

The Oven-mounds of the Aborigines in Victoria.

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IN the district of Meredith, midway between Geelong and Ballarat, there is a considerable number of mounds, locally known as *Blackfellows' ovens*. In the landscape they appear as ordinary irregularities on the surface of the ground, and in many cases would be passed by without arresting the least attention. At times, however, the grass growing upon them presents a freshness of luxuriance which shows that the soil in which that grass is growing is richer than the soil around. In a field near Meredith two ovens were ploughed up, and the ground was planted with potatoes. The luxuriance of the growth which took place clearly marked out the position of the ovens. The growth, however, was too rank, and the luxuriant bunches gradually faded, leaving the crop of potatoes at the roots far inferior to what prevailed generally in the field. In another case, at Cargerie, a piece of land, on which was an oven-mound, was ploughed up and sown with oats. There was a vigorous growth of stalk, but the grain came to nothing. On the uncultivated country the oven-mounds, in ordinary seasons, are not easily distinguished from irregularities of the surface of the earth. After severe droughts, however, they are much more easily discerned. This was exemplified during the very dry season in the early part of 1869. Owing to the drought which then prevailed, the green mantle of grass had disappeared, leaving the black patches of the oven-mounds very easily distinguishable from the bare surface of the soil generally. Numbers of the mounds could be distinguished from the carriage windows of the Geelong and Ballarat Railway, at Bruce's Creek, near Lethbridge, and also on the slopes of the heights at the upper part of Cowie's Creek. The powdery black ashes of the primitive hearths and cooking-ovens of the aborigines are distinguishable from the blackest soil, and can be traced on the ploughed fields long after the subverting agency of the ploughshare has been at work. Still it is obviously only a question of time when the last traces of such hearths will disappear for ever.

SITES OF OVEN-MOUNDS.

As cooking was concerned, the necessity for ready access to water explains at once why so many ovens are to be found along the banks of creeks and rivers, as well as by the margin of lagoons and lakes. In a hollow of the Woodbourne Creek, near Meredith, there is an oven so near the channel of the creek that the ashes fall over the bank into the water. Rising out of the ashes is the stump of a tree four feet in diameter. About a quarter of a mile from this oven, in the direction of Cargerie, there is another oven perched on the very apex of a large mound of ironstone nodules, and occupying the highest ground in the neighbourhood. Taking one locality with another, ovens are to be found in all positions between these two extremes—the lowest and highest points. They are found, as just shown, on the very brink of a creek, or a few yards from it, or in an angle, or on a gently rising slope, or on a steep brow with volcanic rocks cropping out close by, and on the flat ground or heights beyond. A point to be noted is that they are to be found on the eastern bank of a creek as well as on the western, exposed apparently to the full strength of the westerly and north-westerly gales. The explanation why sites appear to have been chosen exposed to so much inconvenience is probably to be found in this,—that as the ovens are very numerous, suitable ones could be used according to the season of the year when they were required. A similar explanation applies to cases in which ovens are found at considerable distances from permanent water. They were used during the wet season, when water could be got readily in what are locally called *crab-holes* and in small depressions on the surface of the ground. Moreover, it is to be remembered that ovens which appear now to be quite shelterless, were probably not so when used by the aborigines. The destruction of trees by the white settlers affects the question. Restore the hundreds or thousands of trees which have been destroyed, and the oven, which appears now to occupy a bleak and exposed position, will be well sheltered behind a vast expanse of branches. There is an oven on the outer slope leading to the lagoon near Woodbourne, well sheltered at present owing to the thick growth of trees. Now this oven would be in a very exposed position were the trees to be cut down. Some of the trees, also, in this locality, are peculiarly well adapted for camping purposes. They spread out their branches to a great distance, forming a covering only 3 or 4 feet overhead. Doubtless the dusky limbs of the poor wandering aborigines have often reposed during hot winds under the branches of these very trees which are so near the cooking-ovens. From beneath the agreeable shade of the spreading *eucalyptus*, no doubt, the aboriginal cooks watched the progress of the steaming process by which large quantities of game were cooked at once. The native bread or potato (*Myliotta australis*) also prevailed in this locality ;

