NOTES ON THE SHELL-MOUNDS AT SEAFORD, LITTLE SWANPORT:

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Among the many interesting relics of the Aborigines of Tasmania that yet remain, not the least interesting are the shell-mounds that mark the spot where they formed their encampments and feasted before the intrusion of a white race had disturbed their simple and peaceful modes of living. Such shell heaps as that to which I am about to refer occur in other parts of the world, and for some time they were supposed to be nothing more particular than ordinary "raised beaches." Even now in Tasmania there are many well-informed people who cannot bring themselves to believe that the shell heaps noticeable in many places on our shores are the kitchen-middens, or "refuse heaps," of the Aborigines of the colony; and it is for the information of such sceptics that I place on record the following evidence as establishing beyond all reasonable doubt the fact that they are this, and nothing more. One has only to examine these remarkable accumulations to obtain evidence of an intensely interesting and convincing character, and the results of a personal examination of the extensive shell mounds to be found on the estate leased by Mr. Samuel Drake at Little Swanport have induced me to hope that a few notes on the subject may be of some interest to the Fellows of this Society. It may be as well, I think, to prelude what I have to advance as direct evidence in favour of my contention by briefly referring to one or two of the reasons why the accumulation of shells at Little Swanport cannot be regarded as having been due to the upraising of oyster beds, or as having been due to the wash of surf upon the spot. In the first place, although it can be shown that at some places where shell mounds occur in the colony live and dead shells are thrown up by the surf, at Little Swanport there is no wash or surf to cast up shells, for while the plunging seas roar on the bar outside, the waters within are, as a rule, as still and as peaceful as the waters of a mill pond. The conclusion that the shell beds have been upraised from the sea is disposed of by the natural features that distinguished true raised beaches from kitchen-middens or refuse heaps. Sir John Lubbock, in his "Prehistoric Man," has drawn attention to the fact that raised beaches contain species the individuals of which are of different ages, and that the shells are, as a matter of course, mixed up with a large amount of sand and gravel. He also quotes Professor Steenstrup, who, in combating the idea that the shell mounds

of Denmark were raised beaches, directed attention to the circumstance that "the shells belonged entirely to full-grown or to nearly full-grown individuals, and that they consisted of four species which do not live together, nor require the same conditions, and would not, therefore, be found together in a natural deposit; and thirdly, that the stratum contained scarcely any gravel, but consisted almost entirely of shells" (pp. 224-5). This reasoning applies exactly to the shell mounds at Little Swanport: for not only is there an absence of anything like stratification or admixture of much sand or gravel with them, but the whole of the oyster shells that have come under my notice are of mature growth, and are mixed up with other species that do not live together. In connection with this negative evidence I may throw out the consideration that if these deposits were merely the indications of an upraising it would only be reasonable to anticipate that many of the shells would be found in natural pairs. Such, however, is not the case at Little Swanport, the shells that I noticed during my recent visit to that very pleasant and interesting spot being, in every instance, single shells scattered just as we might expect to find them in refuse heaps. Another noticeable feature in the mounds at Little Swanport is the fact that a very large proportion of the shells are broken at one particular part, as if they had been broken there to assist in the process of opening them. It is also noticeable that many of them have undergone the action of fire. To turn to the more direct evidence. The encampments of the Aborigines were always formed on the margin of streams or lagoons. Possessing no appliances for digging or sinking wells, it was a matter of importance to them to be near fresh streams or springs. On the spot where the shell mounds are thickest, at Little Swanport, there is a splendid fresh water spring, which bubbles up within a few yards of the bay, yielding a plentiful supply of the sweetest fresh water. Their place of encampment depended also upon the food obtainable, and as the daily food of those living near the Coast consisted largely of shell fish, such as oysters, turbos, and haliotis or mutton fish, they would naturally resort to such a favoured spot as Little Swanport, where these, together with the crayfish, another article of their diet, could be found in abundance. As a matter of history, it is known that a very large tribe of natives, known as the Oyster Bay tribe, frequented the spot, and during my recent visit to it I was able to discover some very interesting indications of the primitive conditions under which they existed. When I first decided to turn the shell heaps into lime of commercial value, it struck me that many articles of ethnological interest might be discovered, and I gave strict instructions to the parties employed to send me all bones or remarkable stones that they

