

READING PASSAGE 1

Australian artist Margaret Preston

Margaret Preston's vibrant paintings and prints of Australian flowers, animals and landscapes have delighted the Australian public since the early 1920s.

Margaret Preston was born Margaret Rose McPherson in Port Adelaide, South Australia in 1875, the daughter of David McPherson, a Scottish marine engineer and his wife Prudence Lyle. She and her sister were sent at first to a private school, but when family circumstances changed, her mother took the girls to Sydney where Margaret attended a public high school. She decided early in life to become an artist and took private art lessons. In 1888, she trained for several months with Sydney landscape painter William Lister, and in 1893 enrolled at the National Gallery of Victoria Art School, where she studied for just over four years.

In 1898, after her father died, Margaret returned to Adelaide to study and then teach at the Adelaide School of Design. Her early artwork was influenced by the German aesthetic tradition, in which subjects of the natural world were depicted in a true to life manner.

Margaret's first visit to Europe in 1904, and her studies in Paris, France had little impact on this naturalism that dominated her work from this early period. However, some eight years later, after returning to Paris, she began to recognise the decorative possibilities of art.

With the outbreak of the First World War, Margaret traveled to England, where she had exhibitions and continued her studies of art. She was a student of pottery, but at some time developed her interest in various techniques of printmaking and design. In England's West Country, she taught basket weaving at a rehabilitation unit for servicemen. It was on board a boat returning to Australia that she met wealthy businessman William Preston, whom she married in 1919. Together Margaret and William settled in the Sydney harbourside suburb of Mosman. The most characteristic prints from her early years in Sydney are views of boats floating on Sydney Harbour and of houses clustered on foreshore hills. Although Sydney was their home, the couple traveled regularly, both overseas and within Australia.

Her first major showing in Australia was with her friend Thea Proctor, in exhibitions in Melbourne and Sydney in 1925. Many of Preston's prints were hand-coloured in rich scarlet reds, blues and greens, and all of them were set in Chinese red lacquer frames. Harbour views were again prominent, but in comparison with earlier artworks, they were compact and busy, using striking contrasts of black and white combined with elaborate patterns and repetitions. Other prints from this period featured native flora. It

was with these still-life subjects that she convinced the public that Australian native flowers were equal in beauty to any exotic species.

From 1932 to 1939, Preston moved away from Sydney and lived with her husband at Berowra, on the upper reaches of the Hawkesbury River. The area was one of rugged natural beauty, and for the first time Preston found herself living in a home surrounded by bush. Prior to this, the native flowers that featured in her paintings and prints had been purchased from local florists; they now grew in abundance around her home. Preston's prints became larger, less complex and less reliant on the use of bright colours. Flowers were no longer arranged in vases, and Preston began to concentrate instead on flowers that were growing wild.

While living at Berowra, and undoubtedly prompted by the Aboriginal' rock engravings found near her property, Preston also developed what was to be a lifelong interest in Aboriginal art. On returning to Sydney in 1939, she became a member of the Anthropological Society of New South Wales, and later visited many important Aboriginal sites throughout Australia. Preston believed that Aboriginal art provided the key to establishing a national body of art that reflected the vast and ancient continent of Australia.

During the 1940s, symbols used by Aboriginal people, together with dried, burnt colours found in traditional Aboriginal paintings, became increasingly prominent in her prints. The artist's titles from this period frequently acknowledge her sources, and reveal the extent to which she drew inspiration from traditional Aboriginal art to create her own art.

It was in 1953, at the age of 78, that Preston produced her most significant prints. The exhibition at Macquarie Galleries in Sydney included 29 prints made using the ancient technique known as stenciling. Many of the artworks in the exhibition incorporated her fusion of Aboriginal and Chinese concepts. Preston had admired Chinese art since 1915, when she acquired the first of her many books on the subject, and she had visited China on two occasions. Chinese elements may be found in several of her earlier paintings.