it is occasionally turned up yet in the district by the plough. Altogether, the numerous ovens on the Woodbourne Creek and in the neighbourhood, also the numerous traces of bark-stripping to supply material for pegging boards for stretching out opossum skins, also for erecting their temporary shelters, afford clear evidence that the locality now in question was a favourite haunt of the aborigines in former times. It remains only to be stated, in regard to the sites of the oven-mounds, that they are to be seen indiscriminately on the east and west side of a creek, hence there could not have been in this locality any prevailing superstition leading the aborigines to prefer either east side or west side for their cooking-ovens.

STRUCTURE OF OVEN-MOUNDS—EXTERNAL.

Let us now come to a closer scrutiny of the mound and its oven. The collection of ashes, charcoal, and stones may be 20 or 30 feet in diameter, and 1 or 2 feet thick at the centre. But the real oven, formed of stones, is much smaller than what the foregoing figures indicate. The stone oven itself varies in size from 4 to 9 feet in diameter; 6 feet, however, may be taken as a common size in the whole of the Meredith District. This stone oven is usually slightly concave, or crater-like, with a central stone larger than those otherwise employed in the oven. Such a central stone, or occasionally two, may be commonly seen in those ovens which have been formed with some regularity. Such central stone was obviously convenient for the process of cooking by steam. Kangaroo and other game were placed on the oven of heated stones, grass and bark were placed over the game, and earth scraped up from alongside the oven was placed on the grass and bark. An opening was left or made for pouring water down upon the heated central stone, and the operation of the steam was rendered all the more effectual by the arrangement of grass, bark, and loose earth. The places from which the earth was scooped up are quite distinguishable many years after the aborigines have ceased to use the ovens. In an oven at Cargerie the dimensions are 9 feet by 5, but here the space of 9 feet is broken by the occurrence of two stones at intervals, both of which would seem to have been used for the purpose of producing steam. Moreover this oven is a considerable distance from the Cargerie Creek, but there are flats and depressions, within a hundred yards, where pools of water collect in wet weather, as the writer has oftener witnessed.

Besides the ovens which gave evidence of some regularity of formation, with central stone or stones, there are also those which present the appearance of a mere promiscuous collection of stones. These little heaps have sometimes been made so near each other that, in course of time, the ashes of the different heaps have

co-mingled and formed one irregular oven-mound with some approximation to the circular shape. The interior ovens vary in size from three or four stones to a cart-load.

In dealing with the external shape of the oven-mounds we have to consider the action of gravity, when the ovens are made on slopes ; and also the action of the winds in drifting the loose ashes of the mound. The stone oven, of course, will remain till disturbed by the white man, but it is otherwise with the loose ashes and charcoal. While the ovens were in use the constant trampling of feet kept the ashes loose and all the more exposed to the transporting agency of the winds ; moreover, when the ovens were built on inclinations more or less steep, the action of trampling would urge the ashes downwards in the direction of gravity. Thus the oven-mounds as well as the trees become records of the prevailing direction of the winds. The inclination of the trees is from north-west to south-east, and the drift of the ashes of the oven-mounds is the same, modified, however, by the action of gravity. When wind and gravity both acted in the same direction, the stones of the oven formed a sort of nucleus from which a fan or comet-shaped tail spread downwards.

STRUCTURE OF OVEN-MOUNDS—INTERNAL.

