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PIT-DWELLINGS OR NOT PIT-DWELLINGS

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THE curious 'hill and hollow' or 'pit and tump' formations on Minchinhampton Common and elsewhere have not ceased to provide a tantalizing problem to the curious. The latest suggestion as to their origin occurs in the notable paper by Mrs E. M. Clifford in Volume 59, 1937, of the Society's Transactions. There we read that these so-called pit-dwellings or bunkers are perhaps an early result of solifluxion.

As this solution seems doubtful on account of innate difficulties in its operation, it may be permissible to consider wherein these difficulties may reside. Solifluxion is soil-flow but it is generally restricted to those cases where the underlying ground is still frozen hard and only the surface matter thawed and fluid. In this case it would not greatly matter if this restriction was strictly observed for the difficulties to its operation do not lie entirely in that direction. The soil-flow takes place under the action of gravity and consequently the main motion must be down-hill. That does not mean that no particle of matter should be moved up-hill but it does mean that the bulk-movement should be down-hill. In other words the centre of gravity of the moved mass must move down-hill and not up-hill. But in a very great proportion of these bunkers the moved mass has been moved up-hill. This is obvious in the case of many that lie on the nearly horizontal central part of the common. But it may be replied, the moving mass perhaps did not start to move from the bottom of the hollow but from a position higher up on the sloping front of some ice or snow sheet. This case must therefore be considered. A purely snow front

could not accumulate this mass of stones and mould, which constitutes the 'hill' of these bunkers. A snow mass does not move bodily forward with the vigour necessary to scoop up a great mass of detritus. Consequently we are reduced to the consideration of an ice-front, that is, an ice-front of a moving mass of ice which has scooped up detritus from its bed. It may be replied at once that there are no signs whatever of the passage of such a mass of moving ice on the surface of the common. Still, let us suppose that an ice-front was in position on the common with a lot of detritus embedded in it and lying on it. Could such an ice-front discharge slides of material in such a way as to scoop a hollow and come to rest while forming a little hill just beyond the hollow. Possibly it could. The line of movement is easily determined in each case. If a line is drawn from the centre of the hollow to the centre of the hill this gives the exact line of the movement and at the same time the line at right angles to that line gives the line of frontage of the ice at that point. A very important detail is now noticeable. If the above construction is carried out for one of the bunkers it is evident that the main axis of the hollow and the main axis of the hill do not lie along the line of movement at all but exactly at right angles to it. This point alone is a great argument against the possibility of solifluxion as an explanation of the bunkers. But there is worse to follow.

By examining the bunkers carefully and finding the line of throw as described above, it is possible to plot out the ice-front at contiguous spots. The fronts ought to lie more or less in the same direction for any closely sited set of bunkers. But there are innumerable cases where the exact opposite is the case. Within a distance of a few yards, one can find bunkers where the throw turns through all the main points of the compass. No ice-front could present so many faces in so small a space. For example, not far from the entrance to Highlands

there is a place where there are many bunkers with at least four different directions of throw. A little further north, east of Sprigg's Well and just inside the Amberley Camp there is a throw to the north uphill and close alongside another to the south. Again near the old reservoir there is a throw to the N.E. and one to the S.W. close alongside and on the flat.

Small solifluxion movements take place at the present time on elevated portions of the Lake District and the Scotch Mountains. They have been described by various writers and may be referred to in the pages of the *Quarterly Journal of the Geological Society* and of the *Geographical Journal*.

It seems that the difficulties of solifluxion as a solution for these bunkers are too great to be lightly passed over. If that is so, mystery still broods over the object and origin of these formations. Each writer's work in the longish list of commentators has two parts—the observational details and the conclusion drawn from them. If one reads these papers, many of them the result of long research, it is reasonable to accept the observations as correct and yet be unable to accept the conclusions drawn. There have been many solutions, e.g. pit-dwellings, cooking pits, burial mounds, the result of tree-falls, small quarry holes, solifluxion phenomena. Quarry holes may be rejected at once as they would not lead to a specific design recognizable in all the 'hill and hollow' formations.

As for the tree-fall theory there are almost as valid arguments against it as against the solifluxion theory, e.g. if tree-falls are the reason, then there ought to be some relationship between the throw of the hummock and the direction of the prevailing wind at the place in question. But there is no such relationship. In fact as stated above 3 or 4 different directions for the throw are found in one space of a few square yards area. In the case of a tree-fall the ground fetched up by the roots is

dragged out of place and subsequently dropped on the lee side of the hollow, so that a tree thrown over by a s.w. wind would have its hummock N.E. of its hollow. Besides all this, one has heard it claimed that these bunkers are found in places where there never has been any tree-life at all. Tree roots leave traces of their existence and no such traces exist in the places in question.

When one turns to the suggestion of cooking pits, one remembers an argument used by Mrs Clifford against the idea of pit-dwellings. The reference runs :—‘ published accounts usually include reference to the large number of so-called pit-dwellings . . . they are however too numerous to be of human origin ’. Now this argument applies much more to the idea of cooking pits. It is at least unlikely that the making of cooking pits could result in such a number of similarly excavated and closely placed pits all constructed of a definite pattern and size, unless they were at the same time used for habitation as well.

But there is another possibility which deserves some attention, viz., burial mounds. When one remembers that early man often formed the burial place in imitation of the living place it may well be that some of these pits are the burial grounds of the ‘ common man ’. If the great chief had a large tumulus and if he was buried with ceremony and ritual it is every way likely that the small man would be buried with an amount of ceremony fitting his status in the tribe. On page 289 of Vol. v, part 3, of the Proceedings of the Cotteswold Naturalists’ Field Club we read, in a paper by G. F. Playne, ‘ On the Early Occupation of the Cotteswold Hills by Man ’, ‘ Having sent a description of these earthworks (i.e. on Minchinhampton Common) to the Rev Canon Greenwell, of Durham, he very kindly replied—“ I have observed a large number of circular mounds, evidently artificial, and which in many cases were close to larger mounds, in which burials have been found. These small mounds occur in groups of sometimes fifty or sixty. I never found the least trace

of any burial in them, or the slightest fragment of pottery or chipping of flint. My explanation is that they covered unburnt bodies, interred without vase or implement, and that from the slight covering over them, so allowing the air free admission, all trace of the body has disappeared. This explanation is, I confess, not satisfactory to my own mind, but I cannot suggest any other which appears to be more reasonable'''. The same difficulty—the lack of remains with a meaning—has faced the explorer in the Cumberland and Westmorland area as well as elsewhere.

It has already been mentioned that the great number of these bunkers has been used as an argument against the idea that they are of human construction. But if they were in many cases burial mounds and respected as such that might help to explain their number. A habitation site could be used by a succession of owners and hence the number need not be so great, but a grave mound would not be tampered with and hence the number required would be much greater.

May it not be that of these bunkers, some were cooking pits, some were dwellings but the greater number formed primitive cemeteries. Perhaps the strongest argument for the possibility that the bunkers may be burial mounds consists in the fact that these small mounds are associated with a big tumulus which is definitely recognized as a place of burial. It is so on Minchinhampton Common and near a tumulus halfway between Rugger's Green Wood and Avening, and I believe on Selsley Hill.