

INTRODUCTION TO PROFESSOR ABBIE'S SURVEY OF THE ABORIGINAL COLLECTION IN THE TASMANIAN MUSEUM

By

W. E. L. H. CROWTHER

INTRODUCTION

The destruction of the Museum of the Royal College of Surgeons, London by enemy bombing on May 11th, 1941, destroyed not only the largest, but historically, much the most interesting of all the collection of Tasmanian skeletal remains that remained.

This group were described by Plomley, N. B. J., 1960 in a recent survey by him of all Tasmanian remains in European collections. In a letter to the writer, he describes the loss thus sustained by the Royal College of Surgeons as amounting to three complete skeletons, 34 crania, and certain long bones, apart from the skeletons, and described as relics. Fortunately only one other cranium (in Poland), was lost in this manner. As a result, the Tasmanian Museum remains as possessing incomparably the largest and most important collection of remains of this extinct Race.

Thus, the time seemed appropriate, in its Centenary Year, to have the Museum's complete craniological series classified, the more so, as to celebrate the centenary, the large collection of the writer has been deposited in the Museum to be preserved there perpetually with the other remains of the Race.

Professor Abbie consented to undertake this task and at the conclusion of his survey asked that a short historical introduction on the Tasmanian Race should be prepared for his paper and this the writer has attempted.

The Extinct Tasmanian Race

Although two excellent descriptions of this race have been given by F. Wood Jones (1936) and A. Meston (1949) and another by the writer (1934) it was soon realised that although the period 1803-1876 which covers the extinction of the race is only a short one, it would be very difficult to compress such an introduction into a small compass and at the same time serve the purpose that Professor Abbie requires.

The Era of European Exploration

Tasman, Marion de Fresne, Cook, Peron and other leaders of exploratory voyages have remarked on the natives of Van Diemen's Land, briefly or at length, according to the degree of contact they

were able to make and the personal interest of the scientist or observer concerned. Only La Billiardiere the French explorer seems to have described any sustained relationship with the natives, in his expedition particularly in the localities of D'Entrecasteaux Channel and Maria Island and then only by the small ship's boats as they explored the shores and inlets.

Those who had earlier contact with the Australian aboriginals all agreed on the pronounced differences physically between the two races. The hair of the Tasmanians was differentiated as being curly and kinked in contrast to the lank hair of the Australians. They were noted also as being shorter than the Australians and perhaps more muscular. Their weapons were also different. No boomerang was known, nor the use of a throwing stick to increase the range and accuracy of their spears. Nor again were their spears tipped with stone and lastly they had no conception of the shield and its uses, and notably they did not possess any indigenous native dogs. The Tasmanians were also noted as being indifferent to the use of skins and furs relying for warmth rather on grease, red ochre and clay. Instead of canoes they were seen to use rough catamarans of bundles of dry bark, but by means of these they were observed to cross from the south coast to the Witches Islets off Maatsuyker Island and to Tasman Island; and at least one Tasmanian left his bones in the mutton bird rookeries on the steep side of Tasman Island, which remains were some 30 years ago donated to the Tasmanian Museum. Although shy and retiring and friendly in many instances, it was soon found that with little or no provocation the Tasmanians became hostile and turned to their weapons. It is now generally agreed that the Tasmanians did not possess the secret of making fire and carried embers and torches from camp site to camp site.

The Tasmanians in recent historic times

When we come to historic times it is very probable that the average settler knew little more of the native than what has been written above. In distinction from the Australians they gradually became to be classified as of a Negroid Type and of the Negrito section of the Human Race, other such types on the southern ocean being certain Melanesians, and the natives of the Andaman

Islands and New Caledonia. This theory was substantiated by anthropologists when their crania and skeletal remains became available for study and metrical examination. These deductions were strongly supported by F. Wood Jones and J. Wunderley, the former working from the hypothesis of J. H. Huxley that the Tasmanians were of Oceanic, Negrito Melanesian stock comparable to the natives of New Caledonia. Wood Jones further postulated that they had migrated to Van Diemen's Land by a precarious sea voyage rather than passing by Island to Island (since submerged) to New Guinea and finally to Australia. There the matter rested until the Harvard-Adelaide Expedition of 1938-39, which working over a large series of Australian aborigines, Australian Hybrids and Tasmanian half castes at Cape Barren Island at least 100 crania at the South Australian Museum and small series of Andamanese and Tasmanian Crania in various collections, came to the following conclusions.

That the Tasmanians were of Oceanic, Negrito stock with a large admixture of Murrayian characteristics and that they had arrived in Van Diemen's Land via New Guinea, and Australia during the fourth and last glacial Period (Birdsell, J. B., 1949). Birdsell seems to infer that the last part of this migration to Tasmania was by sea and mentions Wood Jones' theory of a migration by canoe without indicating his support for so long and precarious a passing by water with only primitive craft, not comparable to those employed by the Polynesians on their migrations.

The Period of Numerical strength of the Aborigines

Considerable attention has been given to the numerical strength of the race that entered the long contest with the settlers early last century. Opinions varied from that of Melville of 20,000 in 1803 to James Backhouse who believed they never numbered more than 1,000. G. A. Robinson whose opinion should carry much weight considered their population to have been 6-8,000 and immediately before their first European contacts to number about 2,000. Wood Jones considered even such a figure as 5,000 in 1803 would be a conservative estimate and a remarkably small one considering the length of time of their occupation of Tasmania, as by 1803 there were some 20 established Tribes with as many different dialects. Such differences between tribes with a race predominantly identical, he considers as evidence in favour of ancient settlement on the Island.

