

ARCHY 319

Archaeology of Australia

Winter 2019

Associate Professor Ben Marwick

bmarwick@uw.edu

What are we going to do today?

Tasmania isolated

Tasmania adapting



Tasmania isolated



At contact with Europeans, was Tasmanian material culture and society depauperized as a result of the isolation brought on by sea level rises at the end of the Pleistocene?

A claim: that Tasmanian society lacked the capacity to innovate, and hence cultural elements were lost, they were unable to be replaced.

A question: *Why did the Tasmanians stop eating fish?* - a question about the perceived lack of innovation.



Rhys Maengwyn Jones
(1941 – 2001)



Rocky Cape



North Cave



North Cave

North Cave has a deposit nearly 3m thick.

Basal date of $5,425 \pm 135$

Date near top 450 ± 104

Jones concluded that North Cave had a continuous sequence over the last 5,500 years





South Cave – 4m deep.

Date at top of 3795 ± 100 .
Basal dates 7465 ± 145 , 8120 ± 165 .

Stratigraphic units at Rocky Cape

Years BP

North Cave

South Cave

1,000

Unit 1

2,000

Unit 2

3,000

4,000

Unit 3

5,000

Unit 4

6,000

7,000

8,000

Unit 5

Unit 6

Unit 7

Units 1-3 =
3,800 - 0

Units 5-7 =
7,800 - 3,800



Well-defined stratigraphy in Rocky Cape

Faunal remains at these sites:

1. Molluscs (rocky shoreline species dominate)
2. Seal - 2 species
3. Land marsupials (wallabies, bandicoots, possums, wombats)
4. Birds
5. Fish (mostly parrot fish)

The fish data are interesting...

Stratigraphic units at Rocky Cape

Years BP

North Cave

South Cave

1,000

Unit 1

2,000

3,000

Unit 2

4,000

Unit 3

Unit 5

5,000

Unit 4

Unit 6

6,000

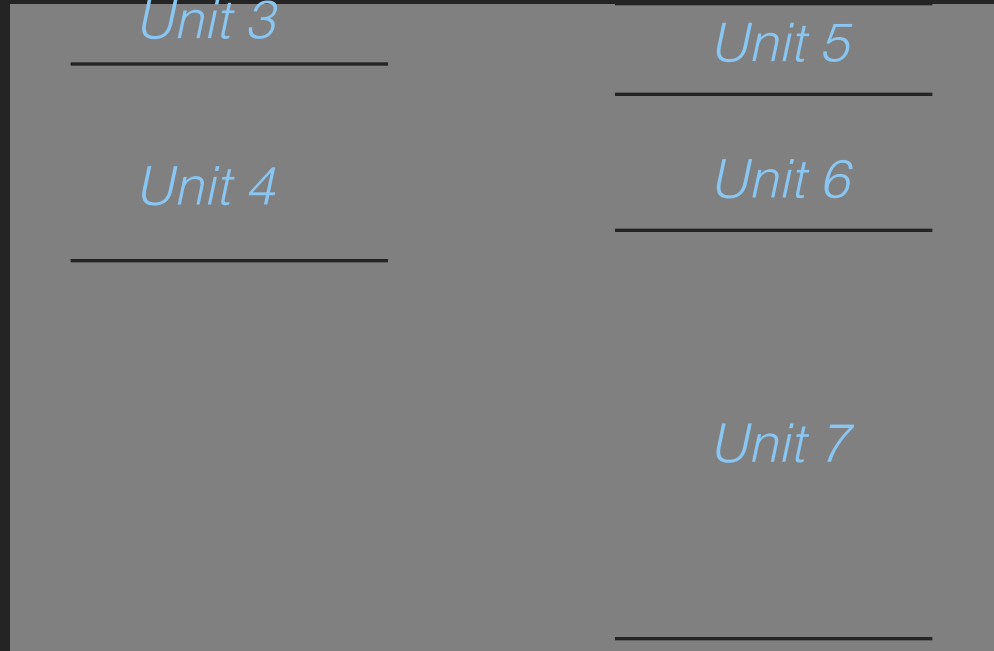
Fish

7,800 – 3,800

7,000

Unit 7

8,000



Meat Weights at Rocky Cape

(Standardized for an area 5m²)

	Units 1-3		Units 5-7	
	(Rocky Cape North)		(Rocky Cape South)	
	kg/100 yr (5m ²)	% meat	kg/100 yr (5m ²)	% meat
Marsupials	2.0	23	2.3	14
Seal	6.4	74	9.7	59
Bird	0.3	3	0.2	1
Fish	0	0	4.4	26
Total *	8.7		16.6	

* Excluding Molluscs

Meat Weights at Rocky Cape

(Standardized for an area 5m²)

	Units 1-3 (Rocky Cape North)		Units 5-7 (Rocky Cape South)		% Change by weight
	kg/100 yr (5m ²)	% meat	kg/100 yr (5m ²)	% meat	
Marsupials	2.0	23	2.3	14	+9
Seal	6.4	74	9.7	59	+14
Bird	0.3	3	0.2	1	+2
Fish	0	0	4.4	26	-26
Total *	8.7		16.6		

* Excluding Molluscs

Jones argued:

there was no ecological reason to stop eating fish

Jones argued:

there was no ecological reason to stop eating fish

cessation of fishing must have been an irrational cultural decision such as a dietary prohibition.

Jones argued:

there was no ecological reason to stop eating fish

cessation of fishing must have been an irrational cultural decision such as a dietary prohibition.

this would have imposed dietary hardship on occupants.

Jones argued:

there was no ecological reason to stop eating fish

cessation of fishing must have been an irrational cultural decision such as a dietary prohibition.

this would have imposed dietary hardship on occupants.

this was disadvantageous and best viewed as an "economic maladaptation".

Jones argued:

there was no ecological reason to stop eating fish

cessation of fishing must have been an irrational cultural decision such as a dietary prohibition.

this would have imposed dietary hardship on occupants.

this was disadvantageous and best viewed as an "economic maladaptation".

Jones thought other maladaptive processes were apparent at Rocky Cape - such as the disappearance of bone points.

