol. 4 (1851), pp. 63-4.

<sup>3</sup> Marples, *op. cit.*, FIG. 36 and see pp. 186-7.

<sup>4</sup> Rev. W. C. Plenderleath, *The White Horses of the West of England* (1892).

The Rev. T. Bunston's booklet of 1912<sup>1</sup> includes a passage saying that the lower part of the figure was altered, for originally the feet pointed downwards in the line of the form. This hardly equates with the Burrell drawing, where the feet point outward, but is evident disagreement with the restoration. A letter published in 1938<sup>2</sup> records information received from a Mrs. Ann Downs (née Lambe), born 1840, who spent her early days at Wilmington Priory. Mrs. Downs 'always deplored the careless manner in which he [the Long Man] had been restored.' Apart from further information regarding the 'scythe' (see below) there is the statement: 'The feet of the figure have been altered.' It is hard to judge whether memories of events many years before may be relied upon, so the worth of Mrs. Downs' reminiscences would seem to be of equal value to those of Farmer Dumbrell who held the opposite view. Petrie accepted Dumbrell's evidence, but then he was not aware of Mrs. Downs' contrary opinion.

One more writer with views on the restoration may be quoted, T. C. Woodman, M.A., LL.D., who wrote a pamphlet on the Long Man in 1900.<sup>3</sup> '... The figure seems to be walking in a very uncomfortable position towards the east, all the upper part of the body is front view, but the legs are seen sideways. ... The fact is this most interesting piece of antiquity has undergone a most deplorable restoration some twenty years ago at the hands of well-meaning persons no doubt ... the figure, *as many of us can still remember it*, was formerly only visible at times ... the feet of the figure have been quite altered, now they are sideways, formerly they were foreshortened, and the form was coming straight forward, ...' Woodman suggests the figure is that of the Anglo-Saxon Baldur. Here then, is a cultured author of numerous pamphlets on such widely ranging subjects as church brasses and Liberia, writing from personal experience of having seen the Long Man before restoration and whose views cannot lightly be dismissed.

The 1874 photograph (Pl. II) appears to be the only piece of evidence not seen by post-1875 writers on the Long Man, if the *Graphic* drawing, apparently known to Marples, is excluded. The half-tone reproduction in this volume (Pl. II) is unlikely to be as clear as the original, but if the latter is examined (or rather a modern copy by Reeves, professional photographers, of Lewes, and it is

<sup>1</sup> Rev. T. Bunston, Vicar of Arlington, *The Long Man of Wilmington*, a popular lecture given to the Literary and Social Guild, Hailsham, 27 Feb. 1912, a booklet, reprinted from the *Sx. Cty. Herald*.

<sup>2</sup> Letter from Edward Shoosmith in *Sx. Cty. Mag.*, vol. 12 (1938), p. 281.

<sup>3</sup> T. C. Woodman, *The Long Man of Wilmington* (1900), a pamphlet, said to be reprinted from the *Hove Gazette*. Among a collection of pamphlets by Woodman, Brighton Reference Library, Stock No. 21059. A letter in *Country Life*, 7 Feb., 1903, p. 192, repeats much of what is in the pamphlet, from a book by Woodman, *The South Downs* (1901). Dr. Woodman was a member of the Sussex Archaeological Society from 1881-1912.

well known that modern copies are often sharper and clearer than the original—a copy is filed at Barbican House, Lewes) faint markings in the turf can be interpreted as an alternative outline of the Long Man's left leg, shown as a dotted line in FIG. 2, 6. This is put forward by the writer with some diffidence as the 'slight . . . intaglio and cameo effects' mentioned by Phené<sup>1</sup> seen now as a possible alternative left leg, may be only rabbit runs or the traces of footpaths formed by the workmen who laid the bricks. Nevertheless, the resemblances to a leg and a foot are there and they should be recorded. Modern aerial photography and a ground examination now reveal no trace of those marks, which, whatever they were, have been worn away by the constant tread of visitors' feet over the surface for nearly 100 years.