might come across in breaking down the shells for the kiln. It was not long before I had the pleasure of receiving a parcel of bones—the remains of the marsupials the natives used to feed upon—and I at once noticed that the larger ones had been split, evidently for the purpose of extracting the marrow. At a meeting of the Royal Society of Tasmania in 1873 Mr. James Scott volunteered certain information received from his brother, Mr. Thomas Scott, who, among other things, referred to a stone which he had sent to England—"A round stone chipped all round to a circle about 7in. in diameter, and 1½in. thick in the centre, to 1in. at the edge. On this the females broke the bones of animals for the marrow, using another stone about 6in. in diameter for striking." I am able to exhibit a stone exactly answering this description, which I took from the surface of one of the shell-mounds. It will be noticed that at the middle part on one side it has been worn smooth by the friction of use. I also found mixed up with the shells other round water worn stones, evidently used for the same purpose; for in the Transactions of the Ethnological Society for 1863 there is a statement made by Mr. Milligan to the effect that the Aborigines had assured him that round stones of different sizes, together with chipped flint instruments, would be found in the shell-mounds left on the scenes of their feasts. Bearing in mind the latter portion of this statement, I was very anxious to find some of the chipped flints, and made a careful examination of the surface of the shell-mounds. You may imagine my delight when my eye rested on a well marked one which had been turned up in ploughing. Further examination led to the discovery of several others of the same character. But I was not yet satisfied, as I had found them all upon the surface. Being anxious to test the extent of the shell deposits, I got my companion, Mr. W. Luttrell, to put down a few prospecting holes, and in sinking one of these we came across a well-chipped flint, buried in the shells some 12in. below the surface. There is one significant fact in connection with the bones found in these shell-mounds, and, indeed, with the shell heaps alone, and that is the constant occurrence of charcoal—the remains of the fires kindled by the natives to roast the animals and to cook the shell fish "in their own gravy." It is known that to do the latter the large shells were placed upon the fire as dishes, and that this method of cooking rendered the contents tender and succulent. The presence of the charcoal under such circumstances affords another link in the chain of evidence that bears out the certainty that these shell-mounds are something much more interesting than upraised beaches or oyster beds. Perhaps the most interesting of the "finds" yet made in connection with the shell-mounds at Little Swanport has been the dis-

covery of a bone (which I now exhibit) which gives evidence of having been worked or ground. As far as I know it is the first bone instrument of the kind that has yet been referred to in connection with the history of the Aborigines of this colony. It was discovered by Mr. Herbert Luttrell in breaking down the shells from one of the faces opened to supply the kiln. Mr. Ronald Gunn has stated that in removing haliotis or mutton fish from the rocks to which they closely adhere the natives used a wooken spatula-shaped instrument, and Backhouse writes that the mutton fish were often taken in deep water by the native women, who dived for them and forced them off the rocks by means of a wooden chisel. The French explorer, La Billardiére, saw how these chisels were made. "We observed," he writes, "some of the savages employed cutting little bits of wood in the form of a spatula, and smoothing them with a shell, for the purpose of separating from the rock limpets or sea-ears on which to feast." I think it quite probable that the bone instrument before us was used for a similar purpose. On examination it will be found that it is somewhat worn just at the spot where it would be most likely to show the effects of friction if used to work and lever the sea-ear from the rock. In any case it is interesting, as indicating one step towards a degree of civilisation that the Aborigines of the colony were destined never to reach. In putting down the prospecting holes above referred to I satisfied myself that the shell deposits at Seaford extend over several acres of ground, varying in depth from 6in. to 6ft. It is the vast extent of these deposits that renders it almost impossible for anyone at first blush to realise that they are the refuse heaps of the Aborigines. When it is remembered, however, that the tribes near the sea-shore lived principally on shell fish—for, according to Calder, and other authorities, the natives of Tasmania would rather have starved than use any kind of scale-fish for food—it will easily be seen that large refuse heaps would very rapidly accumulate on the feeding grounds. The best authorities agree that the natives were very ravenous eaters, and setting the number of the Oyster Bay tribe at 500 (an estimate I have heard given), and putting down to the account of each member of the tribe a consumption of 20 oysters per day, that small calculation alone would give 20,000 single shells per day to the refuse heaps. There is one thought in connection with this matter with which I will conclude my somewhat desultory notes. Lubbock has pointed out that—"A country, the inhabitants of which live by hunting and fishing, can never be thickly populated." Regarding the shell-mounds at Little Swanport in the light of this fact, and taking into consideration their vast extent, the conclusion is forced upon us that the spot must have been frequented by the natives for a very