In the earliest days of the European settlement in Van Diemen's Land the relations of the races were relatively friendly, although actual contact at the settlements was infrequent. When small parties of natives did arrive they were given food, warmth, and protection and relations were satisfactory. Then came the clash at Risdon when a large hunting party took the little settlement by surprise, and in the absence of officers and social officials, panic arose and in the resultant clash a number, estimated by one, to be as many as 50 of the natives, lost their lives. This unfortunate occurrence is considered as a turning point in the relations of the two races although no doubt incidents were already occurring in the interior of

the Colony. Food had been scarce, to the point of famine, and convicts and dogs were sent out to obtain the meat of kangaroo and emu. Others already were assigned as shepherds and stockmen to country settlers.

These men, isolated and not under control and supervision, ill-used the natives and interfered with their women and savage reprisals took place, and during the terms of Governors Davey and Sorell hostilities were widespread throughout the Island. Their attempts to remedy such conditions were hampered by the activities of parties of bush-rangers who were harassing both natives and settlers. The advent of Col. Arthur in 1824 as Lieut.-Governor resulted in new efforts being made to improve the situation. Col. Arthur in his outward despatches reports at length on his measures to the Secretary of State for the Colonies, as the position was somewhat of an embarrassment to the Minister in London.

Arthur proposed to offer rewards for those who were able to persuade natives, by peaceful means, to come in and place themselves under the protection of the Government. The only real success achieved was that of Mr. John Batman. Similar attempts with larger parties only increased the tension.

Proclamations confining specific tribes to certain localities (with seasonal access to the coast) also with pictorial ones which portrayed the nature of our justice with equal punishment to both races for killing the other, were possibly not in the least intelligible to the aboriginals. Indeed it could hardly have been expected that they would have been of any practical use. The settlers turned to friendly natives, who, able to move swiftly through the bush, were offered rewards of land grants, if they would bring in natives peacefully to a Mission Station established on Bruni Island. As stated, only the party of John Batman met with any success; and meanwhile throughout the Island serious incidents occurred with increasing frequency. The killing and driving off of stock and sheep, burning of barns, outbuildings and homesteads and the wounding or murdering of lonely shepherds, women and children were widespread through the island. The natives were of course extremely mobile and usually escaped without interference and moved off to strike again probably many miles away on the other parts of the Island.

Reprisals became more savage and Arthur, realising that the trial of his form of peaceful conciliation of the aboriginals had failed, turned to a more comprehensive and national effort. This operation has become known as the Black Line or Black War. The method employed was to group selected bodies of soldiers and colonists at strategic points under local settlers of influence, who had qualities of leadership and a knowledge of the country to be worked over. At a given time, these commandos were to advance with close co-ordination so that the natives would be driven in front of them and eventually herded on to Forrestiers Peninsula, the narrow isthmus of which could be guarded, and the natives trapped to exist on the game and fish to be found in the large areas of country of the two Peninsulas.

Martial law was proclaimed on November 1st, 1830, and the co-ordinated movement of all the parties commenced on October 7th and continued to November 26th, when it was found that one native man and one boy had been captured and one volunteer wounded.

To effect this result, some £35,000 had been expended with nearly 3,000 military and constabulary engaged, 1,500 of whom were from Hobart Town and 500 from Launceston.

Stalemate had been reached, but help was to come from an unexpected quarter.

George Augustus Robinson a builder at Hobart had gained personal experience of the aborigines as superintendent of a Government Mission for the natives, at Mission Bay, N. Bruni Island. Robinson believed he would be able to persuade the natives to come in if he went with friendly natives and made contact with them in the bush and put this proposition to Col. Arthur. Arthur agreed to the proposal and granted supplies and permission for a small party to set out and make the attempt. Bruni Island was regarded as too close to Hobart Town so instead of the shelter at Mission Bay, Swan and Gun-Carriage Islands, in Bass Strait adjacent to Flinders Island were selected as suitable for the first 56 natives brought in as a result of Robinson's efforts. The quarters at these small islands were very cramped and unsuitable and as more aboriginals gave themselves up a move was made to the large Flinders Island to a site just inland from the west coast a few miles above the township of Whitemark. This station was called Wybalenna. To this area between 1834 and 1838 came 203 natives, actually almost all the survivors of their race then at large in Tasmania.

Every effort was made to preserve and look after this unfortunate remnant, but our civilisation—with clothes, unsuitable food, a stationary life and

no suitable occupation for either woman or men proved fatal to them. The white man's diseases, and an overwhelming nostalgia for their old home, which could be actually seen from the mountains behind the station, brought about a terrible decline in their numbers.

Only 123 remained at the end of 1838 and it was decided to bring the survivors back to Tasmania and the move took place to the old Probationary station at Oyster Cove. This did not arrest the decline, as alcohol was now to be had and in 1854 there were only 16 survivors and by 1869 only four elderly women. The end came when the last, Truganini then aged approximately 70 years, died on May 10th, 1876.

Now all that remains are the skeletal collections and their stone implements which, with the spring ploughing, are still to be found. The largest collection numerically of Crania and Bones is now that of the Tasmanian Museum, and it is fortunate indeed that Professor Abbie, at the invitation of the Trustees has furnished this detailed list of the material in their keeping and which are described in the following article.