Even without the somewhat doubtful evidence of the photograph, the previous summing up of what is known to the writer about the figure's nether limbs demonstrates that only de St. Croix and Dumbrell accepted that both feet faced east, whereas the Burrell drawing, Phené's sketch in the *Graphic*,<sup>2</sup> the engraving of 1850, the remarks of Bunston, Woodman and Mrs. Downs all disagree with the restoration. On balance, therefore, the writer is inclined to accept that the restoration of the left leg and foot was mistaken and that the left foot should point either north-west or west, or that both feet originally pointed downhill as quoted by Sidgwick.

THE RAKE AND SCYTHE. These appear at the tops of the staves in the Burrell drawing (FIG. 2, 1) which Sidgwick reported ratified by Gough in the latter's edition of Camden (1806),<sup>3</sup> though with reservations as to Gough's accuracy and that he may not have been personally acquainted with the figure. Horsfield omits mention of the rake and scythe. Since earlier discussions of the Long Man by various writers refer to possible missing parts above the head and around the two staves, these areas were subjected to a resistivity survey by our member, Mr. K. W. E. Gravett, M.Sc., F.S.A., assisted by the writer and Mrs. Holden. Mr. Gravett's report follows:—

'Resistivity measurements were carried out on the Long Man for two days (4-5 Sept. 1969), using a Martin-Clark resistivity meter with an array of four electrodes, arranged in a square of 2.5 feet side and forming a table on which the instrument is mounted. Such a system has been described by A. J. Clark,<sup>4</sup> who explains its operational advantages over the more conventional, Wenner, four-in-line arrangement. In the square array, two adjacent electrodes are used for feeding current into the soil, while the other pair sense the voltage difference. An advantage of the square configuration is that the direction of current may be changed through 90° by simple switching and this is useful in locating anisotropic anomalies (where the soil resistivity depends on the direction

<sup>1</sup> *S.A.C.*, vol. 26, p. 101.

<sup>2</sup> Phené was a Fellow of the Royal Institute of British Architects and, presumably, a capable draughtsman.

<sup>3</sup> *Ibid.*, pp. 408-9.

<sup>4</sup> A. J. Clark, 'A square array for resistivity surveying,' in *Estratto da Prospettioni Archeologiche* (Fondazione Lerici, 1968), vol. 3, pp. 111-4.

it is measured). The square array has an effective working depth of 3 feet and offers a more accurate spatial location of an anomaly.

A base-line was laid out between the tops of the present staves and resistance readings taken at two-foot intervals along sections of this line and lines parallel to it four feet apart. The full set of readings and locations are filed with the papers on the excavation. The areas investigated are shown in FIG. 3, where the anomalies are plotted. All of these were found to be anisotropic in nature and probably close to the surface. It will be appreciated, however, that such anomalies are not certainly archaeological and should be confirmed by excavation before acceptance.

It was not possible to investigate the region above the west staff due to recent and serious erosion. A much larger and more intensive survey, covering the whole figure, would be useful, but the slope of the ground much slowed the operation of the instrument. Certainly this was the most arduous resistivity survey I have ever conducted on slopes of up to nearly 40 degrees in places.

**PHOTOGRAPHY.** In the afternoon of 13 Aug. 1969, Mr. Gravett took a series of photographs of the Long Man on Kodak Ektachrome Infra-red Aero film type 8443 in the hope of distinguishing any areas of grass with lower near-infra-red radiation. None were found on the Long Man, although the less healthy grass on the quarry face showed this effect.

In October, 1970, Miss S. Adams kindly took air photographs of the Long Man, using the same type of infra-red film, generously provided by Mr. K. W. E. Gravett. The grass over and around the figure showed no variations in colour. Thus the experiment was unsuccessful in revealing traces of any earlier ground disturbances which might exist.