Bone artefacts at Rocky Cape

Years BP

North Cave

South Cave

1,000

Unit 1

2,000

3,000

Unit 2

4,000

Unit 3

5,000

Unit 4

6,000

7,000

8,000

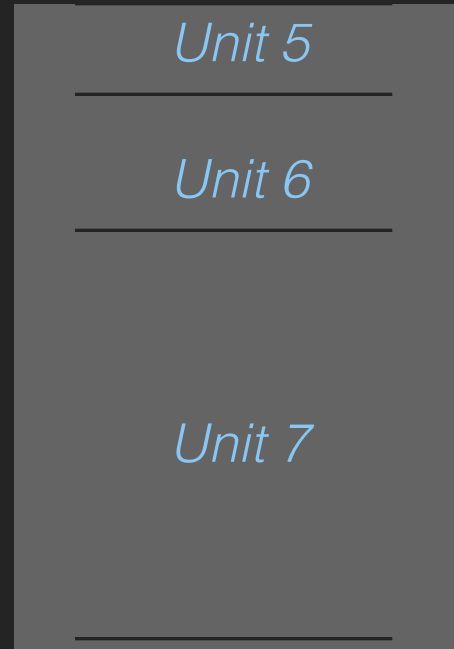
Unit 5

0.3/100 years

Unit 6

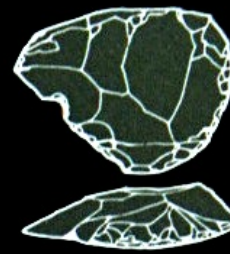
1.3/100 years

Unit 7

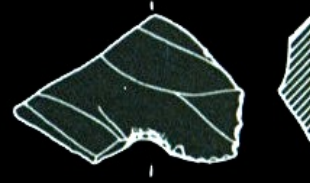




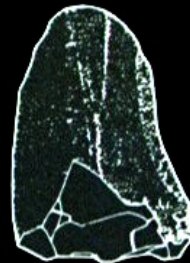
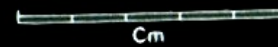
Platform core



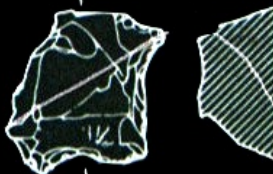
Round-edge scraper



Notched scraper



Steep-edge scraper



Concave-nosed



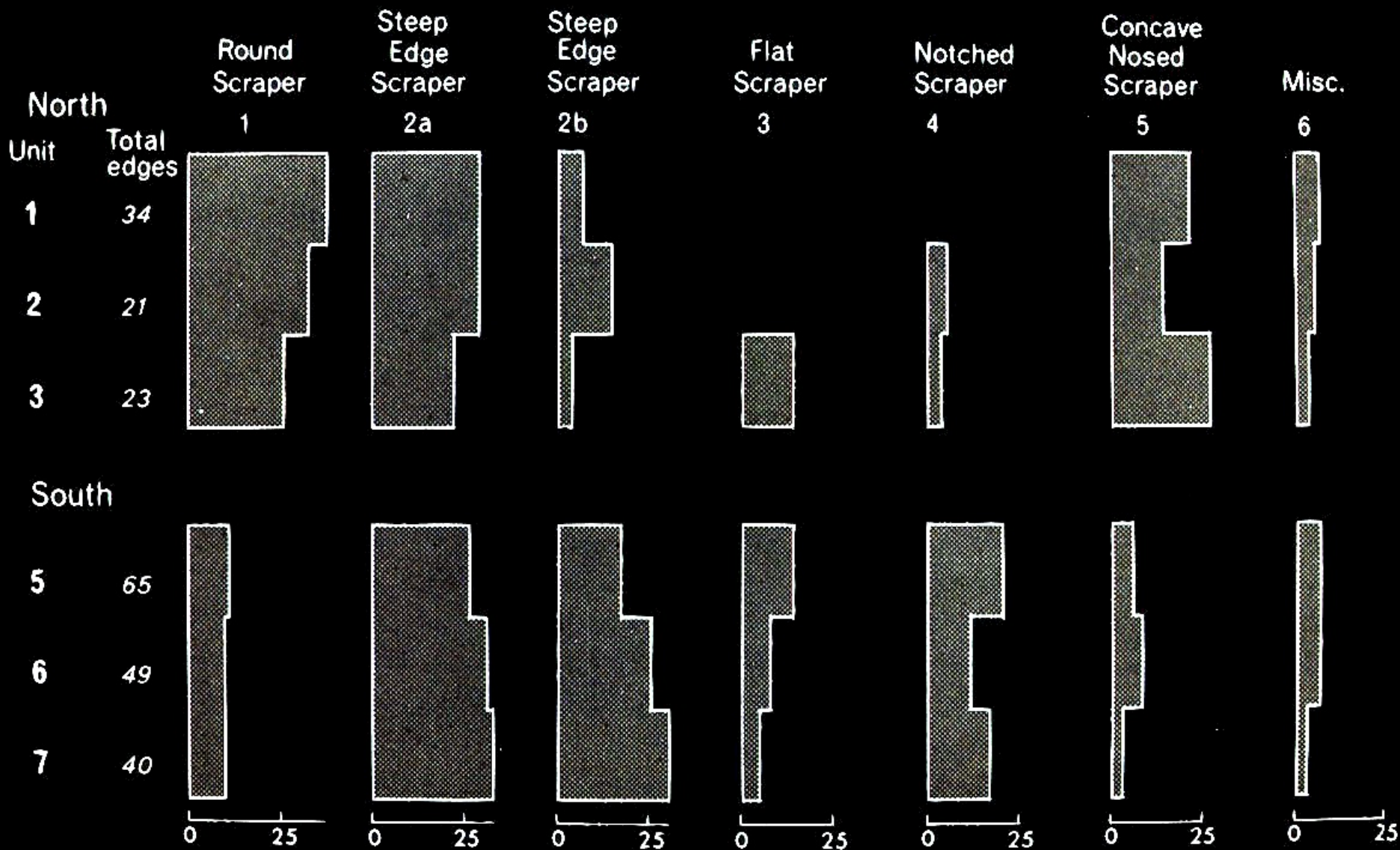
Straight-edge



Pebble chopper

Seven types of stone implements were defined by RJ:

1. Round edge scraper
2. Steep edge scraper
3. Flat scraper
4. Notched scraper
5. Concave-nosed scraper
6. Other scrapers
7. Pebble chopper



No new types appear

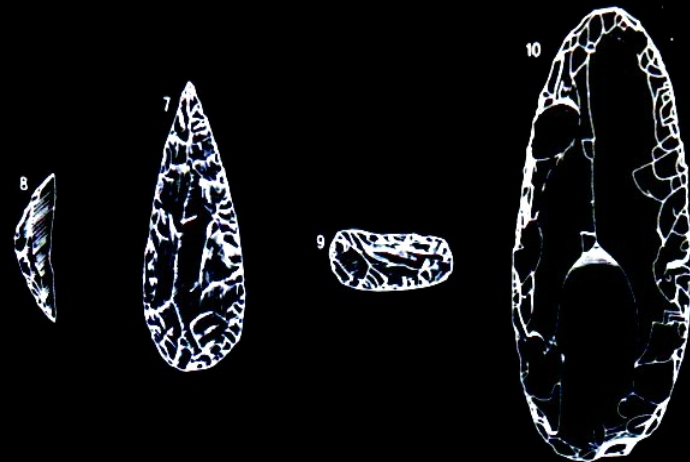
Some types disappear at the top of the sequence