Having surveyed the oven-mound externally, we have to take pick and shovel to examine its internal structure. We select one for our operations on the Woodbourne Station, near the dam on the Meredith and Cargerie Road. The stones are larger than usual, being, in some cases, larger than a man's head. Patches of variously coloured ashes are turned up, sometimes red, sometimes bluish-grey, but mostly black—sooty black. The colours seem to indicate different kinds of wood used for fuel. The stones also present the plainest evidences of having been subjected to the action of fire. In many cases they exhibit a greasy appearance, strongly reminding us that, no doubt, the fat of emu and kangaroo, as well as of opossums and other creatures, had often oozed out upon these stones. Moreover the cooking by steam included putting hot stones in the inside of the larger animals, in which cases pieces of porous bluestone, volcanic lava, would become saturated with animal fat. Some of the stones also presented the ghastly white appearance of having been subjected to great heat. But continuing to use the pick, we remove all the stones connected with the oven and come to a layer of ashes in which are no stones. This would seem to indicate that quantities of ashes, in some cases at least, were allowed to accumulate before the stone oven was made. It is this layer of ashes which has become such a convenience for the rabbits. They burrow into it very easily, and the covering of stones becomes a protecting barricade to them.

Moreover, some mounds contain ashes and charcoal without any stones. This is sometimes accounted for by the fact that there are no stones in the neighbourhood. But the anomaly also occurs of two mounds being situated near each other, the one having quantities of stones in it while the other has none. This the writer noticed in regard to the mounds in the Meredith district, as well as about Mortlake, localities which are 80 miles apart. Along the Coolebarghurk and Cargerie Creeks, honeycomb, the volcanic lava commonly called bluestone, is invariably found in the ovens, because the country through which these creeks flow is covered with lava. On the Moorabool, however, the Silurian slaty shale, producing the picturesque scenery of the river just named, naturally supplies the small fragments of stone used in the ovens. In a locality between Meredith and the Moorabool a coarse red conglomerate makes its appearance, and fragments of this are accordingly found in the ovens. In parts of the Colony where there is no stone available it is said that the aborigines were in the habit of baking clay into a coarse kind of brick or pottery, and of using it as a substitute for heating purposes in their ovens. Baked clay of this description is said to have been used by the Murray blacks.

CIRCLES OF STONES ABOUT OVEN-MOUNDS.

Besides the stones which are used for making the cooking oven, there are sometimes others which present all the appearance of having been designedly placed as circles about the mound. The writer took note of two such specimens of oven-mound in which the circles were in one case quite complete, and in the other case very nearly so. These two may be described. One was situated on the Native Hut Creek, near Meredith, on the east bank, and about 40 yards distant from the creek. Its longer diameter was $19\frac{1}{4}$ feet by $18\frac{1}{4}$ feet shorter diameter, while the ashes and stones at the centre were about $1\frac{1}{2}$ foot thick. The stone oven was about $6\frac{1}{2}$ feet in diameter, and was embedded in a layer of ashes which extended quite distinctly below the stone oven; moreover there were several of those shallow excavations around, from which no doubt the earth had been scooped out to cover over the bark and grass, as already described in regard to the cooking operations.

It may be noticed also that the basaltic rock cropped up close by; and although the aborigines squat down in oriental fashion, yet it is no unreasonable stretch of imagination to suppose that the patriarchs of the tribe sat on these blocks, forming natural seats, and held converse with one another, while the kangaroo and other game were steaming in the oven close by. But it is the circle of stones, extending very nearly round the whole oven-mound, which here specially attracts our attention. The stones are there in large numbers, and the question arises for what purpose were they

placed there? Now and again sharpening-stones are found about the mounds, but these were not sharpening-stones, and the number of them puts the supposition of sharpening-stones aside. The same applies to the suggestion as to the stones having been used for cracking the marrow-bones of the larger animals. The number of stones is altogether too great, and above all there was no necessity to arrange them so methodically in a circle around the oven. It must not be omitted to take proper notice of the fact that the stones of the circle have been somewhat disturbed. The treading of sheep and cattle will easily account for that. The fact remains that, notwithstanding some disturbance, the evidence of the circular arrangement cannot be doubted.

Moreover these stones, seldom as large as a man's head, are in no way to be confounded with those built up into shelters or breakwinds in bleak localities on the great plains in the west of Victoria.