REFERENCES

- PLOMLEY, N. B. J., 1949.—A list of Tasmanian Aboriginal Material. Records, Queen Victoria Museum, Launceston. N.S. No. 15, pp. 6-7.
- WOOD JONES, F., 1936.—Tasmania's Vanished Race. Aust. Broadcasting Commission.
- MESTON, A., 1949.—The Tasmanians. A Summary. Records Queen Victoria Museum, Launceston. N.S. No. 15, pp. 145-150.
- CROWTHER, W. E. L. H., 1934.—The Passing of the Tasmanian Race. (Malford oration) Med. Jnl. of Aust., 1934, pp. 147 et. seq.
- BIRDSSELL, J. B., 1949.—The Racial Origins of the Extinct Tasmanians. Records, Queen Victoria Museum, Launceston. Vol. 2, No. 3, pp. 105-147.
- MELVILLE, Henry, 1934.—A History of Van Diemen's Land.

**AN EXAMINATION OF THE W. L. CROWTHER
COLLECTION OF SKELETAL MATERIAL**

By

A. A. ABBIE

THE W. L. CROWTHER COLLECTION OF SKELETAL MATERIAL

FOREWORD

I examined this collection at the invitation of Dr. W. Bryden, Director of the Tasmanian Museum and Art Gallery, during the week 8th-15th February, 1963.

A preliminary survey disclosed that it would not be possible for any one person to do justice to the collection in a week—an adequate description would require at least six months. Some selection was necessary, therefore, and was exercised on the following basis:—

1. All material of European origin or suspected of being such was set aside as requiring no further attention.
2. Of the remaining material of suspected non-European origin the crania were considered most important so, while the post-cranial skeleton under this heading is described, the description is relatively sketchy, but is elaborated by notes from time to time. Some of these bones were measured.
3. So far as the cranial material goes, all the skulls that had already been described by Wunderly (1939) were left out and attention was paid only to those hitherto undescribed. I appreciate that my descriptions of these skulls are quite inadequate because, under pressure of time, I concentrated on the features most likely to be of value for ethnic diagnosis. To assist in this I have appended tables of the most important measurements of the skulls and of such mandibles as had survived.

I must express my appreciation of the generous assistance I received from Dr. Bryden and his staff and from the Librarian of the Royal Society of Tasmania during my most pleasant stay in Hobart. In particular, I am deeply grateful to Mrs. J. Greenhill who acted as my amanuensis most unselfishly; without her help I should not have been able to get through what I have done in the time.

A. A. Abbie.

The following were considered to be of probable European origin and are not described in detail:—

Cranial fragments

- 10 AG Mandible from a child aged 10-12 years.
- 11 AG Mandible, adult.
- 12 AG Mandible, adult.
- 15 AG Right parietal bone.
- 16 AG Calvaria.
- 17 AG Calvaria with some dried soft tissues adherent.
- 19 AG Sphenoid bone with no identifiable ethnic characters.
- 20 AG Right maxilla from a child aged 10-12 years.

General skeleton

- 1 right scapula with clavicle, humerus and ulna.
- 1 right clavicle attached to proximal end of humerus.
- 2 left scapulae.
- 1 right humerus.
- Distal quarter of right humerus with radius and ulna attached.
- 1 left humerus sawn through at junction of middle and proximal thirds.
- 1 right radius.
- 1 left radius.
- 2 left ulnae.
- Articulated left hand.
- Partly dissected hand.
- 2 metacarpal bones.
- 2 lower ribs.
- 1 male sacrum of six segments.
- 1 eroded sacrum of four segments.
- 2 right hip bones.
- 2 right femora, one with malunited fracture in proximal third.
- Sectioned proximal third of a right femur.
- 1 right tibia.
- 1 left tibia.
- 2 right fibulae.
- Posterior half of a right foot.
- 1 each left talus, navicular and cuboid bones.
- 1 right navicular.
- 6 metatarsal bones.
- Articulated right and left feet.

Immature skeleton, apparently European.

- 1 mid-cervical vertebra.
- 1 left scapula.
- 1 each right humerus, radius and ulna.
- 1 sacrum of four loosely articulated segments.
- 2 immature hip bones from separate individuals, both male.
- 2 femora, right and left.
- 2 tibiae, right and left.
- 1 fibula.
- Detached proximal epiphysis of left humerus.
- Detached distal epiphysis of left femur.
- Detached proximal epiphysis of left tibia.

Box labelled—"Tasmanian Fragments I"

Contained:—

- 1 mandible, probably adult Tasmanian male, several teeth missing. Now numbered 21 AG and considered separately below.
- 1 third right lower molar tooth, not from above mandible.
- Five fragments of a plaster cast of the upper and lower jaws.
- 1 set of 7 cervical vertebrae plus the first thoracic, matted in peaty fibres.
- 2 sets of the upper 5 cervical vertebrae, matted in peaty fibres.
- 1 set of 4-5 upper cervical vertebrae, matted in peaty fibres.
- 2 sets of the upper 4 cervical vertebrae (one set very fragile), matted in peaty fibres.
- (N.B.—In all these sets of cervical vertebrae the atlas is displaced and rotated as though the head had been forcibly rotated before burial.)
- 1 separate atlas vertebra.

Box labelled "Tasmanian Remains Sanford I"

In this were:—

- 2 small boxes, one containing 5 cervical vertebrae, more or less damaged; and the other had:—
- 2 incomplete clavicles, presumably a pair.
- A small portion of a right scapula.
- A number of unidentifiable bony fragments.
- 1 worked stone.
- Several pieces of charcoal.
- 1 partly fossilized Gasteropod operculum.

Box labelled "Tasmanian Remains Sanford II"

In this were—A cigar box containing:—

- Several broken bone fragments one of which appeared to be portion of a metacarpal and another a phalanx.
- Several pieces of charcoal.
- Several pieces of stone (? worked).

A California chocolate box containing:—

- A small cranial fragment.
- Proximal third of a left humerus, head present but broken off.
- Distal portion of a left femur.
- Left patella.
- 2 other bony fragments.
- Fragment of rock.