Europe

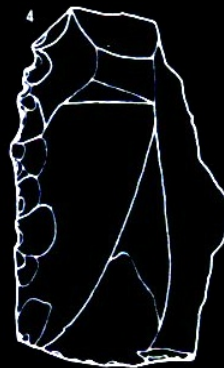
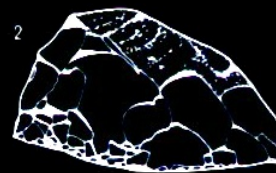
Some tools of European Upper Palaeolithic
(after Bordes)



Mainland Australia



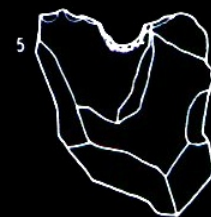
Oldowan



Mousterian
(after Bordes)



Nose

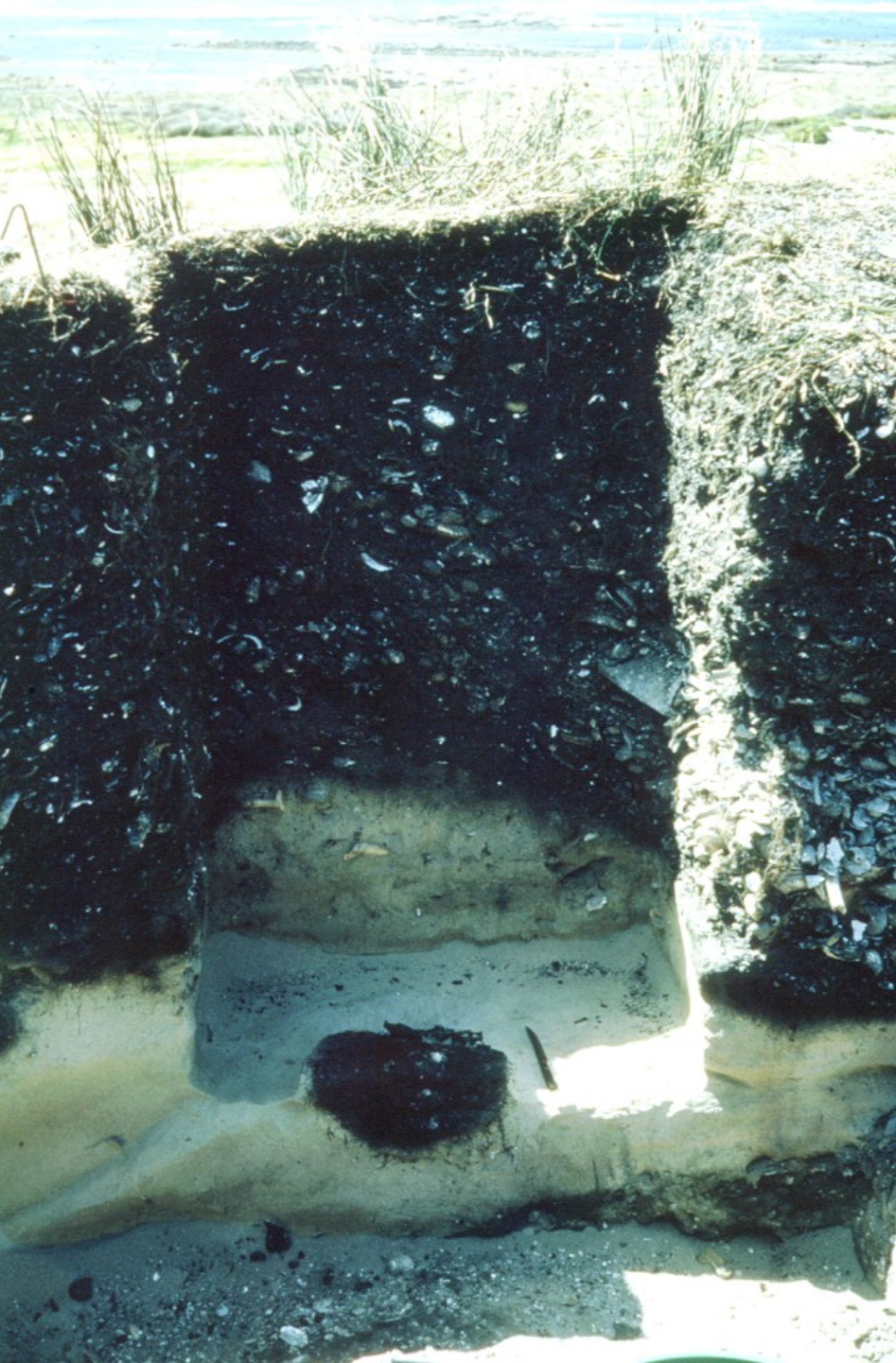




West Point.



C14 ages of 2,600 – 1,000 BP.



Seal and Mollusc
remains.

No fish.

No bone tools.

VICTORIA



TASMANIA

Cave Bay Cave on
Hunter Island, NW
Tasmania.

A Holocene midden has
a basal date of 7,200 BP.

Contains fish bones and
bone points.

An upper midden is dated to less
than 2,500 BP.

It has no fish remains or bone tools.

