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AUSTRALIAN ABORIGINAL REMAINS ~ 5,540 YEARS OLD, FROM MITIAMO, VICTORIA, AUSTRALIA

By E. D. Gill

National Museum of Victoria

Abstract

On a granite pediment, under 5-6 ft. of granitic detritus, human bones *c.* 5540 years old were found at Mitiamo, N. Victoria, in a zone of minor carbonate deposition. The date gives an indication of the rate of deposition of detritus, and suggests alternate phases of detritus accumulation and dispersion.

Site

In northern Victoria a range of granitic hills (Terricks Range) runs north from Mitiamo to Mt. Hope (Gregory 1903: 89-92; Hills 1941). NE of Mt. Hope is Kow Swamp where the Cohuna Cranium was found (Macintosh 1952 a, b, 1953). On the southern end of this range in the Shire of Gordon is the Mologa State Forest, a dry sclerophyll forest growing on porphyritic granite (Fig. 1). In the north-east sector of this forest is a sand pit where the Mitiamo Skeleton was found. Sandy sediment, derived by mechanical weathering of the granite (Hills 1940: 21) forms a talus apron resting on a platform (pediment) of granite. Front-end loaders dig out this detritus for road works. During this operation, the Mitiamo Skeleton was found. The site is on the N. side of an EW. ridge jutting out from the main mass of the granite (144° 10′ E., 36° 8′ S.).

Discovery

Mr John A. Mitchell, headmaster of the Boort High School, having learnt from Valma and Glenda Smith that bones had been found in the excavation, sent some pieces to the National Museum in Melbourne. They belonged to an adult aborigine. The front-end loader completely broke up the skeleton, and various pieces were souvenired. An attempt to secure more of the skeleton was unsuccessful. Under the guidance of Mr Mitchell, I visited the site in August 1964, and concluded that the skeleton was a burial covered by later sediment, and so a fossil. Geological evidence suggested a mid-Holocene age, and a radio-carbon date was obtained to provide information of geomorphic and geologic as well as anthropologic value.

Geology

Lichens grow on the surface of the coarse granite, and trees send down roots into the major joint planes, while herbaceous plants flourish in sheltered places where soil accumulates and water seepages occur. Probably as a result of the steep temperature gradients established, the granite tends to lift in concentric shells. The rainfall averages approximately 15½ in. (40 cm) per annum.

The granite debris forming the talus apron consists of an unsorted silty sand with mostly angular grains. It varies from red to reddish-brown throughout its depth. There were 5-6 ft (1·5-1·8 m) of sediment where the skeleton was found 3½ chains (70 m) from the granite hill (Fig. 2). Nearby an island of sediment was left because of a large tree growing on it, and this gave the original depth of sediment at that point, viz. 8-9 ft (2·4-2·7 m).