**RESISTIVITY READINGS.** The resistivity readings merely add to the complexity of theorising about the layout of the Long Man. If those readings at the tops of the staves are archaeological (and they may well be due to natural causes) then the staves may have been somewhat longer and the patterns might be said to resemble a rake at the head of the east staff and the curve of a scythe blade on the west side of the other staff. The anomalous readings above the west side of the head, if archaeological, suggest a single plume rather than a horn from a horned helmet as worn by Finglesham man (see FIG. 2, 4), but the plotted curve might equally trace an old rabbit hole, a natural runnel in the chalk, or perhaps a patch of flints. If we refer again to the reminiscences of Mrs. Ann Downs (see note <sup>2</sup> on p. 48) of the pre-1874 Long Man, '... there was visible above the head of the Long Man a curved line running at right-angles to the staff which he holds in his left hand. This was supposed to represent a scythe.' Note the words, 'above the head': so this statement could imply a scythe blade *between* the Man's head and the western staff, of which the resistivity readings might represent the tip of the blade. It would seem more probable that 'above the head' refers only to a position relative to the height of the Man, as the top of a scythe blade in the Burrell sketch (with a longer staff) would be farther up the hill than the Man's head.



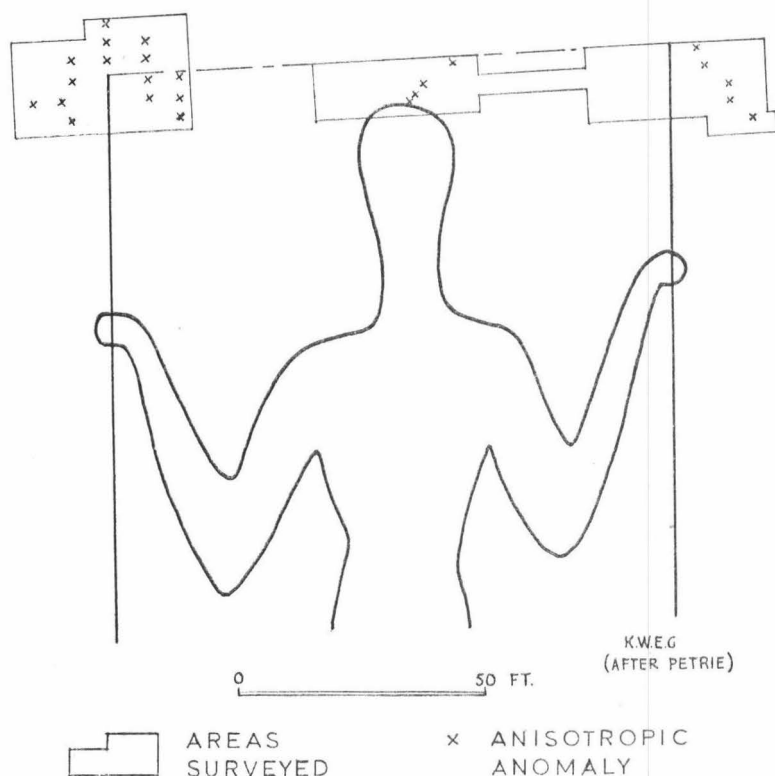


FIG. 3. Plan of resistivity survey.

**THE POSSIBLE ROMAN ORIGIN OF THE LONG MAN.** The late E. Heron-Allen followed Sidgwick's article in 1939 by proposing, mainly from coin evidence, that the Long Man belonged to the 4th century A.D.<sup>1</sup> and quoted two other notes supporting that theory.<sup>2</sup> Basically, it is that certain Roman coins bear on the reverse a figure of a man holding in each hand a vertical staff with a rectangular device at the head of each, otherwise known as a *Labarum* (FIG. 2, 7), or, in Heron-Allen's words, 'a Christianised form of Roman cavalry standard,' and that these coin designs are so like the Long Man as to be more than a coincidence. The present writer disclaims any extensive knowledge of the Roman period and therefore does not

<sup>1</sup> E. Heron-Allen, 'The 'Long Man' of Wilmington and its Roman Origin,' in *Sx. Cty. Mag.*, vol. 13 (1939), pp. 655-60.