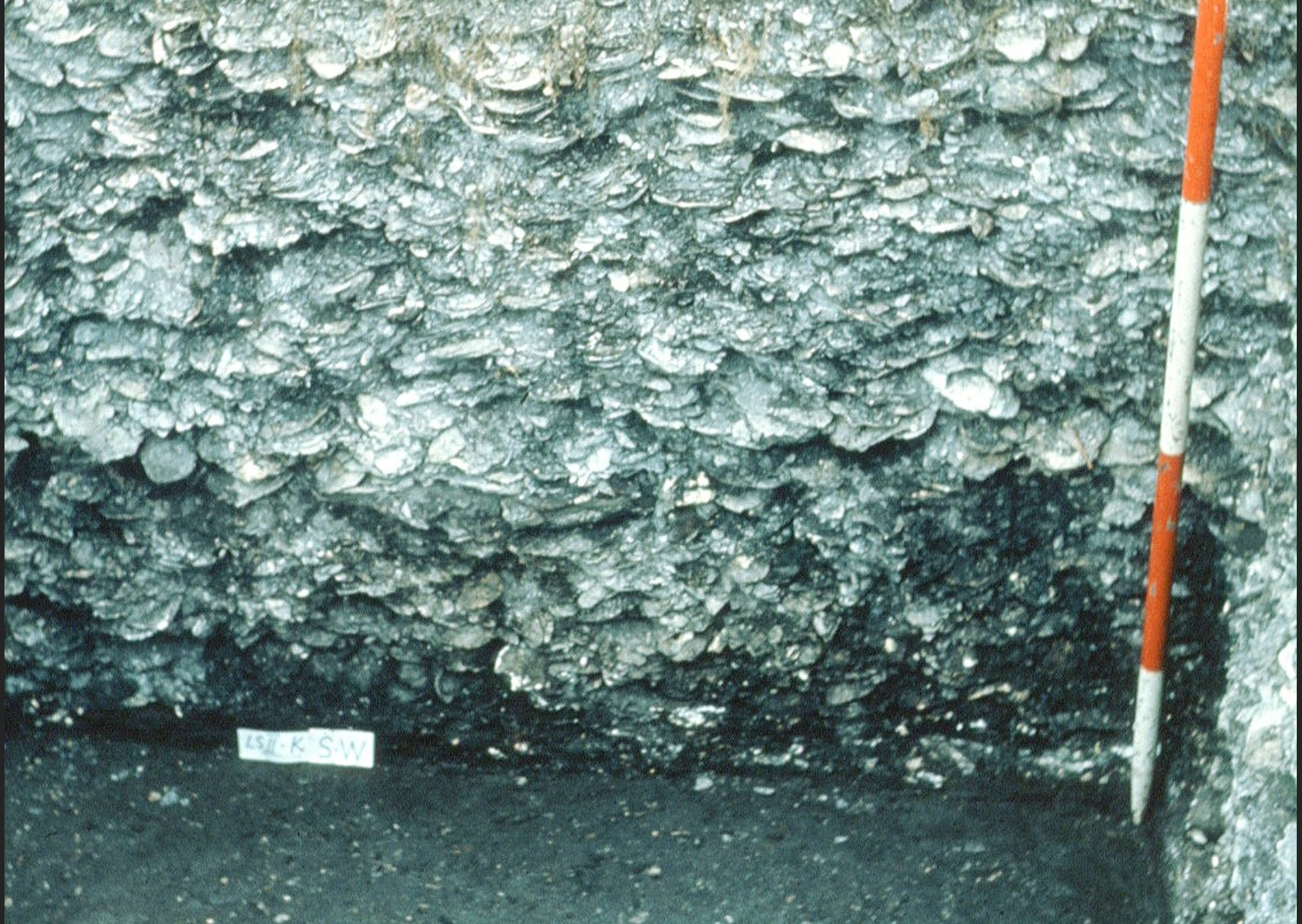




Little Swanport, on the east coast, north of Hobart.



Located on a small peninsula overlooking a muddy estuary, the site was dug by Lourandos in 1968.



Fish bones and bone tools disappear in levels above 3,700.

Jones developed a model of Tasmanian prehistory, drawing together archaeology and ethnohistory:

1. Tasmanians had a very simple material culture at contact.
2. Low population density.
3. Lack of ceremonies.



Ceremonies disappeared.

Mount Cameron West.





Jones Model

Rhys Jones concluded that Tasmanian society was increasingly making maladaptive choices, losing skills and failing to develop replacements.



"...the culture, remote for thousands of years from any outside stimulus, was becoming simplified and losing some of its 'useful arts'...3,000 people were not enough to support and maintain a culture..."

Jones Model



“...The world’s longest isolation, the world’s simplest technology. Were 4000 people enough to propel forever the cultural inheritance of Late Pleistocene Australia? Even if Able Tasman had not sailed the winds of the Roaring Forties in 1642, were they in fact doomed – doomed to a slow strangulation of the mind?”

Tasmania adapting

Jones' claims about Tasmanian material culture:

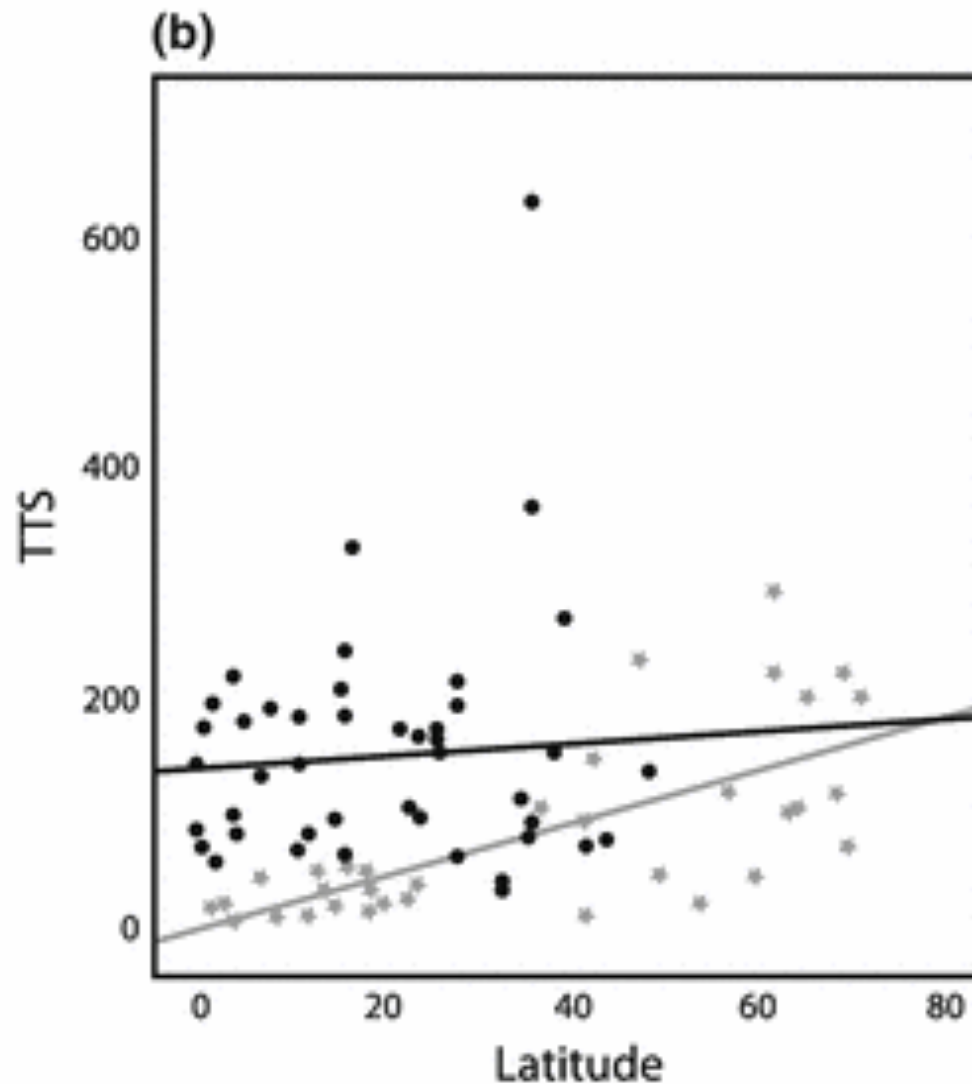
1. At European contact Tasmanian material culture was the simplest in world.
2. This simplicity results from the loss of items previously made and used.
3. That loss reflects a failure to deal adequately with the environment.



How do we measure the complexity of artefacts?