However, in her prints of the 1950s, Preston combined Chinese ideas with her understanding of the Dreamtime' creation stories of Aboriginal Australians. Preston did not let age alter her habit of working hard. As she got older, her love of painting, printmaking and travel continued. By the time of her death in 1963, when she was 88, she had produced over 400 paintings and prints. In a career spanning almost 60 years, she created a body of work that demonstrates her extraordinary originality and the intensity of her commitment to Australian art.

Questions 1 - 7

Do the following statements agree with the information given in Reading Passage?

In boxes 1-7 on your answer sheet, write

TRUE if the statement agrees with the information

FALSE if the statement contradicts the information

NOT GIVEN if there is no information on this

- 1 _____ Artists in the German aesthetic tradition portrayed nature realistically.
- 2 _____ Margaret attended a famous art college in Paris.
- 3 _____ Margaret met her husband William while teaching a craft at a rehabilitation unit.
- 4 _____ Margaret Preston and Thea Proctor explored similar themes in their art.
- 5 _____ Margaret's 1925 artworks of Sydney Harbour were simpler than her previous ones.
- 6 _____ The colours in Margaret's Berowra prints were very bright.
- 7 _____ When living in Berowra, Margaret painted flowers in their natural location.

Questions 8 - 13

Complete the notes below.

Choose ONE WORD AND/OR A NUMBER from the passage for each answer. Write your answers in boxes 8-13 on your answer sheet.

Margaret Preston's later life

Aboriginal influence

- interest in Aboriginal art was inspired by seeing rock engravings close to her Berowra home
- incorporated 8 _____ and colours from Aboriginal art in her own work often referred to Aboriginal sources in the 9 _____ she gave her artworks

1953 exhibition

- very old method of 10 _____ was used for some prints
- was inspired by 11 _____ about Chinese art that she had started collecting in 1915
- combination of Chinese and Aboriginal elements

Old age

- still interested in 12 _____ and art
- worked for nearly six decades making more than 13 _____ artworks
- dedicated to Australian art and the originality of her work is seen in Preston's long career

READING PASSAGE 2

The Ecological Importance of Bees

Paragraph A

Sometime in the early Cretaceous period of the Earth's history, hunting wasps of a certain type became bees by adopting a vegetarian diet: they began to rely more and more on the pollen of plants as a source of protein for themselves and their offspring, as an alternative to insects. In so doing, they accidentally transported pollen on their bodies to other plants of the same species, bringing about pollination. The stage was thus set for a succession of ever-closer mutual adaptations of bees and flowering plants. In particular, flowers began to reward bees for their unwitting role in their reproduction by providing richer sources of pollen and another source of nutrition, nectar.

Paragraph B

Today about 15 per cent of our diet consists of crops which are pollinated by bees. The meat and other animal products we consume are ultimately derived from bee-pollinated forage crops, and account for another 15 per cent. It follows that around one third of our food is directly or indirectly dependent on the pollinating services of bees. On a global basis, the annual value of agricultural crops dependent on the pollination services of bees is estimated at £1,000 million (US\$1,590 million). Much of this pollination is due to honey bees, and in monetary terms, it exceeds the value of the annual honey crop by a factor of fifty.

Paragraph C

But the apparently harmonious relationship between bees and plants conceals a conflict of interests. Although flowers need bees and vice versa, it pays each partner to minimise its costs and maximise its profits. This may sound like an extreme case of attributing human qualities to non-human species, but using the marketplace and the principles of double-entry bookkeeping as metaphors may give us some insights into what is really going on between bees and flowering plants. In the real world, both flower and bee operate in a competitive marketplace. A community of retailers, the flowers, seek to attract more or less discriminating consumers, the bees. Each flower has to juggle the costs and benefits of investing in advertising, by colour and scent, and providing

rewards, nectar and pollen. Clearly, a species that depends on cross-pollination is on a knife-edge: it must provide sufficient nectar to attract the interest of a bee, but not enough to satisfy all of its needs in one visit. A satiated bee would return to its nest rather than visit another flower. The bee, on the other hand, is out to get the maximum amount of pollen and nectar. It must assess the quality and quantity of rewards which are on offer and juggle its energy costs so that it makes a calorific profit on each foraging trip. The apparent harmony between plants and bees is therefore not all that it seems. Instead, it is an equilibrium based on compromises between the competing interests of the protagonists.