POST-CRANIAL TASMANIAN SKELETAL MATERIAL

This was excavated by Dr. Crowther at Oyster Cove. Most of the bones are discoloured black, a number are fragmentary or badly eroded, and many were embedded in a peaty mass of rootlets. They were housed in two large modern cases.

The bones examined were:—

- A fragment of a right scapula.
- 3 right humeri, mostly badly eroded, length range 303-324 mm., and portions of 4 others.
- 2 left humeri, more or less complete, length range 286-303 mm., and 2 incomplete, 1 detached humeral head.
- 3 right radii, 2 lacking heads.
- 1 right radius and ulna, adherent at proximal ends, distal end of ulnar styloid process missing. Radial length range 228-232 mm.
- 2 right ulnae, 1 fractured, 233 mm.
- 3 left ulnae, 1 missing styloid process, length range 231-234 mm.

(N.B.—The ulnae were very long and slender and showed a tendency to curvature of the shaft.)

- 1 complete sternum, all joints fused.
- 3 rib fragments.
- 2 separate sets of 3 lumbar vertebrae, each embedded in a peaty mass of rootlets.
- 2 complete sacra: one 100 mm. broad by 96 mm. long, the other 97 x 92 mm.
- A fragment comprising only the upper two segments of a sacrum together with a partly attached 5th lumbar vertebra.
- 3 almost complete right hip bones, one male the other two almost certainly female. The male hip bone fits the largest femur listed below. Portions of 2 more right hip bones, sex doubtful.

Portions of 6 left hip bones, five almost certainly male, one almost certainly female. Fragments of 3 others.

(N.B.—In most peoples the shape and size of the greater sciatic notch is one of the most valuable guides in sexing hip bones. This was not the case with these Tasmanian hip bones in which the notch did not show much difference in the two sexes. Consequently, the sexing was based mainly upon the size of the acetabulum which is both relatively and absolutely larger in the male.)

- 3 right femora more or less complete of gross lengths 482 mm., 438 mm., 425 mm. Shortest femur had displaced patella stuck to its side.
- 4 incomplete right femora.
- 6 left femora more or less complete. Those matching the three right femora measured respectively 480 mm., 436 mm., 420 mm.
- 1 left femur with displaced patella attached and 3 damaged femora.
- 5 right tibiae, more or less complete. The 3 matching the right femora measured respectively 405 mm., 358 mm., 351 mm.

There were also 4 fragmentary right tibiae.

- 3 left tibiae reasonably complete, 4 more or less severely damaged.
- 2 right fibulae, damaged, one very grossly flattened and bent laterally and forwards in the proximal third.
- 2 left fibulae more or less complete, 1 incomplete apparently matched bent right fibula. Longest left fibula measured 382 mm. and belonged to longest left tibia.

(N.B.—The lengths of the three right femora exceed slightly the lengths of the corresponding left femora. Those measured were all from males and even allowing only a modest 24% for their proportion of total stature they work out at statures of approximately 2000 mm., 1825 mm., and 1771., respectively—say, 6 ft. 6 in., 6 ft. 1in., and 5 ft. 11 in. This does not support recent views that the Tasmanians were diminutive. The tibiofemoral indices work out at 84.0, 81.7 and 82.5 respectively. There is nothing remarkable in these indices.)

- 1 right calcaneum.
- 1 left talus, calcaneum, navicular, cuboid and 3 cuneiform bones all loosely held together by a peaty mass of rootlets.

There were also several large peaty masses many of which showed evidence of containing bones. One of the largest was opened and disclosed portion of a right hip bone attached to a right femur and associated with a right tibia. The others were left untouched.

CRANIAL COLLECTION

Note.—All the unnumbered crania and cranial fragments were numbered for identification in a separate series:—"W.L.C. 1 AG, 2 AG . . . &c."

1. Isolated Mandibles**WLC 9 AG**

This is from an adult female of small dimensions; there is no reason to doubt that she was a Tasmanian. All the teeth have been lost except the two third molars: These are only slightly worn (approaching Broca grade 2) and indicate that the owner, although adult, was still quite young. In general the bone is slender and delicate but it is supported on the inner side by a thick bony torus which is continuous with the mylohyoid line below and runs back and up to form a strong buttress on the medial side of the coronoid process. The usual bony markings on the body are well defined, the chin is not prominent. The mandibular foramen runs forwards rather than downwards and lacks a lingula. The ramus is very quadrangular (a female character), the angles are slightly everted and the masseteric attachment is well marked. The condyles are orientated almost exactly transversely and are slightly "mushroomed," a common accompaniment to a coarse diet.

WLC 21 AG

Several teeth missing, similar generally to 9 AG but larger and more robust. Male, probably Tasmanian.

The measurements of the mandibles are given at the end. (Table II).

2. Other Cranial Fragments**WLC 13 AG**

Right temporal bone, evidently from a small adult skull. Very small mastoid process and a small broken styloid process. There is a foramen

(of Huschke) in the tympanic bone on the posterior wall of the mandibular fossa. Although adult the bone has disarticulated cleanly all round so the owner was relatively young. I suggest a young Tasmanian female.

WLC 14 AG

Right temporal bone quite similar to above but smaller overall. Mastoid and styloid processes very small. No foramen of Huschke. Also, probably, a young Tasmanian female.

WLC 18 AG

Lower left posterior portion of skull. Inscription inside not decipherable.

There is an ante-mortem perforation in the floor of the posterior cranial fossa. Mastoid process relatively small. Styloid process apparently large but broken off about 7 mm. from its base. Foramen lacerum small. Superior nuchal line is well developed with a prominent external occipital protuberance. The lateral quarter of the lambdoidal suture is obliterated. All this suggests that the fragment came from the skull of an adult male getting on in years and probably not European; therefore, most likely to be Tasmanian.