1. We must compare similar categories of artefacts
2. Examine artefacts involved in food procurement – they have the most direct bearing on the exploitation of the environment.
3. You can't simply count up number of finished items, because some items are more complex than others.
4. What is important is the number of components, called technounits, which make up the item.
5. Look at all procurement items made and sum the number of technounits employed, and you arrive at a measure of the complexity of a societies material culture.





There are global patterns in prehistoric technological complexity

Fig. 2 The relationship between latitude and **a** the number of different tool types (STS) and **b** the complexity of the tools as measured by the number of technounits (TTS) used by hunter-gatherer groups and food-producing groups

Group

Technounits

Mbuti

20

Pintubi

21

Tunuvivi

21

Nanda

23

Nauo

24

Tasmanians

25

Ngadadjara

28

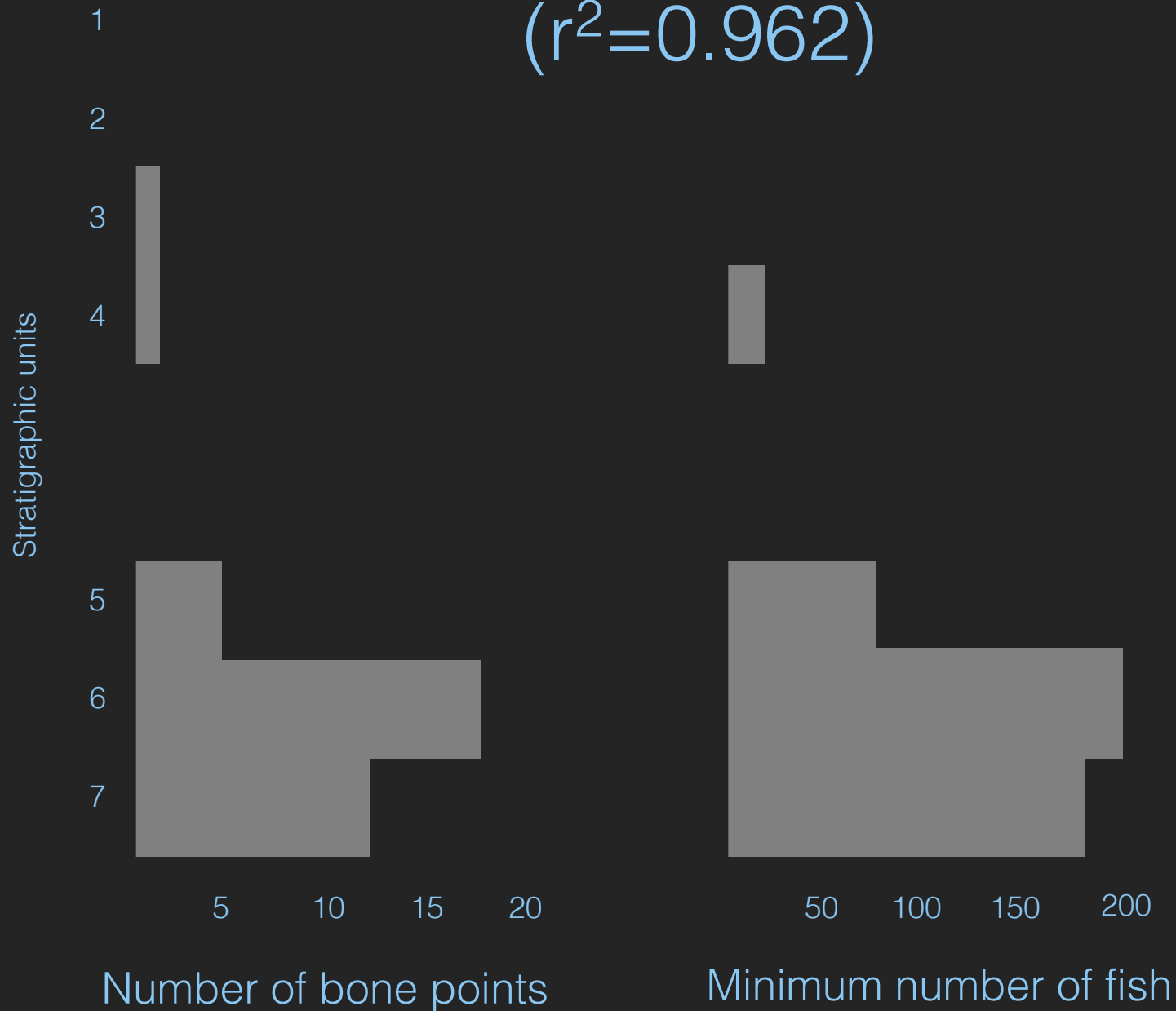
Not the simplest in world

Simplicity results from loss?



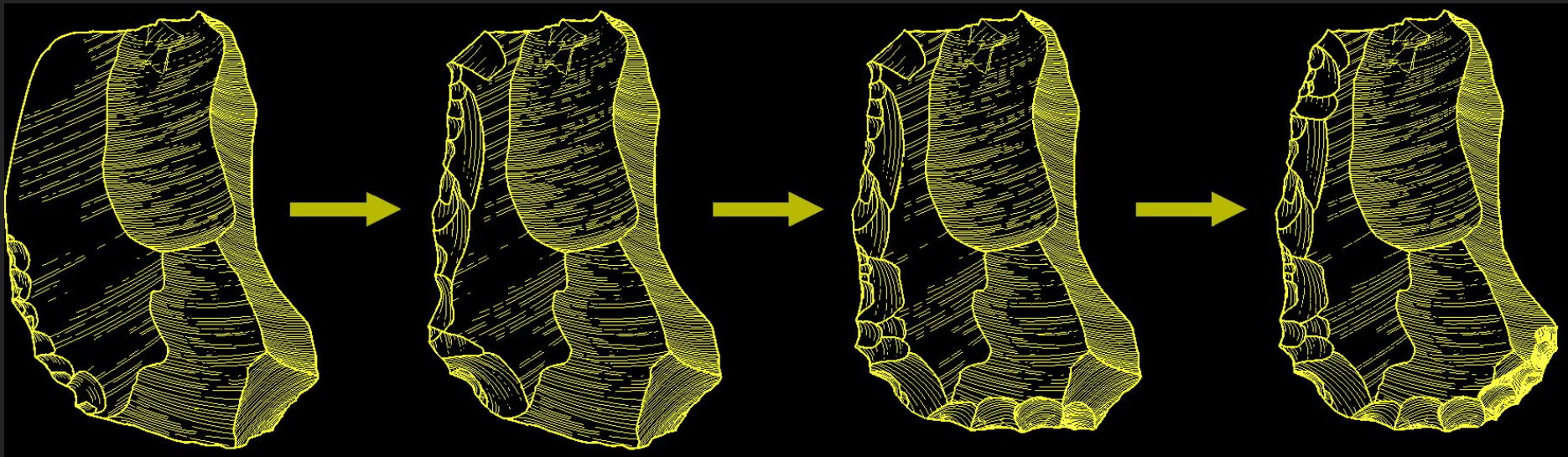
Rocky Cape

($r^2=0.962$)



