Houghton, Philip, 1989. Comment on the human skeletal material from Pea, Tonga, Site To.1. *Records of the Australian Museum* 41(3): 331–332. [30 November 1989].

doi:10.3853/j.0067-1975.41.1989.149

ISSN 0067-1975

Published by the Australian Museum, Sydney

Records of the Australian Museum (1989) Vol. 41: 331–332. ISSN 0067 1975

Comment on the Human Skeletal Material from Pea, Tonga, Site To.1

PHILIP HOUGHTON

Department of Anatomy, University of Otago
P.O. Box 913, Dunedin, New Zealand

ABSTRACT. Some pathological features evident in the human skeletal material from the Lapita site at Pea, Tonga, Site To.1, are reinterpreted. Some reordering of the remains between individuals is suggested, and previous suggestions that there is evidence of either metastatic carcinoma or early Pagets disease in the cranial vault are not supported.

HOUGHTON, P., 1989. Comment on the human skeletal material from Pea, Tonga, Site To.1. Records of the Australian Museum 41(3): 331–332.

This Lapita-associated material excavated by Poulsen (1987) has been exhaustively analysed by Taylor (1987) and Spennemann (1987). The comments here relate to some contentious points, mainly of pathology, and should be read against the previous analyses.

Material

1. Mandible. The right mandibular condyle has been broken off post-mortem, but sufficient neck remains to indicate that some abnormality was present in this region during life though whether congenital or pathological (trauma or infection) cannot be said (Fig.1). A cranial fragment bearing the right temporomandibular joint surface is preserved and shows the articular eminence to have been largely obliterated, with formation here of a new, rough-surfaced fossa. The mandible thus probably belongs to at least some of the cranial fragments.

2. The maxillary fragment shows a more advanced and carious pathology than does the mandible (Fig. 2), and a considerably larger dental arch. Even allowing for mesial drift of the lower teeth as a result of long-standing loss of the incisors, it seems the arches are incompatible.

3. From (1) and (2) above, it follows that the maxillary fragment is probably from another individual, with the mandible belonging to the main individual. This is different from the picture presented by Spennemann (1987), though it must be said that a decision either way is of no great moment.

4. The mandibular pathology, which would influence function and musculature, renders its morphology unsuitable for determining biological relationships.

5. The cervical spine has been said to show "remarkably severe" osteoarthritis (Spenneman, 1987). Chapman (1972) gives a reasonably objective grading for vertebral degeneration, and on her criteria I would grade these changes as slight to moderate. It is to be noted that osteoarthritis occurs only in synovial joints, and is not applicable to the joints between vertebral bodies.

6. It has been suggested that the cranial vault shows evidence either of metastatic carcinoma or early Pagets disease (Spenneman, 1987). I find no evidence of metastases, though there are some normal depressions of meningeal origin (arachnoid villi). The vault structure lies

Fig.1. Mandible, showing an expanded and pathological right condylar neck. Most of the actual condyle has been broken post-mortem.

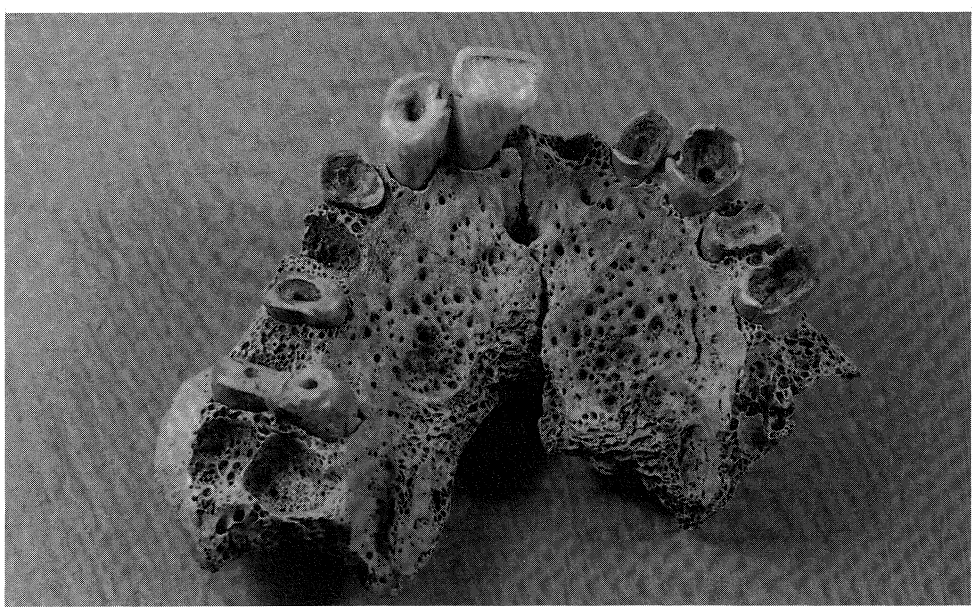

Fig.2. Palatal view of maxillary fragment showing dental pathology.

within the considerable normal range, and does not show Pagets disease.

7. There are two well-healed rib fractures.

References

Chapman, F.H., 1972. Vertebral osteophytosis in prehistoric populations in Central and Southern Mexico. American Journal of Physical Anthropology 36: 31-38.

Poulsen, J., 1987. Early Tongan prehistory: the Lapita period of Tongatapu and its relationships. Terra Australis 12. Department of Prehistory, Research School of Pacific Studies, Australian National University, Canberra.

Spennemann, D.H.R., 1987. Reanalysis of the human remains at To.1. Appendix 9. **In** J. Poulsen. Early Tongan Prehistory: the Lapita Period on Tongatapu and its Relationships. Terra Australis 12 . Research School of Pacific Studies, Australian National University, Canberra.

Taylor, R.M.S., 1987. Some excavated jaws and teeth from Tonga. Appendix 10. **In** J. Poulsen. Early Tongan Prehistory: the Lapita Period on Tongatapu and its Relationships. Terra Australis 12. Research School of Pacific Studies, Australian National University, Canberra.

Accepted August 14, 1989