long period of time, and this is a fact that should not be lost sight of when efforts are being made to trace their history and origin. It now only remains for me to mention that we are about to turn these interesting shell-mounds into a valuable article of commerce, and should anything of interest be discovered during their removal, it will give me great pleasure to make the Fellows of this Society acquainted with the fact.

DISCUSSION.

Mr. R. M. Johnston said he was very pleased to find Mr. Taylor had taken so much trouble in obtaining such valuable information dealing with the Aborigines of Tasmania. The paper read by Mr. Taylor was extremely interesting from an ethnological point of view. He, Mr. Johnston, had made a close study of these native "kitchen middens" for many years, and in his work on "The Geology of Tasmania" he had devoted a considerable space to the description of these interesting deposits so common along the borders of our estuaries and coasts. The particular shell deposit at Little Devonport, referred to by Mr. Taylor, had been investigated by him about two years ago, and his observations then made, in company with Mr. Morton and other members of the Fishery Board, left no doubt in his mind that the deposit was simply one of the many kitchen middens of the Tasmanian Aborigines abounding everywhere along our coast lines in similar situations. The lenticular layers of ashes and charred wood, intercalated with the shells, were then observed by him, and pointed out to those who were with him as proof of their accumulation by human agency. He could therefore confirm the accuracy of Mr. Taylor's descriptions and conclusions. Anyone who has had the slightest experience in observing these interesting deposits, now fast disappearing or being obliterated by the agriculturist's plough and other agencies, would never confound them with the raised beaches so common in Bass Strait Islands and along portions of the northern coast.

Mr. Johnston then drew attention to the numerous kitchen middens existing all along the borders of the estuary of the Derwent, and especially along the Domain, New Town Bay, mouth of the Jordan, One Tree Point, and Blackman's Bay. These are generally formed on little knolls or headlands, commanding a good outlook on every side. One interesting mound exists high up on the Domain, near the New Cricket Ground. From all of these he had collected the chipped

flints, and occasionally split bones of the wallaby. Over 150 chipped flints had been collected by him from these deposits near Hobart, and a very large number had recently been sent to him, collected by Mr. John Morrisby on the borders of Pipeclay Lagoon, South Arm.

He stated also that he had recently received a communication from Mr. Mitchell, of Lisdillon, who tried upon the basis of the extent of these shell deposits to make some estimate as to the length of time during which the Island was occupied by the last Tasmanian race. Mr. Johnston stated that an estimate formed in this way would be very unsatisfactory, as the kitchen middens are formed for the most part on the marginal boundaries of our seas and estuaries, and are constantly being encroached upon by the great invader, the sea. It is evident therefore that the horizontal encroachment of the sea would have destroyed the very earliest deposits, supposing them to have existed. It is almost certain from ethnological considerations that the Tasmanian Race must have existed in Tasmania for a very long period, for otherwise how can we account for the marked racial type as compared with the natives of the Australian mainland and elsewhere.