Some more details on the stone artefacts at Rocky Cape

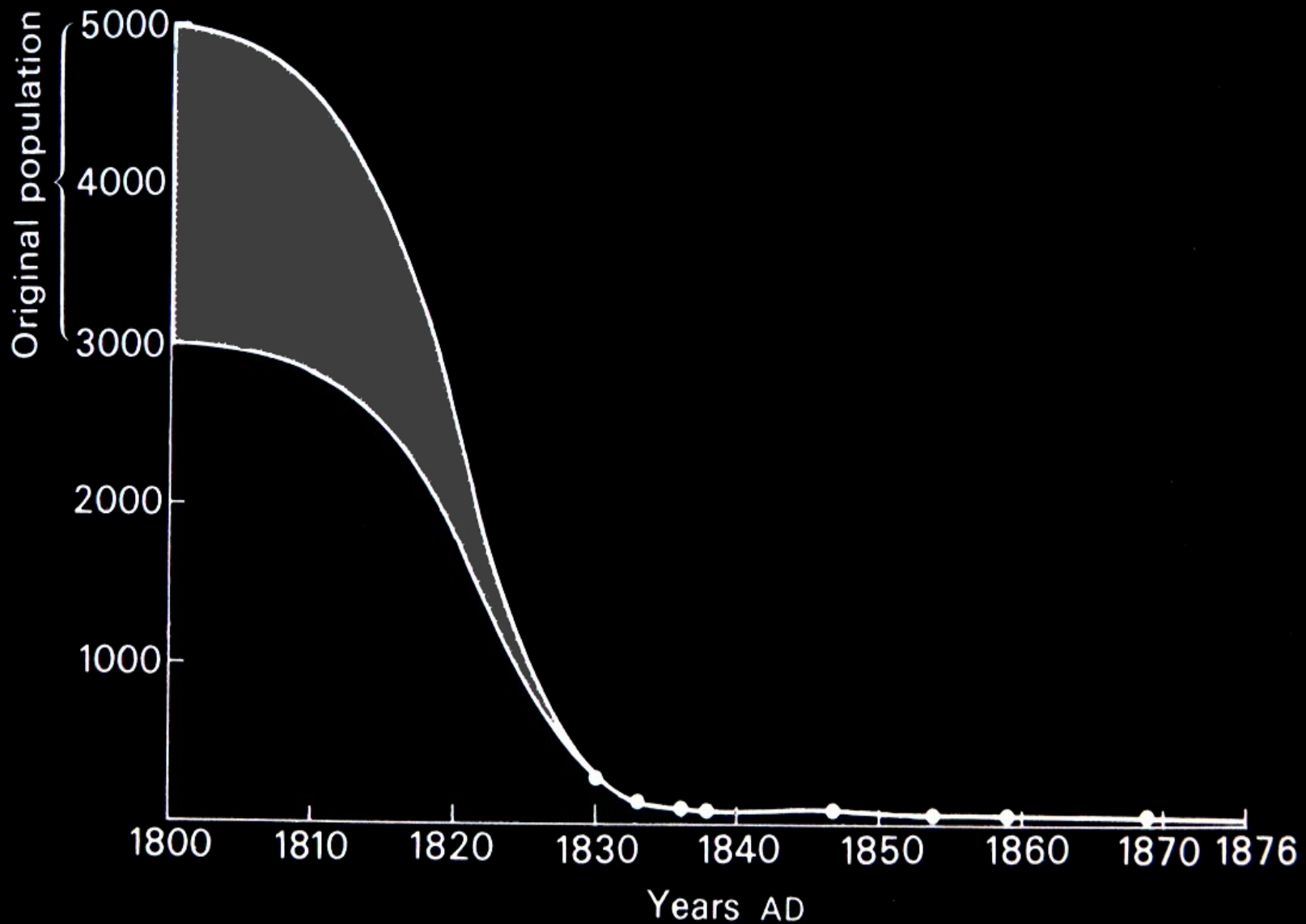
Units	% Non-local Artefacts	% Retouched flakes	# Local artefacts / 100 years	# Non-local artefacts / 100 years
1-3	16.2	15.6	15.1	2.9
5-7	0.8	5.3	174.4	1.4



In lower part of the Rocky Cape sequence (units 5-7) artefacts made from mostly local stone.

In upper part of the sequence (units 1-3), in last 3,800 years, there is a distinct increase in material obtained c.40km inland.

This material would be relatively rare, expensive and time consuming to obtain.



Theories built on the supposed small size of the Tasmanian population should be doubted because the population estimates are untrustworthy

Dogs as an example of cultural change.



Loss reflects a failure to deal with the environment?



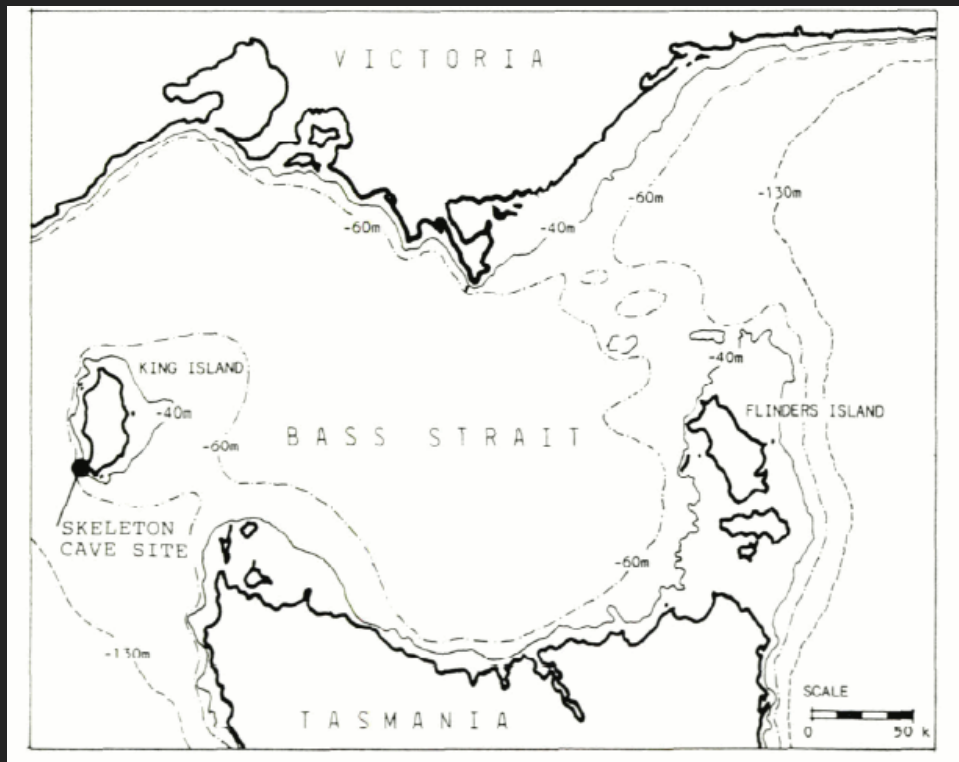
What's the
story with
fish?