3. Crania

Note:—

Berry and Robertson (1910) depicted the following numbered skulls as belonging to the "Dr. E. L. Crowther" collection: (Crowther numbers in brackets): 39 (1), 40 (3), 41 (4), 42 (5), 43 (6), 44 (7), 45 (8), 46 (9), 47 (10), 48 (11), 49 (12), 50 (13). Of these I could find only 41 (4), 42 (5), 43 (6), 45 (8), 46 (9), 49 (12), 50 (13); the fate of 39 (1), 40 (3), 44 (7), 47 (10) and 48 (11) can only be conjectured. Berry and Robertson accepted all of these as Tasmanian but their description of the skulls is extremely sketchy while their other publications (1909 a, 1909 b) are little more than accounts of how the skulls were discovered.

Wunderly (1939) rejected 49 (12) as being Australian. He described as Tasmanian 40 (3), 42 (5), 43 (6), 44 (1!), 45 (8), 46 (9), 50 (13), 57 (18), 86 (14) and 89 (17). Evidently, the Crowther collection had already become depleted before Wunderly examined it; also, it seems that 44 (1) should have been 44 (7). Of the collection in the present survey, in addition to 49 (12), Wunderly rejected as Australian 85 (15), 88 (16) and 112 (19).

The crania that Wunderly described are omitted from further consideration here. Those remaining of the collection Berry and Robertson depicted, namely, 41 (4), 47 (10), 48 (11) and 49 (12), are considered in as much detail as time permitted. Other numbered skulls, rejected by Wunderly, namely, 87 (15), 88 (16) and 112 (19) are also described here. There were, in addition, eight more skulls unnumbered and these, as already noted, are identified as a separate series: "WLC AG 1-8". The total of crania to be described thus comes to fifteen. In what follows a general description of each skull is given first and the measurements are all consolidated in a single table at the end (Table I).

Tasman Series 41, B & R 41, WLC 4

This skull is discoloured, apparently from fire as a number of the sutures are "sprung". There is a good deal of peaty rootlet material adherent to the base of the skull and in the various cavities. The nasal bones are missing, left inferior orbital margin damaged, both zygomatic arches broken, the anterior part of the palate bearing canine and incisor teeth is missing, posterior part of palate damaged. There is no mandible (N.B.—Berry and Robertson depict a mandible—41 E; their other illustrations show intact nasal bones and a more complete palate and more teeth and apparently intact zygomatic arches.) All the molar teeth had erupted fully but the second left is missing and the first left is broken. These teeth are fairly worn and there is a good deal of interproximal attrition; nevertheless, the generally open condition of the sutures suggests that the owner was relatively young. (In Australian aborigines teeth wear faster in women than in men and the same may well hold for Tasmanians.) The nasal extremity of the metopic suture is unfused for about 10 mm. The mastoid processes are very small. There are several Wormian bones related to the sutures between the occipital and parietal bones. In particular, there is a triangular cluster of four Wormian bones in the region around the lambda. These could be considered interparietal bones. Berry and Robertson put the lambda itself between the intermediate and superior of these bones. In this I concur; I also concur in their view that the skull is that of a female Tasmanian.

Diagnosis; Female, Tasmanian, 25-30 years of age.

Tasman Series 47, B & R 47, WLC 10

The whole of the facial part of this skull and most of the base are missing. Part of the skull is blackened as though from fire and there is a considerable mat of rootlets within the cranial cavity. The coronal sutures are beginning to close at their temporal ends, the sagittal and lambdoidal sutures are fully open. The superior nuchal line is marked. Enough of the left temporal bone remains to show the external auditory meatus and a very small mastoid process. The glabella is probably just missing so that the measurement given for maximum length is a little doubtful. I agree with Berry and Robertson that this is from a female and probably Tasmanian. From the condition of the sutures I consider that she was relatively young.

Diagnosis: Female, Tasmanian, about 30 years of age.

Tasman Series 48, B & R 48, WLC 11

This small skull is very broken up. There are some peaty fibrous fragments associated with it and what appears to be the charred, desiccated and shrunken remains of the right half of the brain—very much smaller than the cranial cavity from which it presumably came. Most of the left frontoparietal region is missing. The right maxilla is wholly detached from the base of the skull but can be restored. The right mastoid process is small. Most of the right half of the mandible is present, the ramus is quadrangular. In the maxilla the

second permanent molar tooth is almost fully erupted, the third is about to break through. In the mandible the second permanent molar is fully erupted and the third has just cleared the alveolar margin. These findings are at some variance with the condition illustrated by Berry and Robertson in 48D. They put the age at 20-40 years which is certainly too high; 14-16 years would be nearer the mark. They also suggest that this may be from a half-caste but I can find no support for this.

Diagnosis: Female, Tasmanian, 14-16 years of age.

Tasman Series 49, B & R 49, WLC 12

This specimen includes the mandible but this is not figured by Berry and Robertson. In general, when viewed from above, the skull is relatively narrower than the Tasmanian because of the absence of any prominent parietal bossing. It is evidently from a young female, being relatively small and having all the normal cranial joints, including the sphenobasilar, quite open. The pterion is H-shaped on both sides. The mastoid processes are relatively small, the styloid processes are broken off. The foramen lacerum is small. There are small but definite brow ridges and the superior nuchal line is well defined. The interior narial margin is rounded with a prominent nasal spine. The sphenomaxillary fissure is relatively wide. There is a trace of a pre-pterygoid process. The palate is broadly paraboloid. The third molars were partially erupted but that on the left is lost; missing in addition since Berry and Robertson figured this skull in 1910 are both left incisors, left canine and left second premolar. All the other teeth are present including a right lateral incisor that is displaced palatally between the two adjoining teeth. The surviving teeth show little wear.