<sup>2</sup> *Sussex Notes and Queries*, vol. 6 (1937), p. 219 and p. 262.

propose to discuss this theory at length. However, anyone may see similarities and differences between the two figures, e.g., the coin figures are clothed, whereas the Long Man is naked, and the head on a coin is turned to the figure's right, the *labara* have rectangular devices at the top, which are not on the Long Man's staves. The feet, however, bear a greater resemblance to the Burrell sketch than to the 1874 restoration, or to Finglesham Man, being turned outward. Some coins have what appears to be a single star above the head.

If the 1874 restoration of the Long Man's feet is suspect then one factor supporting the resemblance of Anglo-Saxon Finglesham Man to him is doubtful. But, likewise, there is still insufficient evidence, notwithstanding the fragments of possible Roman tile, to claim the Long Man as of Roman origin. Perhaps we should consider the matter as far from resolution as ever before and that the limited excavations coupled with some additional research but echo the words of the late Rev. A. A. Evans, 'The Giant keeps his secret and from his hillside flings out a perpetual challenge.'<sup>1</sup>

THE SUPPOSED LEVELLING OF THE SITE OF THE LONG MAN. The Rev. de St. Croix in *S.A.C.*, vol. 26, p. 99, quotes Mr. Phené: 'The hillside had been most carefully brought to a surface and the material so cut away thrown into the chine on the west . . .' This assumption of levelling prior to cutting the outline has been restated by several writers including Petrie who says: 'It will be seen that the figure has been placed in the hollow of a natural bay; it is perceptible that the ground was flattened over the area, and heaps of this clearance seem to have been thrown into a gully at the side.'<sup>2</sup> J. B. Sidgwick says: 'Even a casual glance at the site . . . shows that it was prepared and roughly levelled before the Man was cut.'<sup>3</sup> Professor C. Hawkes, probably following Petrie, says that the slope was 'smoothed artificially.'<sup>4</sup> The writer does not agree with these views after an examination of the site.

In the first place, what would be the good of cutting the outline of a figure if all, or the greater part of, the turf had been removed, together with quantities of the subsoil? There would be no turf left in which to make the outline. The mass of soil in the adjacent 'chine' or coombe-head is considerable—far more than the product of a few molehills. An outline would therefore have to be cut into the bare bedrock and would only show by shadow markings for at most a year or two before being weathered away, which seems completely contrary to hill figures in chalk country, unlike carvings on more solid rock. A background of turf is essential; even the

<sup>1</sup> *Sx. Cty. Mag.*, vol. 13 (1939), p. 574.

<sup>2</sup> Petrie, *op. cit.*, p. 7.

<sup>3</sup> Sidgwick, *op. cit.*, p. 408.

<sup>4</sup> Hawkes, *op. cit.*, p. 28.

White Horses with all-white bodies have turf surrounding their figures. Re-turfing by hand on bare chalk bedrock on such a steep slope seems to be out of the question. (The slope of the Long Man is  $28^{\circ} 10'$  according to Petrie, which has been checked using a coarse clinometer as between  $28$  and  $29$  degrees).

The area of the Long Man and east and west to the adjacent short downland spurs is not really a hollow as stated by Petrie, for the face of the hillslope is convex, not concave, as may be seen by the contour lines on the O.S. maps. The only hollows are the chines or coombe-heads on either side of the Long Man. In the opinion of the writer the convex surface between the two coombe-heads represents the almost totally eroded remnant of another broad downland spur and that it is erroneous to consider the hill-figure as lying in a hollow, or that the surface has been artificially prepared.

If we now look at the material from the supposed clearance, a large deposit of grass-covered soil lying in the hollow to the west of the figure, it has every appearance of being the result of a landslip. The upper part of the hillside just west of the top of the slump, up to the ancient track known as the 'Giant's Causeway,' has an average angle of  $34^{\circ}$  for the last 30 yards or so, but if the top 10 yards are examined, the angle is found to be  $37^{\circ}$  which is close enough to the angle of repose of earth to make a landslip possible.