Meat Weights at Rocky Cape

(Standardized for an area 5m²)

	Units 1-3		Units 5-7		% Change by weight
	(Rocky Cape North)		(Rocky Cape South)		
	kg/100 yr (5m²)	% meat	kg/100 yr (5m²)	% meat	
Marsupials	2.0	23	2.3	14	+9
Seal	6.4	74	9.7	59	+14
Bird	0.3	3	0.2	1	+2
Fish	0	0	4.4	26	-26
Total *	8.7		16.6		

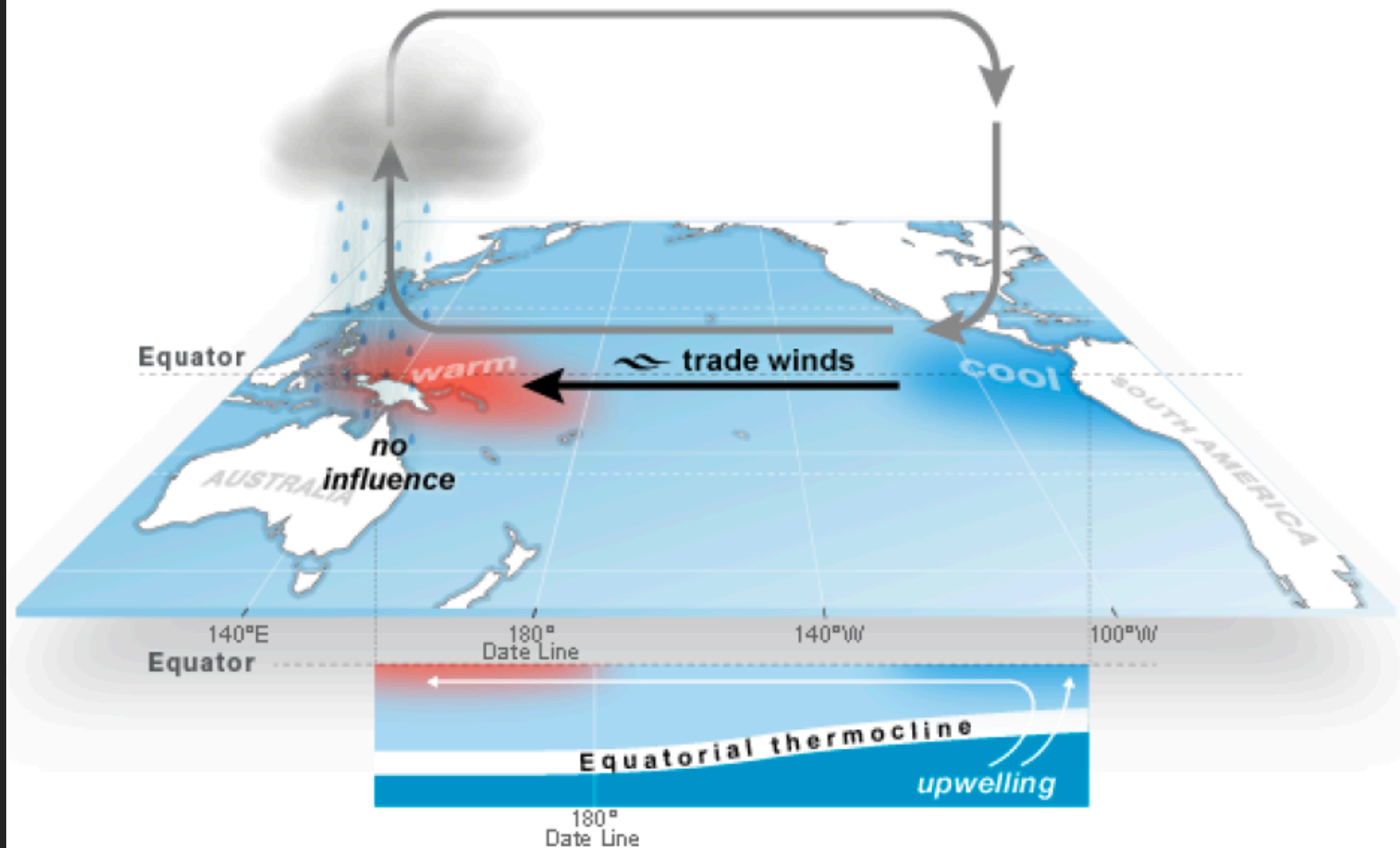
* Excluding Molluscs



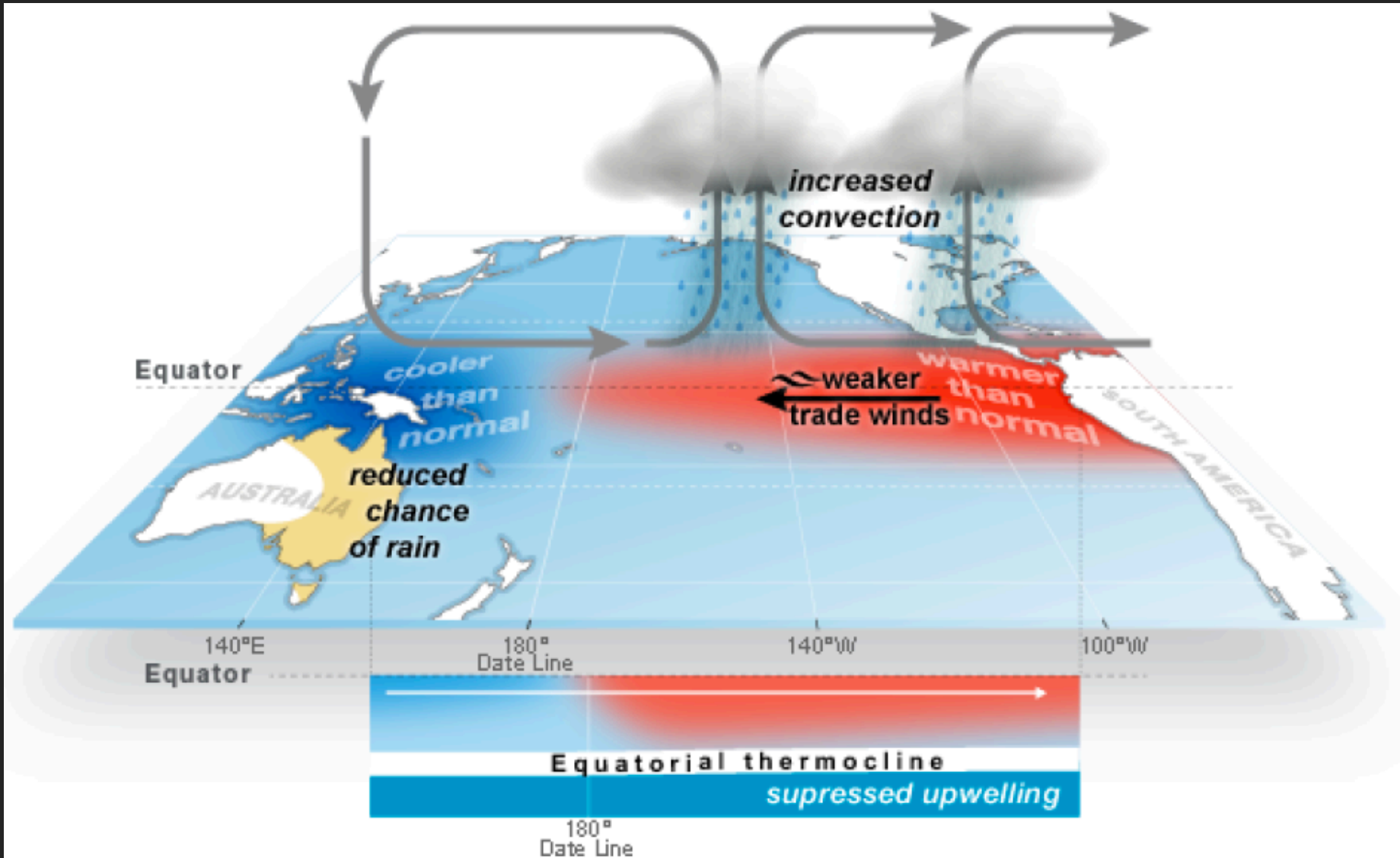
Robin Sim
found middens
dating to 5,000
BP on King
and Flinders Is,