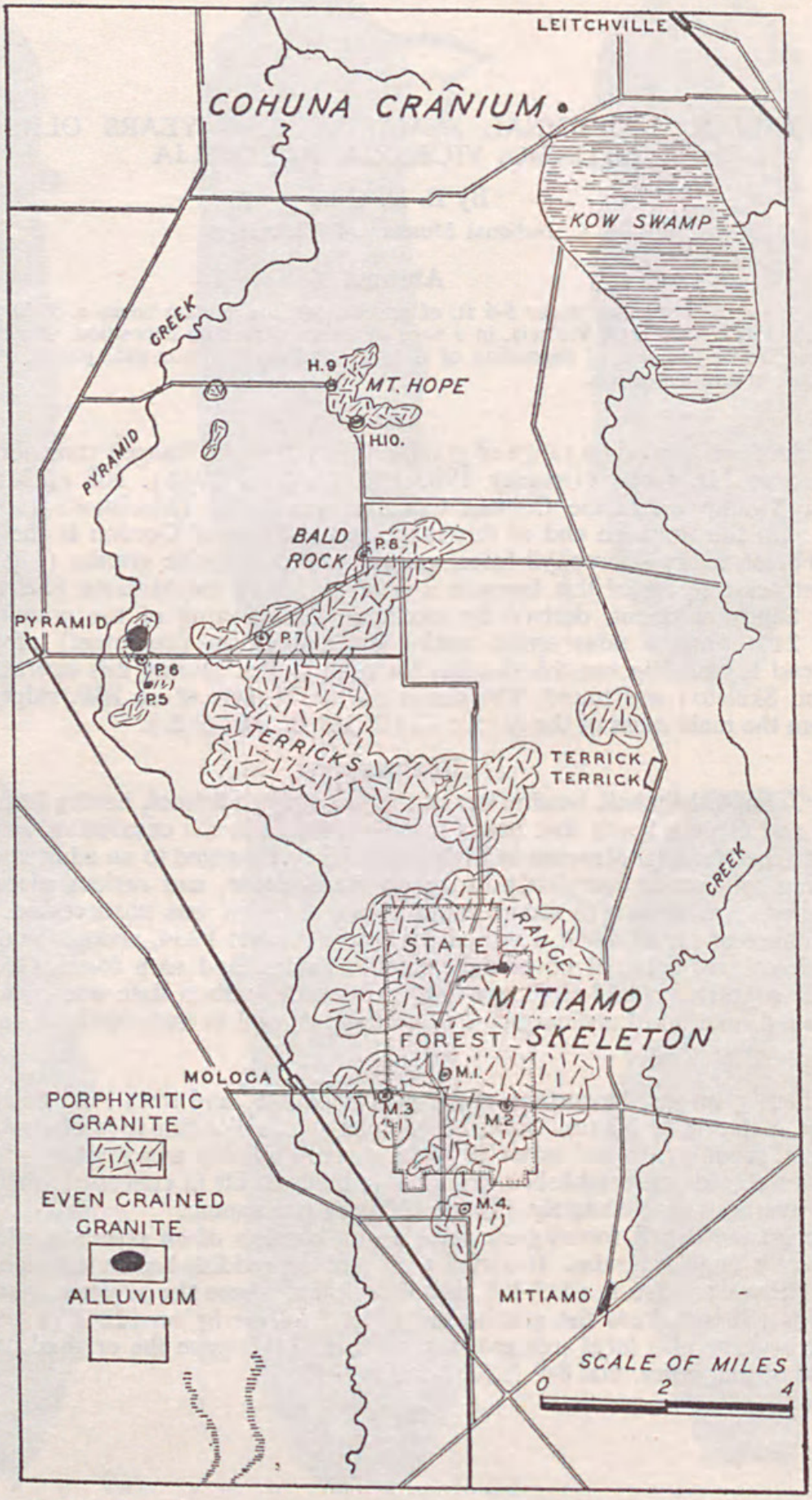

FIG. 1—Localities from which were obtained the Mitiamo Skeleton and the Cohuna Cranium. Base map after Hills 1941.

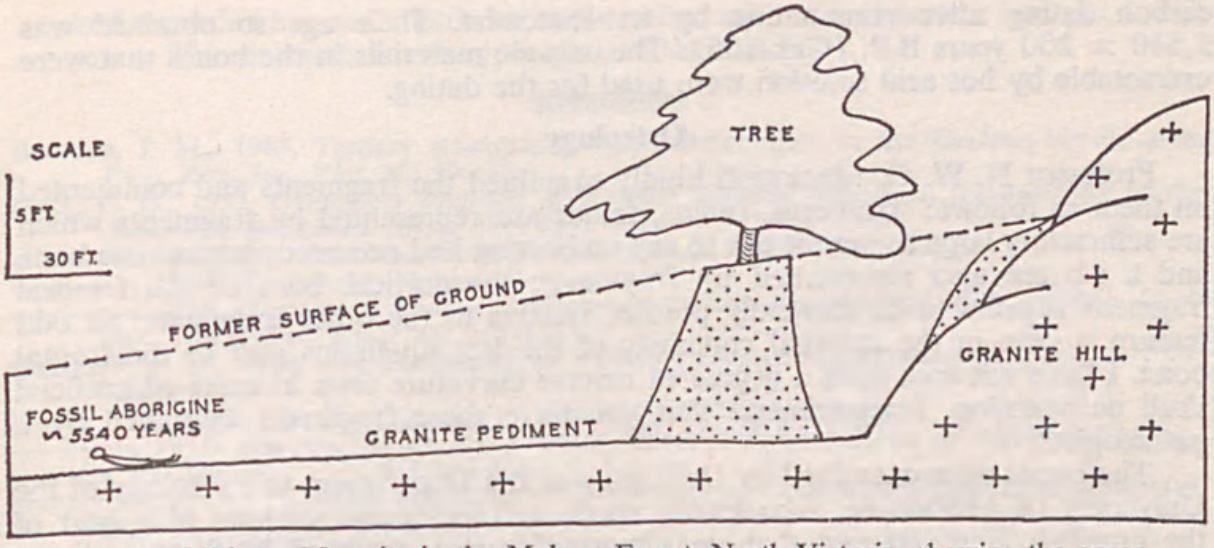

FIG. 2—Mitiamo Man site in the Mologa Forest, North Victoria, showing the apron of granitic detritus overlying a granite pediment. The skeleton was 5-6 ft from the surface and has a radiocarbon age of 5,540 years B.P. The symbol of the skeleton is not drawn to scale.

