



Birds, boffins and blunders

WHEN British colonists settled the remote Cobourg Peninsula in 1838, they found a mysterious land dotted with giant mounds of shell and earth that they dismissed as the "tumuli of Aborigines".

Two years later Aborigines tried to set the record straight when they told naturalist John Gilbert that the mounds were birds' nests built over many generations by the extraordinary orange-footed scrubfowl, *Megapodius reinwardt*, and used for incubating eggs. Although excited by the prospect, Gilbert was not convinced until he saw Aborigines retrieve two eggs from deep inside a mound.

Had he not perished at the end of a spear in 1845, the notion that Aborigines had built the mounds may never have endured. It was revived at the turn of the century by anthropologist Walter Roth, the first scientist to examine some of the 500 or so shell mounds at Weipa on the western coast of Cape York Peninsula, who tentatively suggested that they were

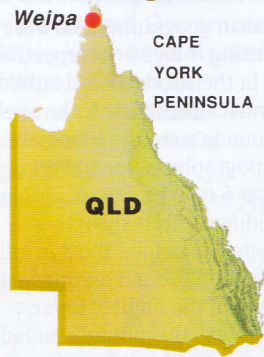
Hatching plots. The orange-footed scrubfowl, whose nesting behaviour seems the most likely explanation for giant shell mounds found in northern Australia.



huge middens. Adventurers returning from Arnhem Land over the next six decades made similar interpretations.

But it was not until archaeologists from the University of Cambridge visited Weipa in the 1960s and '70s that

the myth really took off. With the best of British academic tradition behind them, they interpreted the weird Australian landscape in the only way they knew. The mounds, they declared, had been formed much like the tells of



the Middle East. Aborigines, mindful of the deluge brought by each monsoon, had built them so they had a dry place to camp on. They could also escape mosquitoes, catch a breeze and watch out for their enemies. It seemed all very logical.

When I suggested in an academic paper in 1989 that the shell and earth mounds of northern Australia were built by orange-footed scrubfowl that raked the artefacts found in them from nearby middens or camp sites, the metaphors flew. Feathers were ruffled, fowl play was suspected and egg appeared on faces. The archaeological world was divided. What evidence did I have for my belief?

I had developed my hypothesis after working as an archaeologist in the Northern Territory, where a study of landforms introduced me to scrubfowl mounds. It was based on a reinterpretation of the data acquired by other archaeologists, so when I decided to make the origin of the Weipa mounds the subject of a thesis for my master's degree in geography, I realised I needed some data of my own.

In 1991, I went to Weipa to set about doing what Aus-

Fowl deed or Aboriginal midden? A volunteer inspects one of the mounds. Most people believe they were thrown up by Aborigines, a theory that Tim Stone discounts.

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tralian geographers do best – putting things in perspective.

In the subdued and subtle landscape of Weipa, the shell mounds were the titans of topography, some towering over 5 metres. But were they middens? To resolve this issue I examined the 3 m tall Kwamter mound on the north bank of the Embley River. This was the mound studied by the Cambridge archaeologists, who claimed that its cockleshells accumulated gradually from 1200 years ago until recently.

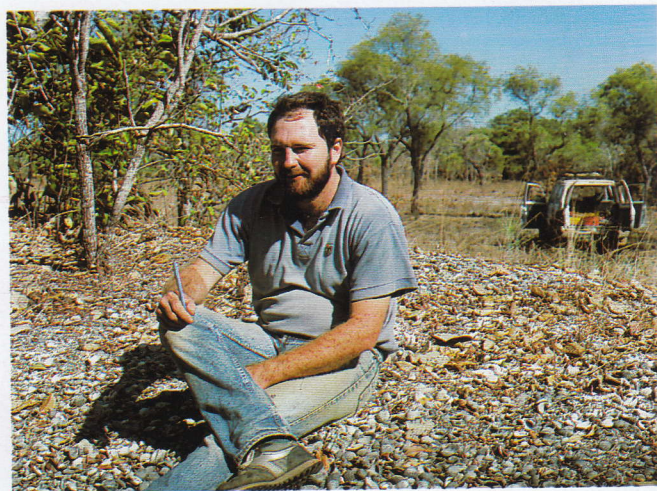
I collected shells at 10 different depths 30 to 40 centimetres apart and sent them to the Australian National University Radiocarbon Dating Laboratory. The results showed that eight of the samples were about 900 years old, while the remaining two, from the top of the mound, were about 650 years old. This lent no support to the hypothesis of human origin – had the mound been created by generations of Aborigines, the ages of the shells should

Shell haven. Tim Stone (right) pauses for a rest on one of the nest-mounds he believes the scrubfowl built from shells that were initially deposited by wave action. Carbon dating of shells provided a vital clue.

have become progressively younger from the bottom of the mound to the top. In reality most of the shells were of roughly the same age.

Having thrown serious doubt on the theory of human origin, I set about looking for a natural explanation for the mounds. I mapped and examined the mounds at two sites on opposite sides of the nearby Mission River, and dug holes near them to establish the extent of the shell debris. I concluded that the shells were initially deposited during the formation of cheniers, the wave-built ridges of shell or sand distributed across a broad plain of much finer sediment.

These cheniers are a common coastal landform in northern Australia and the



shell mounds had grown where the sea had concentrated the shells. Where few shells were deposited, mounds of sand and gravel had grown in their place. Clearly the same process of mound formation was at work on all sorts of sediment.

So what had piled these diverse sediments into giant heaps? As I opened my lunch on top of a shell mound in Weipa's superb Uningan Nature Reserve, I was

approached by a banana grower from Innisfail who paused disbelievingly at a sign declaring the feature to be an Aboriginal midden.

Also staring at me with some disbelief, he said: "Looks like a turkey nest to me." He was, of course, referring to the mound-building scrubfowl, whose nesting behaviour most sensibly explains the presence of these remarkable mounds.

Tim Stone

TIM STONE'S SHELL MOUND THEORY



1. Ridges of shells and coarse sand, called cheniers, are formed by wave action along parts of the coast of northern Australia, particularly near river mouths.



2. Orange-footed scrubfowl rake debris from the cheniers to build mounds for incubating their eggs. Where the cheniers contain a lot of shells, so do the nearby mounds.



3. Analysis of a typical mound shows that the shells did not accumulate gradually. Most of it dates back 900 years, while the top two samples are 650 years old.