Only sporadic occupation during
4,000-3,000 and no historic
occupants

Abandonment attributed to ENSO



El Niño-Southern Oscillation (ENSO): **Neutral**



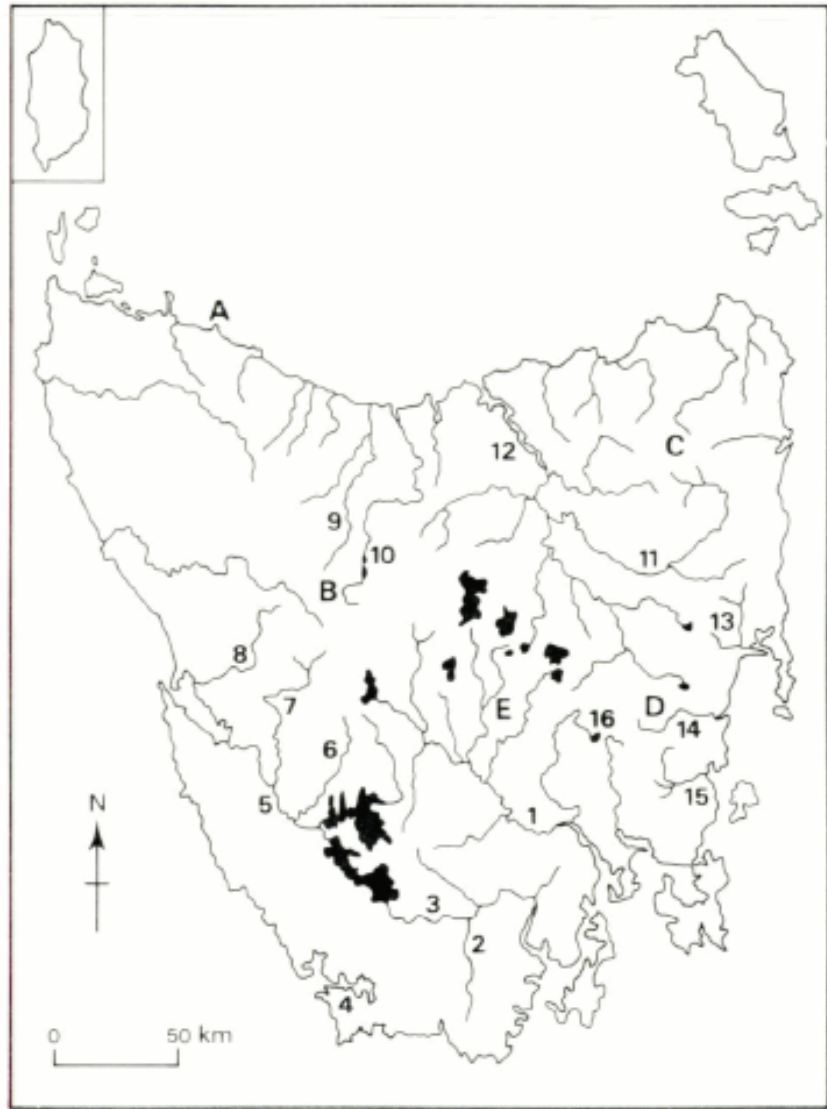
El Niño–Southern Oscillation (ENSO): **El Niño**





Cave Bay Cave, was abandoned when the sea cut it off about 8,000 years ago but was visited by coastal foragers during the past 4,500 years

What is going
on away from
the coast during
this time?



Warragarra Rockshelter contains archaeological deposits created over the past 10,000 years.

It is located at the base of a rainforest-covered slope and overlooks grassy plain which has probably been there for the past 4,000 years.





Lourandos' excavations showed it had an older stratum, containing macropod and possum bones and artefacts made from locally available stone; evidence of hunting 4,000–11,000 years ago, possibly only for a brief period in the terminal Pleistocene or early-Holocene





Later strata began to accumulate between 3,850 and 3,400 years bp and contain evidence of hunting, with many hearths, substantially more animal bones and stone artefacts, and artefacts made from stone carried from outside the local valley.





Greater quantities of food and manufacturing debris in Warragarra at 3,400 bp signal more intensive occupation

Other inland sites, such as Turrana Rockshelter, 1,000 metres above modern sea level, display trends similar to the one at Warragarra.

During the past 4,000 years, when climatic shifts opened up the central Tasmanian forests, foragers began exploiting inland valleys more thoroughly and regularly.

Summary

These data indicate that the cessation of fishing coincided with much greater resource procurement further inland.

It is likely that the terrestrial foods more than made up for the loss of fish, resulting in a net gain of energy for Tasmanian society.

It is not easy to sustain the view that Tasmanians were maladapted and degenerating.

How can we explain Jones' view?

Summary

Tasmanians probably stopped eating fish because of a focus on inland resources

Economic responses to changing coastal landscapes during the Holocene were diverse: not a single pathway or direction for economic change

Did foragers struggle to cope with changing coastal environments during the Holocene?

THE END



A
Warner Bros.-First National
PICTURE