But the second case to be described presents us with an oven-mound surrounded with a circle which may be regarded as complete, although a few stones have been displaced. The object of our attention in this case is situated on the Cargerie Creek, and about 150 yards from the east bank. It is about 14 feet by 13 feet in longer and shorter diameter, the stone oven in the centre being $5\frac{1}{2}$ feet, and the thickness of ashes, charcoal, and stones, being about 1 foot. The oven bedded in the ashes contains about sixty stones, mostly small, not much larger than a man's double fist. The ring of stones is 18 feet in diameter, thus leaving a space of about 2 feet between the outer edge of the mound and the circle of stones. About 150 stones formed the circle, mostly small in size, very few of them being as large as a man's head. Although a few have got displaced, yet the circle extends right round the oven-mound. Here obviously the question of sharpening-stones and crackers for breaking the marrow-bones of the larger animals used for game is quite insufficient to explain the facts. The same applies to the breakwinds already noticed. As a circumstantial point, it should be mentioned that the oven-mound with this ring of stones is situated in an angle, and not far from it the ends of basaltic rocks crop out, as in the case already described.

While thus illustrating the fact of stone rings extending round the oven-mounds of the aborigines, it may be noticed that the circular arrangement is also carried out in the case in which a whole mound consists of about half a dozen stone ovens, formed in a circle around a central oven.

Of course it is not our purpose here to enter upon the subject of the mystic stone circles in Britain, India, and other countries, yet in passing we may note the fact that there are such materials, which, along with others, will one day help to throw light on the origin and migration of the Australian race. Perhaps it should be mentioned here, that the magnificent stonehenges, consisting of

monolithic blocks, 8 or 9 feet high, represented in the illustrated papers of Melbourne and Sydney a few years ago, as existing in the west of Victoria, were works of imagination, except in so far as they seemed to have been modelled on the plan of the Druidical circles which are found in various places in Britain.

CONTENTS OF OVEN-MOUNDS.

The mass of the mound, in accordance with what has been already said, obviously consists of ashes, charcoal, stones, and earth. The stones, as already pointed out, vary according to the district. But besides the materials which, one way or another, have come before our notice, we may expect to find remains of the reptiles, fishes, birds, and quadrupeds, as well as shells which were used as food by the aborigines. No doubt the large number of miserable dogs, which constantly kept about the encampments of the blacks, would destroy a large quantity of the smaller bones of birds and various animals; still, an examination of the ashes brings to light traces of the game used by the aborigines. In some mounds about half a mile from the bay at Geelong there are fragments of shells which no doubt were brought from the neighbouring seashore. In the largest of the mounds examined, near Lake Webster, at Mortlake, in the west of Victoria, the writer found a considerable quantity of animal remains in the ashes. These consisted of fresh-water shells, fragments of emu egg-shells, jaw-bones and teeth of opossums, as well as bones of kangaroo. This mound was 79 feet in diameter, with 5 feet of ashes at the centre.

HUMAN REMAINS IN OVEN-MOUNDS.

In the neighbourhood of Mortlake, in the west of Victoria, an oven-mound was pointed out to the writer as one in which it was said that the remains of an aboriginal had been placed. It was said, moreover, that these remains had been removed from another still larger mound. It is possible this removal of the remains might be owing to the fact that a European dwelling was built near the large mound, and the ashes of the mound were used to improve the soil in a garden. Proceeding with a spade to make excavation, the first important point was to decide where to begin, as the quantity of ashes in a mound 60 feet in longer diameter, and 4 feet thick in the centre, was very large. Scanning the mass carefully with the eye to detect if there were inequalities, the outline presented a beautiful curve. After continued examination, one spot was chosen for the purpose of making a beginning in the operations, as it seemed to present a very slight flaw in the regularity and symmetry of the curve representing the surface. The first 6 or 8 inches were nearly as hard as brick, but under this hard dome the ashes were quite loose and easily tossed about. After prolonged work there was no sign of human

remains. Another portion of the mound was pierced and searched, but still without success. Returning to the portion first tried, the spade was driven into the open side, when several bones fell down along with the loose dry ashes. In succession the leg and thigh bones made their appearance, as also the arms and vertebræ, ribs and skull, as well as a number of small bones, all being evidently the remains of a human being. The skull was nearly erect, and not many inches beneath the surface. The leg and thigh bones were huddled together, and stuck out at right angles to the vertebræ. The arm bones were found at the sides, the hands having been doubled up so that the bones of the fingers were near the neck and cheeks.