Petrie noted that the angle between the head of the Long Man and the Giant's Causeway was  $33^{\circ}$  and the steepest part at the top as  $38^{\circ}$ . Between the head of the figure and the ancient track above may be seen lateral swellings in the turf which to the writer are products of soil creep or soil-slip from the steep hillside above. In the hollow to the west, where the angles are about the same, the soil creep is likely to have become too great to be retained by the roots of the vegetation and a landslip occurred at some unknown time in the past, but certainly well before 1874. It is also clear from the 1874 photograph (Pl. II) that de St. Croix did no levelling of the hillside.

LONG MAN RESTORATION 1969. Mr. M. J. MacPherson, Assistant Secretary to the Society, kindly contributed the following note: 'The whole outline was replaced because the bricks of which it was formed were either missing due to vandalism or in a poor state: only the left side of the head could have been retained and this would not have matched with the new outline. An old record shows that when the outline was laid in 1874, 7,000 bricks were used.'

After approval and advice had been given by the Ministry of Public Building and Works, who made a grant of £250, Mr. Ben Walker, a Wilmington man, of B. V. Walker & Son, Selmeston, was asked to estimate and advise on the work. It was decided to use pre-cast concrete blocks made with white cement and sand and this should obviate the need to whiten the outline every three years. These blocks were made at Uckfield by C. T. Concrete Mouldings

Ltd. The blocks were made the same width and depth as the bricks but are two feet long, this being the maximum possible due to their weight of 72lbs.; 770 were used. To raise the blocks up to the figure a trolley was attached to a specially made rope from Green Bros. of Hailsham, which was winched up and down by two tractors at the bottom. [There being no suitable commercial trolley for the purpose, Messrs. Walker made their own from the chassis and towbar of an old electric milk-float, covered with the framework of an iron bedstead, part of a stable door and boards; the wheels coming from a discarded motor lawnmower. This home-made device worked perfectly. E.W.H.] When the last block was laid a sealed vessel was placed underneath containing records of the work and items of topical interest for future generations.

The total cost of the work amounted to £800; the labour, surveyors' fees and signs amounting to £468 and the blocks £332. The fencing was replaced at the top and bottom at a cost of £67. £203 15s. 0d. was raised by donations and collections on the site, at Wilmington Priory and at Barbican House. The balance of the cost was paid by the Trust.'

LONG MAN RESTORATION, 1874. It is of interest to note that trolleys were used for conveying bricks up the hillside in 1874, the only real difference between then and in 1969 being the source of power utilised. Mr. G. P. Burstow kindly provided details of a conversation he had in 1969 with Mr. William Willis, of College Place, Brighton. Mr. Willis's grandfather, William Page (died 1942), lived in Wilmington as a child and in 1874 with other local children used to climb to the top of the Long Man to help bring up bricks for the workmen outlining the figure. The children used to 'man' a trolley going downhill and by their weight send up another trolley loaded with bricks. It then became necessary for the children to climb the hill again on foot to repeat the operation. (Mr. Page later was a Brighton policeman, retiring in 1913 and then a park-keeper at Preston and Dyke Road Parks, Brighton. Mr. Willis has allowed a copy of a photograph of his grandfather to be sent to the Society).

ACKNOWLEDGEMENTS. The writer is indebted to the following for much assistance either on the site or in other ways, most of which are mentioned in the body of the report: Miss S. Adams and Mrs. H. G. Holden; Messrs. M. Bell and G. P. Burstow, the Trustees of the Chatsworth Settlement (for searching the Duke of Devonshire's diary for 1873, with negative results), Mr. F. W. de St. Croix, Dr. I. Cornwall, Professor B. W. Cunliffe, Mr. K. W. E. Gravett, Professor C. and Mrs. S. Hawkes, Messrs. M. MacPherson, N. E. S. Norris, C. F. Tebbutt and B. Walker.