Paragraph D

This sounds remarkably like the ideas of the 18th-century economist Adam Smith. In his book, *The Wealth of Nations*, Smith postulated that in human society the competitive interactions of different 'economic units' eventually resulted in a balanced, or 'harmonious' society. One might predict, therefore, that economists would find the relationships between bees and plants of some interest. This is the case in Israel, where economists are collaborating with botanists and entomologists in a long-term study of the pollination biology of the native flora, in an attempt to understand the dynamics of the relationship between communities of bees and plants.

Paragraph E

This sort of study is of more than passing academic interest. It is important that authorities understand the dynamic relationships between plants and their pollinators. This is especially true when, say, devising conservation policies. A good example comes from the forests of tropical South America. Here, as in all rainforests, there is a high diversity of tree species. There may be more than 120 per acre, but in a given acre, there may only be one or two individuals of any one species. These trees are pollinated by large, fast-flying bees. There is evidence that certain types of bees learn the distribution of these scattered trees and forage regularly along the same routes. This is called 'trap-lining' and the bees forage for up to 23 km from their nests. The bees are therefore acting as long-distance pollinators.

Paragraph F

An issue of current concern in tropical forest conservation is that of trying to estimate the minimum sustainable size of 'islands' of forest reserves in areas where large-scale felling is taking place. There is much discussion on seed dispersal distances. But this is only one half of the equation, so far as the reproduction of trees is concerned. There is another question that must be addressed in order to calculate whether proposed forest reserves are close enough to the nearest large tract of forest: 'what is the flight range of these long-distance foragers?' We need to know much more about bees and their relationships with plants before this question can be answered

Paragraph G

Bees, then, are vital to our survival. Furthermore, much of the visual impact of human environments derives from vegetation, and most vegetation is dependent on bees for pollination. Thus, as pollinators of crops and natural vegetation, bees occupy key positions in the web of relationships which sustain the living architecture of our planet.

Questions 14 - 18

Reading Passage has seven paragraphs, A-G.

Choose the correct heading for paragraphs A, B, D, E, and F from the list of headings below.

Write the correct number, i-viii, in boxes 1-5 on your answer sheet.

List of Headings:

- i. Parallels between bee and human activities
- ii. An evolutionary turning point
- iii. A lack of total co-operation
- iv. The preservation of individual plant species
- v. The commercial value of bees
- vi. The structure of flowering plants
- vii. The pursuit of self-interest
- viii. The need for further research

14 Paragraph A: _____

15 Paragraph B: _____

Example: Paragraph C: vii

16 Paragraph D: _____

17 Paragraph E: _____

18 Paragraph F: _____

Questions 19 - 25

Complete the sentences below.

Choose **NO MORE THAN TWO WORDS AND/OR A NUMBER** from the passage for each answer.

Write your answers in boxes 6-12 on your answer sheet.

19 Hunting wasps used to feed on other _____, rather than on vegetation.

20 Flowering plants started to reward bees with rich pollen and an additional food in the form of _____.

21 Approximately _____ of human food production relies on the activity of bees.

22 If the process of _____ is to take place effectively, bees need to travel from one flower to another before going back to the nest.

23 Bees need to balance the _____ of each trip against the calorific rewards they obtain.

24 There can be over 120 different _____ in an acre of rainforest.

25 The bees that pollinate large forests regularly practise an activity known as _____.

Question 26

Choose the correct letter, **A, B, C, or D**. Write the correct letter in box 13 on your answer sheet.

Which is the best title for Reading Passage?

- A. The Ecological Importance of Bees
- B. The Evolutionary History of Bees
- C. The Social Behaviour of Bees
- D. The Geographical Distribution of Bees

READING PASSAGE 3

Pacific navigation and voyaging

How people migrated to the Pacific islands

The many tiny islands of the Pacific Ocean had no human population until ancestors of today's islanders sailed from Southeast Asia in ocean-going canoes approximately 2,000 years ago. At the present time, the debate continues about exactly how they migrated such vast distances across the ocean, without any of the modern technologies we take for granted.