On surveying another of the large oven-mounds which are numerous about Mortlake, the writer's attention was arrested by the presence of three rather large stones, so placed together upon an oven-mound as to indicate that they must have been designedly placed where they were. On removing these three stones another was found under them and well bedded in the ashes. Upon digging under these stones in the loose ashes a second entire human skeleton was discovered. From the charred wood which was found lying across the skeleton, as well as from the appearance of some of the bones, it seemed that an attempt had been made to consume the body with fire. In both cases the leading idea seemed to be to huddle the remains into the smallest space; hence the limbs were all doubled up at the knee and elbow joints. In the first case the body was laid on the back, with the arms at the sides and the legs pressed over to the right side; in the second case the body was laid on the left side, so that the arm bones were found like a bundle of sticks together.

DISTRIBUTION OF OVEN-MOUNDS.

The necessity for water accounts at once for so many oven-mounds being situated near creeks, rivers, lagoons, and lakes. Sometimes they occur at considerable distances from permanent water, but, as already stated, in the winter time crab-holes and small depressions on the surface of the ground would be supplied with water for weeks together, or even longer. Where game and water both were abundant, there would be the more numerous encampments, and these would be continued the longer in use. The forests afforded not only food and shelter, but also the important element of fuel for the ordinary fires and the cooking ovens. It is a curious fact, however, that large oven-mounds are in existence on extensive plains where there is no forest wood within many miles. Such oven-mounds are to be seen near the lakes on the great bare expanse to the west of the Leigh River. The suggestion might occur that forests once existing have disappeared, but when the ashes are examined there is no appearance of charcoal.

Upon making specific inquiry into the matter the writer ascertained that the material used for fuel was the coarse kind of peat or turf forming at the edge of lakes which are situated at some places in the region called The Plains. Quantities of long grass are also available. In the circumstances it is interesting to find that to make the most of the materials to hand, the aborigines on the western plains of Victoria hit upon the very same device which was adopted by the inhabitants of the Faroe Islands in the northern seas of Europe. The stormy petrel was used as fuel (as well as a candle to give light) by the inhabitants of the north, and so the fat of the game used by the aborigines of the west of Victoria was used to feed the flame which cooked the animals themselves intended for food.

In connection with the distribution of oven-mounds may be taken the question of size, as distinguishing those in the Meredith district from those in the neighbourhood of Mortlake. The mounds in the latter district are often of great size; some of them are described as upwards of 100 feet in diameter, with ashes about 10 feet thick at the centre. The writer paced one which was 79 feet in diameter. The largest which he saw in the Meredith district was only about 33 feet in diameter. Points which supply at least some elements of explanation of this difference in size are such as these:—Many of the Meredith ovens are on small creeks, whereas the large accumulations of ashes in the Mortlake district are alongside lakes which abound with water-fowl, fish, and eels. With plenty of forest to supply fuel, the aborigines could thus remain at the same camping places all the year round; whereas in the less favoured places about Meredith they would have to wander about much more extensively. Another point is that the number of aborigines in the Portland district, as the region including Mortlake was called in the early times, was very much greater than in the Meredith district.

But the most important point in connection with the distribution of the oven-mounds is the limited area in which they are found in Australia. They extend from the Murray to the sea, through central Victoria; they are numerous and large on the Murray, and extend for some distance into New South Wales on the banks of the Lachlan, where Sir Thomas Mitchell's attention was first arrested by them. He had not seen such collections of ashes in other parts of this Colony, although heaps of shells, the refuse of aboriginal feasts, have been observed on the shores of Port Jackson, and in other localities, as on one of the little islands in Lake Macquarie. Other observers have noticed the absence of the oven-mounds in Central Australia, and also in Western Australia.

