

3.10 SkillBuilder: Developing a hypothesis

3.10.1 Tell me

Interpreting the evidence of life in ancient Australia: Lake Mungo

In their work of studying the ancient past, archaeologists are dealing with evidence that is in tiny pieces. They must rely on the physical landscape and archaeological evidence to tell the story. Very little material from ancient Australia has survived the thousands of years between their time and ours. Shell, bone and teeth will endure; animal hides, plant fibres, feathers and hair will not.

Archaeologists are involved in the work of detectives as they:

- search for evidence
- analyse the evidence, separating relevant from irrelevant information
- draw conclusions based on the evidence
- combine the evidence with background knowledge to develop a hypothesis.

Lake Mungo is a site of enormous archaeological importance because it provides some understanding of life as it may have been over 40 000 years ago. Our image of life at Lake Mungo is built from the limited archaeological evidence and from our modern understanding of traditional life as it existed in Aboriginal communities in more recent times. It is easy for us to imagine that the lives of Aboriginal and Torres Strait Islander communities remained unchanged for generations. We have built a picture of Indigenous peoples as nomadic hunters, stalking kangaroos or dugongs and living in small independent tribal communities; beliefs, such as the Dreaming, reach back into the distant past and give us a sense of the connection between the past and the present. But we also have a great deal of evidence pointing to the diversity, or mixture of cultural traditions, of ancient Indigenous communities.

What is a hypothesis?

A hypothesis is an explanation, made on the basis of limited evidence, and is a place to begin a more detailed study or investigation. Anyone who develops a hypothesis is making a guess, based on the evidence they have. When a hypothesis is well supported with solid evidence we call it a *theory*.

The difference between theories and hypotheses is known as the *contestability* of history. It reminds us that history is about interpreting the evidence. How the past is understood and interpreted is influenced by the point of view of the historian. If we look at people and events from our own modern Australian point of view we can sometimes misunderstand what has happened. We all have a cultural background that influences us. Our understanding of the world is shaped by many things such as our nationality, values, beliefs, personal experiences and interests.

Archaeologists study the evidence that has survived to explain and understand ancient life at Lake Mungo. Because the archaeological evidence of Lake Mungo is limited, archaeologists have developed more than one hypothesis to explain the nature of Lake Mungo life long ago.

3.10.2 Show me

Look carefully at **SOURCE 1**, an artist's reconstruction of Pleistocene life at Lake Mungo. This image gives a general view of Lake Mungo life, using details that have been borrowed from what we know of later Aboriginal tools, technology and traditions. The image shows Aboriginal people from the Pleistocene Period living in much the same way as Aboriginal people did in south-east Australia at the time of European settlement, two thousand generations later.

SOURCE 1 An image of life during the Pleistocene Period at Lake Mungo, by Giovanni Caselli. The visual reconstruction was based on research published in Bernard Wood's book *The Evolution of Early Man*, published in 1977.



- A** Remains of animal species such as bandicoot, rat, kangaroo, wallaby, wombat and small marsupials such as **bettong** were found in the fireplaces at Mungo. Fireplace evidence suggests that hunters returned to the community site for cooking and eating. Remains of birds, emu eggs and frogs were also found at the site.
- B** Remains of shellfish and golden perch have been found, as have the shallow fireplace ovens. Perch were probably caught in deeper lake water as indicated in the image of people fishing in the background.
- C** Fish traps and fish netting were also probably used. The fish trap shown was not found at the Lake Mungo site and is based on artefacts found in south-east Australia dating from a much later period.
- D** The stone tools shown do not closely correspond with the style of tools found at the Pleistocene Period Lake Mungo site. Grinding stones, as shown, were not found at Lake Mungo, with no evidence of the collection of seeds for grinding before 15 000 BP. Grinding stones found in south-east Australia from much later periods were flat, unlike the rounded stone in the image.
- E** The clothing and physical appearance of the people are based on images of Aboriginal people from more recent times. Cloaks, body decoration and headbands have not been found. Necklaces made from animal teeth and bones have been found. The baskets and spears are based on artefacts found in the region from much later time periods.
- F** Axe heads have not been found at the Pleistocene site.
- G** Bone artefacts similar to those shown have been found in excavation. Archaeologists think these may have been used for sewing or fishing, but definitive evidence has never been found.

SOURCE 2 Excerpt from Bernard Wood's *The Evolution of Early Man*, describing ancient life at Lake Mungo

Recent research in Australia has shown that thriving communities were established there nearly 30 000 years ago. These people lived on narrow strips of land between land, lakes and the huge sand dunes that stretched out into the desert. Fish bones, shell remains and animal bones are evidence that they learned to exploit the lakes as well as the land. Hearths where they cooked their food have been excavated, and it is the carbon from charred bones that has provided the dating evidence.

The following steps will help you analyse the evidence and establish your own hypothesis and investigate the various Lake Mungo hypotheses that archaeologists have put forward:

1. *Begin with a question.* For example, ‘What is the key feature of the Lake Mungo lifestyle during the Pleistocene Period?’
2. *Based on your question, write a central statement that becomes your hypothesis.* For example, ‘The people of the Pleistocene Period lived in small hunting and foraging family units’. Your central statement, or hypothesis, should be arguable.
3. *Investigate your thesis.* Consider the other possibilities to explain the nature of Pleistocene life at Lake Mungo; for example, ‘The people of the Pleistocene Period lived in large communities supported by hunting and foraging a wide area of land’.
4. *Conduct some research into theories developed by archaeologists.* Peter Hiscock, for example, investigated the Lake Mungo site to develop his own visions and theories about life during this period. Hiscock’s study of the evidence challenges the Lake Mungo theory expressed in the sources.

The annotations in **SOURCE 1** provide you with questions to consider when assessing the usefulness of the source as evidence of the Pleistocene lifestyle.

3.10.3 Let me do it

Complete the following activities to practise this skill.

3.10 ACTIVITIES

Form a hypothesis about life at Lake Mungo and use the steps outlined to write a paragraph explaining why your hypothesis is correct, based on your preliminary research. Refer to the information in **SOURCES 1** and **2** to help develop your hypothesis.

Present your Lake Mungo hypothesis to your class in a creative way. **SOURCE 1** is a visual representation of a hypothesis. You could present your hypothesis as a poster, short speech or story.