The mandible is small and light, there is no marked mental prominence, the body is slender, the mental foramina lie between second premolar and first molar teeth and run forwards, the angles are inverted. The ramus is quadrangular and slopes steeply back. The coronoid process is slender, the condyles are directed slightly backwards of the transverse plane and the medial side of the left condyle is broken off. The lateral pterygoid fossa is well marked. The mandibular foramen runs more forwards than downwards; a well developed torus runs up from the mylohyoid line to buttress the inner side of the coronoid process. Genial tubercles are not evident. The digastric and submandibular fossae are well marked but not the sublingual fossa. The third molars are unerupted; the left canine, both right incisors and the right first premolar are missing; the surviving teeth are only slightly worn.

Berry and Robertson were, apparently, happy to include this skull as a Tasmanian but Wunderly considered it Australian. On the whole the evidence supports Wunderly.

Diagnosis: Female, probably Australian, aged 16-18 years.

Tasman Series 87, WLC 15

No mandible. There has been some restoration, particularly in the left temporal region. This is evidently from a female approaching middle age. Most of the sutures show signs of closure and those forming the pterion are obliterated. The left zygomatic arch is broken and there are a number of other defects including a large hole in the floor of the left posterior cranial fossa. In the region of the left stephanion there is an irregular eroded lesion, about 26 mm. long, which opens into the cranial cavity behind the coronal suture. The erosion appears to be due to an infective process, e.g., osteomyelitis. Neither brow ridges nor superior nuchal lines are marked. The parietal regions are well rounded. The right mastoid process is small, the left is missing; the right styloid process is strongly developed, the left is broken off. There is a small foramen of Huschke in the left tympanic bone. The foramen lacerum is quite large. The posterior wall of the right maxilla is damaged. Most of the right nasal bone is missing. The lower narial margin is sharp, the spine is prominent. The palate is almost quadrangular; the third right molar and all four incisor teeth are missing. The third left molar is erupted but not much worn, the other remaining teeth are moderately worn.

Wunderly considered this skull Australian but to my mind the rounded parietal regions and particularly the sharp lower narial margin argue against an Australian origin.

Diagnosis: Female, could be Tasmanian x European cross, approaching middle age.

Tasman Series 88, WLC 16

No mandible. This skull is from a young female.

The sphenobasilar joint is open as are all the normal cranial sutures.

In norma verticalis the skull contour is almost pentagonoid. There is a slight brow ridge and the superior nuchal lines are just defined. Pterion on both sides is H-shaped. The mastoid processes are small, the styloid processes are broken off. The foramen lacerum is very small, the sphenomaxillary fissure is wide; there is no pre-pterygoid process. The lower narial margin is rounded, with a prominent spine. The palate is a wide paraboloid. The third molar teeth are unerupted and of the remainder only the first and second molars on each side survive—the first shows some wear. In Table II the palatal length given is to the posterior border of second molars as the third molars are still high up in the maxillae.

Wunderly considered this skull Australian but I must point out that the ethnic attribution of any female skull is always a difficult matter because of the relatively poorer differentiation as compared with the male. In this present instance the difficulty is increased by the lack of maturity of the subject. To my mind there is no single feature or group of features that disqualifies this skull from Tasmanian attribution.

Diagnosis: Female, probably Tasmanian, aged 13-15 years.

Tasman Series 112, WLC 19

This is a large heavy skull, obviously from a male. The right zygomatic arch is missing, the posterior wall of the right maxilla is broken, there is a large defect in the right parieto-temporal region, the left zygoma and part of the left maxilla are broken off and some bones are held together with wire. The skull is long and narrow, most sutures are virtually closed. The brow ridges are very large, the forehead slopes steeply, the superior nuchal lines are strongly defined, the external occipital protuberance is represented by an area of bone projecting downwards and forwards. The mastoid processes are moderately large, the styloid processes are broken but were evidently small, the foramen lacerum is small. There is a well developed pre-pterygoid process. The lower narial margin is guttered, the anterior nasal spine is prominent. The palate is a broad massive parabola showing considerable ridging. The only surviving teeth are the right first molar, the right first premolar, the right canine and the root of the left second premolar. I concur in Wunderly's opinion that this is an Australian skull.

Diagnosis: Male, Australian, past middle age.

WLC 1 AG

This skull is large and well rounded. The calvaria has been sawn off but is present and the cranial cavity is undamaged. The coronal suture is approaching obliteration throughout, the sagittal suture has virtually disappeared, the lambdoidal and temporo-parietal sutures are readily apparent. The pterion is almost X-shaped on the left side but more H-shaped on the right. Brow ridges are scarcely developed, the superior nuchal lines are poorly marked. The mastoid processes are large and it is evident that the styloid processes were also large during life. The mandibular fossae show bony deposits that make them shallower than normal (the mandibular condyles are correspondingly mushroomed). The sphenomaxillary fissures are widely open. The nasal bridge is relatively high, the lower narial margin is rounded with a prominent spine. The palate is paraboloid. The third molars are unerupted: of the remainder those that survive are; first and second right molars, large, and much worn; all four premolars showing a moderate amount of wear; the left canine, large, moderately worn with massive root reaching up almost to the narial margin.