These facts raise broadly the question, how are the mounds restricted to so small an area? The suggestion has been made that the accumulation of ashes supplied a space elevated above the

cold wet soil, and more agreeable for the feet of the aborigines in rainy weather. Allowing something for this suggestion, there still remains the outstanding question, how were the stone ovens not used in other parts of Australia? The point is every way worthy of notice, as it may help to give a clue to the course of migration in the original occupation of the country by the blacks.

ANTIQUITY OF OVEN-MOUNDS.

It has been noticed that trees are to be seen growing out of the oven-mounds. None, however, have been seen by the writer which would indicate an antiquity of more than half a century. As to the materials, which may yet be carefully examined, in the large accumulations in the Mortlake district, it remains to be seen what evidence may come to light bearing on the question whether aboriginal man in Australia was contemporaneous with any species of our extinct fauna. We have also the evidence which may be deduced from the size of the oven-mounds. But here there are some elements calculated to perplex the problem. We may indeed measure the existing accumulations, but the question arises, how much larger would they have been but for the quantity of ashes dissipated by the prevailing winds? As to the space occupied by the stones of the ovens, where such exist, measurement can approximately determine how much deduction is to be made on this score. There is, however, the more difficult point to determine, namely, how much earth was pulverized to be mixed up with the ashes, on account of the cooking arrangements before noticed. While considering this question the writer observed the common ash-heap which had been formed in a country locality connected with a European dwelling. It was about the size of one of the smaller oven-mounds to be seen in the Meredith district. It had been formed in about ten years by a family of about ten persons. There is this very important point, that the operation of the prevailing winds, in causing the ashes to be drifted away and dissipated, would be nearly equal in both cases, the aboriginal and the European. Proceeding tentatively, are there any even general conclusions to which we can come? Let us put together such materials as there are to bear upon the point. The oven-mounds in the Meredith district may be regarded as varying in contents between 100 cubic feet and 500. In a space of about 14 miles by 10 the writer counted forty oven-mounds. Then let us suppose that an average mound of ashes and charcoal would be produced in ten years by a family of ten aborigines. Then 200 would leave behind them twenty such mounds in ten years. Now 200 is the actual number of aborigines who inhabited the district in 1845, according to a census taken by the New South Wales Government at the time. But the same 200 roamed over the whole of what is now the county of Grant in Victoria, an

area about twenty times as large as that for which we have been attempting to account. At the same rate the whole area would include 800 oven-mounds, a number probably much greater than the reality, as the area of special observation presented the mounds in much greater numbers than were noticed elsewhere. Still, taking the foregoing figures, the 200 of an aboriginal population would cover the area in question with the 800 mounds in the space of 400 years. But again, while working out these figures, let it be clearly understood there is no pretence of attempting to fix a real approximation. On the other hand, it would seem that on data of no extravagant or improbable character, we reach a general conclusion that the materials under review do not compel us helplessly to admit some great antiquity, such as 3,000 or 4,000 years, much less fabulous ages of hundreds of thousands of years, to the time when palæolithic or neolithic man first began to build oven-mounds in the county of Grant in the colony of Victoria.

It is true that the enormous mounds in the Mortlake district would seem to drive us back into a much greater antiquity than 400 years, but several material points have to be kept in view. If the mounds are so much larger, they seem to be proportionably fewer. Moreover, according to the census already referred to, the aboriginal population in the Mortlake district appears to have been far more dense than in the Meredith district. Thus the process of accumulation of ashes and charcoal would be all the more rapid. But, again, if the unity of the Australian race, and various considerations on the strength of which a great antiquity is claimed for that race, are to be taken as resting on substantial grounds, we shall have to regard the building of ovens and the accumulation of the mounds of ashes as comparatively modern innovations. In this aspect of the matter the inquiry arises, what reasons can be discovered to explain why the innovation sprang up in that part of all Australia in which it is found to prevail? And the stone circles, too, are they to be regarded with the interest which attaches to mystic ideas early implanted in the mind of the human family, and carried perhaps by one division of mankind to Britain, and by another or others to India and Australia, or are they the mere spontaneous illustrations of aboriginal fancy and playfulness, dating back but a few generations or centuries at the most?



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