Some sediment remains against the granite hill where it could not be excavated by the front-end loader, and this shows it was 10-11 ft (3-3·3 m) deep at that place. The sediments are firm but not strongly compacted. The numerous excavations for sand in this area show clearly the general structure of a siliceous talus apron on a granite pediment.

Mitiamo Skeleton

The statements of the workmen, and the evidence of such bone fragments as were collected, suggest that there was originally a complete skeleton. As far as can be determined, the limbs were not flexed, but the skeleton was in a half-sitting position facing S. Australian aborigines in this area used to bury their dead in shallow graves and so to find this skeleton at 5-6 ft (1·5-1·8 m) depth meant that the aborigine was buried when the surface of the ground was not far above the pediment. The remaining depth has built up since burial. Under the present geomorphic conditions, one cannot see how water could strip the overlying deposits off the pediments, and so such a process probably occurred as a result of wind erosion, which would imply a drier time than the present. Such a drier time occurred during the mid-Holocene (Gill 1953, 1965). If the pediment were then largely stripped, one would expect the same to have happened in previous dry periods. Thus through the Pleistocene, there may well have been alternate building up of the talus apron and subsequent stripping. In the dry periods the creeks would be ephemeral, and the windblown saltatory material would migrate to the low areas of the terrain, filling stream channels, which would be excavated again in the wet periods.

The discoverers (Mr K. Gladman and Mr E. L. Smith) stated that the skeleton was 'set in a very hard type of granitic sand'. The hardness was probably due to secondary carbonates. One fragment of the cranium 1 cm thick that has been preserved has secondary carbonate on it (P24685 Nat. Mus. Vict.); all the bones did not have this. Such local accumulations of carbonate are found at the base of the sediments. Skeletal fragments (cranial and postcranial) were sent for radio-

carbon dating after examination by an anatomist. Their age so obtained was 5,540 ± 200 years B.P. (Gak-705). The organic materials in the bones that were extractable by hot acid solution were used for the dating.

Osteology

Professor N. W. G. Macintosh kindly examined the fragments and commented on them as follows: 'Humerus, radius, femur are represented by fragments which are sufficiently large to permit one to say no bowing had occurred; innominate bone and a rib are also represented by fragments; the cortical bone of the femoral fragment appears to be markedly porous, relative to the other fragments; an odd feature is seen in the external concavity of the left squamous part of the frontal bone. I have not seen such a degree of reverse curvature even in cases of artificial skull deformation. I recommend that you have these fragments examined by a pathologist."

The bones were examined by Dr Hurley of the Department of Pathology of the University of Melbourne, who kindly made and examined sections of a part of the cranium, and reported that no abnormality was observed in these sections. The curious deformity of the left frontal bone therefore remains unexplained. The internal surface of the bone is not indented parallel to the outside surface; the curvature does not appear to be due to a blow.

Aborigines in the Mid-Holocene

The evidence for a mid-Holocene higher temperature in SE. Australia is widespread (Gill 1953, 1955, 1965; Bowler 1963). An indication of the time of onset of these conditions is provided at Lake Weeranganuck in Western Victoria where fossiliferous lacustrine sediments pass up into windblown parna dunes. Bones from the layer immediately under the parna gave a date (GX-0152) of 6,435 ± 110 (Gill 1964). The time of passing of these conditions is indicated by the stabilization of a terrain at Port Campbell that had been deflated during the mid-Holocene. Grasstree resin rings mark this time of stabilization, and one of these gave a date (W-1477) of 3,880 ± 250 years B.P. (Gill 1965). These datings are only a beginning but they at least show (with other dates) that there was a rise in mean temperature at this time in Victoria (as there was in many other parts of the world) leading in Victoria to drier conditions with drying up of lakes and increased soil erosion.

No definable artifacts were discovered at Mitiamo. The Colongulac Skeleton (Gill 1953) belongs to the mid-Holocene occurring in a parna dune such as were commonly built up on the shores of shallow lakes in northern and western Victoria as a result of their frequent desiccation. At Mitiamo and in similar situations talus aprons were built up as high or higher during the Last Glacial but during the dry period they were dispersed, only to build up again in the following wetter period. Since the mid-Holocene drier period the talus apron has built up at a mean rate of one foot or less per 1,000 years. Soil formation has continued all this time, so this is one reason why the profile is red throughout.

Conclusions

1. The Mitiamo Skeleton is of an adult aborigine who lived in northern Victoria during the mid-Holocene (~ 5,540 y. B.P.).
2. The talus apron present above the skeleton was largely absent in the mid-Holocene, there being only a thin layer of sand over the granite pediment. In this the Mitiamo skeleton was buried. The terrain was then relatively unstable,

and the talus has since built up at the mean rate of one foot or less per 1,000 years. This accounts for the juvenility of the soil.

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