The mandible is of moderate size with a well developed mental protuberance although the body is shallow in the posterior molar region. The mental foramen is opposite the second premolar tooth and runs forwards into the bone. The angle is quite rough at the masseteric insertion and the gonion is everted. The ramus joins the body at a fairly acute angle. The coronoid process is relatively thin. The heads of the condyles are directed slightly backwards of the transverse plane and show distinct flattening or mushrooming. On the medial side a well developed torus runs up from the mylohyoid line to buttress the coronoid process. The mandibular foramen runs more forwards than downwards and is protected by a fair-sized lingula. The superior genial tubercles are fused, the inferior separate. The digastric and

submandibular fossae are well marked, but not the fossa for the sublingual gland. The third left molar is fully erupted and moderately worn; the second left molar is missing, the first left molar is very large and moderately worn. Both left premolars are present, moderately worn. The second and third right molars were lost during life and the alveolar margin is resorbed. The first right molar resembles the left but has a cavity at its distal border which appears to have been the source of a periapical abscess that has perforated the buccal aspect of the alveolar bone. The second right premolar has broken off short, the first resembles the left. The right canine is large, moderately worn; the left is missing. The incisors have been lost and from the socket space available it looks as though there were only 2 incisors all told during life.

Diagnosis: Male, Tasmanian, at about middle life.

WLC 2 AG

No mandible. Very well marked skull of an adult male, comparable in size to 1 AG. Coronal suture shows beginning obliteration in temporal fossae and at the bregma, remaining sutures still well open. Left pterion is H-shaped, right less so. Brow ridges are small but well defined, superior nuchal lines only moderately prominent, external occipital protuberance hooked downwards. Mastoid processes large, styloid processes broken off. Foramen lacerum is small. Very well developed pre-pterygoid process, very open sphenomaxillary fissure. Lower narial margin is rounded, anterior nasal spine bifid. Palate is paraboloid. Both third molars fully erupted and well developed; both second molars present show very little wear; both first molars missing. Both right pre-molars are carious and worn down considerably; second left pre-molar missing, first left well developed and moderately worn. Left canine is present, of moderate size and showing only slight wear; right canine and all four incisors missing.

Diagnosis: Male, Tasmanian, aged 30-40 years.

WLC 3 AG

No mandible. Well developed adult male. Most sutures approaching obliteration but still recognisable. Obelion is well marked. Pterion on both sides H-shaped. Brow ridges virtually absent except medially; nasal end of metopic suture persists for about 10 mm. Superior nuchal lines well marked; external occipital protuberance hooks downwards. Mastoid processes large; styloid processes broken off but evidently small. Foramen lacerum small. Well developed pre-pterygoid process. Sphenomaxillary fissure relatively narrow. The mandibular fossae both show bony deposition and shallowing. The lower narial margin is rounded, with a prominent anterior nasal spine. The palate is a broad paraboloid. The only surviving teeth are the right second premolar, right second molar, left third molar (all showing very little wear) and the roots of the first molar.

The forehead is rather more sloping than in most Tasmanian skulls but there are the characteristic parietal bosses.

Diagnosis: Male, Tasmanian, about middle age.

Note.—In these three skulls 1 AG, 2 AG and 3 AG, the amount of wearing of the teeth is relatively less than one would expect from the age indications of the state of closure of the sutures. It has been shown that the age of suture closure is not a reliable guide to age; nevertheless, there is some correlation and experience with skulls of other peoples leads one to expect a greater degree of dental wear than these skulls in fact show. This suggests that their owners lived mainly on a European diet, not the coarse native diet, a suggestion supported by the dental caries in 2 AG.

WLC 4AG

Large, well marked skull, evidently from an adult male. The coronal and sagittal sutures are beginning to fuse around the bregma, all otherwise are well open. There is a moderate-sized interparietal bone at the lambda. Pterion is H-shaped on both sides. The forehead has a moderate slope and the frontal bone shows a rough antemortem lesion, about 70 mm. x 30 mm. which is pitted in parts and is probably the result of old injury and/or disease. The brow ridges and superior nuchal lines are very well developed, the external occipital protuberance is not prominent. The mastoid processes are well developed; the left styloid process is large, the right broken off. There is a large pre-ptyergoid process. The spheno-maxillary fissure is wide. The lower narial margin is rounded but the spine is not particularly prominent. The palate is a broad paraboloid with well-marked palatal tori posteriorly. The only missing teeth are the two upper central incisors (lost post mortem), the first right premolar and the right third molar; the second right molar is broken off at the root. The surviving teeth are large, very little worn and show no evidence of caries. The surviving third molar is only slightly smaller than the second.

The mandible has a relatively strong body, the body height almost equalling the symphyseal height. The mental foramen is at the level of the second premolar tooth and runs downwards and forwards. The angle is strongly everted on each side with well marked muscle attachments. The condylar heads show no sign of flattening; they are directed slightly backwards of the transverse plane. The coronoid process is buttressed on its medial side by a well-marked torus. The mandibular foramen runs downwards and forwards and has no lingula. The superior genial tubercles are separate, the inferior fused. The digastric, sublingual and submandibular fossae are distinctly marked; a small bony ridge runs horizontally above the digastric fossae. Only the molar teeth survive—they show slight wear.

Diagnosis: Male, Australian, age 25-30 years.

WLC 5 AG

No mandible, Adult male.

Most of the left side of the face and a good deal of the base are missing. The right maxilla is broken in places. The frontal bone shows marked signs of disease or damage over a wide area. Most sutures are obliterated but the left pterion could be discerned as H-shaped. Brow ridges are well marked and the superior nuchal line forms a distinct crest in its middle third. Right mastoid pro-

cess is broken off, the left is of moderate size; both styloid processes are missing. The pre-ptyergoid process is well marked, the spheno-maxillary fissure is of moderate width. The lower narial margin is rounded, the anterior nasal spine prominent. Most or all the upper teeth had been lost during life.

Diagnosis: Male, Australian, age fairly advanced.

WLC 6 AG

No mandible. Inscribed "Solomon Islander".

Relatively small, smooth skull, clearly from a female.

Sagittal suture fairly closed, right coronal suture closing in the temporal fossa, left open; right pterion almost H-shaped, left stellate. Lambdoidal suture closing. Very little brow ridge, small superior nuchal line. Mastoid process of medium size; left styloid process well developed, right broken off. Foramen lacerum very small. Pre-ptyergoid process well developed; spheno-maxillary fissure wide. The lower narial margin is rounded. The palate is a broad paraboloid. All teeth had erupted but the only survivors are right first and second molars and left second and third molars, the third almost as large as the second. All these teeth show a moderate amount of wear.

Diagnosis: Female, Melanesian, approaching middle age.

WLC 7 AG

No mandible. Also inscribed "Solomon Islander".

Relatively small and smooth and obviously female.

Both zygomatic arches broken off. Lateral walls of both orbits broken. Sphenoid bone largely missing. Most of the coronal, all the sagittal and the middle third of the lambdoidal suture are fused. Pterion stellate on the left, missing on the right. Brow ridges and superior nuchal line small. Mastoid processes fairly small, styloid processes broken off. No pre-ptyergoid process; spheno-maxillary fissure open. Lower narial margin rounded, spine prominent. Palate relatively broad paraboloid. Third molars unerupted, all other teeth missing. Upper left central incisor extracted during life and socket resorbed.

Diagnosis: Female, Melanesian, past middle age.

WLC 8 AG

This is almost certainly a European male and is not considered further here. The measurements are given in Table I.

REFERENCES

- BERRY, R. J. A. AND ROBERTSON, A. W. D. (1909A).—"Preliminary communication on fifty-three Tasmanian crania, forty-two of which are now recorded for the first time," *Proc. Roy. Soc. Vic.*, 22: 47-58.
- BERRY, R. J. A., (1909B).—"Preliminary account of the discovery of forty-two hitherto unrecorded Tasmanian crania," *Anat. Anz.*, 35: 11-17.
- , (1910).—"Diotographic tracings in four normae of fifty-two Tasmanian crania," *Trans. Roy. Soc. Vic.*, V.
- TURNER, W., (1884).—"Report on the human crania and other bones of the skeletons collected during the voyage of H.M.S. Challenger, in the years 1873-1876, London, H.M. Stationery Office.
- WUNDERLY, J., (1939).—"The cranial and other skeletal remains of Tasmanians in collections in the Commonwealth of Australia," *Biometrika*, 30: 305-340.

TABLE I.

No.	Sex	L.	B.	IL	Min. Front D.	Total Facial H.	Upper Facial H.	Bizyg. D.	Bigon. D.	Orb. H.	Orb. B.	Nas. II.	Nas. B.	Pal. L.	Pal. B.	Facial Angle	Remarks
Tas. 41 WLC 4	F.	178	127	104	89	..	..	..	..	29	34	..	..	..	..	..	Tasmanian
Tas. 47 WLC 10	F.	161	132	103	..	..	..	..	..	..	..	..	..	..	..	..	Tasmanian
Tas. 48 WLC 11	F.	145	116	88	..	..	..	..	..	..	..	..	..	..	..	..	Tasmanian
Tas. 49 WLC 12	F.	164	121	100	84	94	57	113	78	33	37	41	25	51	33	79°	Probably Australian
Tas. 87 WLC 15	F.	178	129	99	93	..	58	..	..	32	39	41	26	44	35	82°	European × Tasmanian Cross
Tas. 88 WLC 16	F.	177	135	104	96	..	61	122	..	32	42	44	26	46	36	80°	Tasmanian
Tas. 112 WLC 19	M.	197	126	117	104	..	69	..	..	31	44	45	27	66	43	74°	Australian
WLC 1AG	M.	184	138	113	100	122	73	131	99	34	41	50	26	55	35	82°	Tasmanian
WLC 2AG	M.	184	138	114	96	..	68	131	..	31	39	50	29	55	39	73°	Tasmanian
WLC 3AG	M.	177	140	114	103	..	78	128	..	32	41	55	27	53	42	84°	Tasmanian
WLC 4AG	M.	198	140	111	99	115	69	140	119	33	36	48	28	52	43	87°	Australian
WLC 5AG	M.	181	130	121	87	..	61	..	..	33	42	50	23	..	..	84°	Australian
WLC 6AG	F.	181	123	114	90	..	63	122	..	30	40	44	24	47	38	77°	Melanesian
WLC 7AG	F.	176	128	107	91	..	62	..	..	33	40	48	26	50	33	79°	Melanesian
WLC 8AG	M.	194	147	114	103	..	74	..	..	36	38	51	25	51	33	89°	Probably European

TABLE II.
MANDIBLES

Number	Sex	Bicond. B.	Bigon. B.	Ramus L.	Ramus Min. B.	Ramus Max. B.	Symph. H.	Body H.	*Max. Thick- ness	Remarks
Tas. 49 WLC 12	F.	99	80	42	30	33	24	22	14	Prob. Australian
WLC 1AG	M.	116	101	67	36	41	27	14	14	Tasmanian
WLC 4AG	M.	120	110	71	35	46	32	31	17	Australian
WLC 9AG	F.	118	86	56	34	39	26	22	14	Tasmanian
WLC 21AG	M.	123	108	70	34	45	31	27	15	Tasmanian

*At level of second molar tooth.