Although the romantic vision of some early twentieth-century writers of fleets of heroic navigators simultaneously setting sail had come to be considered by later investigators to be exaggerated, no considered assessment of Pacific voyaging was forthcoming until 1956 when the American historian Andrew Sharp published his research. Sharp challenged the 'heroic vision' by asserting that the expertise of the navigators was limited, and that the settlement of the islands was not systematic, being more dependent on good fortune by drifting canoes. Sharp's theory was widely challenged, and deservedly so. If nothing else, however, it did spark renewed interest in the topic and precipitated valuable new research.

Since the 1960s a wealth of investigations has been conducted, and most of them, thankfully, have been of the 'non-armchair' variety. While it would be wrong to

denigrate all 'armchair' research - that based on an examination of available published materials - it has turned out that so little progress had been made in the area of Pacific voyaging because most writers relied on the same old sources - travelers' journals or missionary narratives compiled by unskilled observers. After Sharp, this began to change, and researchers conducted most of their investigations not in libraries, but in the field.

In 1965, David Lewis, a physician and experienced yachtsman, set to work using his own unique philosophy: he took the yacht he had owned for many years and navigated through the islands in order to contact those men who still find their way at sea using traditional methods. He then accompanied these men, in their traditional canoes, on test voyages from which all modern instruments were banished from sight, though Lewis secretly used them to confirm the navigator's calculations. His most famous such voyage was a return trip of around 1,000 nautical miles between two islands in mid-ocean. Far from drifting, as proposed by Sharp, Lewis found that ancient navigators would have known which course to steer by memorizing which stars rose and set in certain positions along the horizon and this gave them fixed directions by which to steer their boats.

The geographer Edwin Doran followed a quite different approach. He was interested in obtaining exact data on canoe sailing performance, and to that end employed the latest electronic instrumentation. Doran traveled on board traditional sailing canoes in some of the most remote parts of the Pacific, all the while using his instruments to record canoe speeds in different wind strengths - from gales to calms - the angle canoes could sail relative to the wind. In the process, he provided the first really precise attributes of traditional sailing canoes.

A further contribution was made by Steven Horvath. As a physiologist, Horvath's interest was not in navigation techniques or in canoes, but in the physical capabilities of the men themselves. By adapting standard physiological techniques, Horvath was able to calculate the energy expenditure required to paddle canoes of this sort at times when there was no wind to fill the sails, or when the wind was contrary. He concluded that paddles, or perhaps long oars, could indeed have propelled for long distances what were primarily sailing vessels.

Finally, a team led by p Wall Garrard conducted important research, in this case by making investigations while remaining safely in the laboratory. Wall Garrard's unusual method was to use the findings of linguists who had studied the languages of the Pacific islands, many of which are remarkably similar although the islands where they are spoken are sometimes thousands of kilometres apart. Clever adaptation of computer simulation techniques pioneered in other disciplines allowed him to produce convincing models suggesting the migrations were indeed systematic, but not simultaneous. Wall Garrard proposed the migrations should be seen not as a single journey made by a

massed fleet of canoes, but as a series of ever more ambitious voyages, each pushing further into the unknown ocean.

What do we learn about Pacific navigation and voyaging from this research? Quite correctly, none of the researchers tried to use their findings to prove one theory or another; experiments such as these cannot categorically confirm or negate a hypothesis. The strength of this research lay in the range of methodologies employed. When we splice together these findings we can propose that traditional navigators used a variety of canoe types, sources of water and navigation techniques, and it was this adaptability which was their greatest accomplishment. These navigators observed the conditions prevailing at sea at the time a voyage was made and altered their techniques accordingly. Furthermore, the canoes of the navigators were not drifting helplessly at sea but were most likely part of a systematic migration; as such, the Pacific peoples were able to view the ocean as an avenue, not a barrier, to communication before any other race on Earth. Finally, one unexpected but most welcome consequence of this research has been a renaissance in the practice of traditional voyaging. In some groups of islands in the Pacific today young people are resurrecting the skills of their ancestors, when a few decades ago it seemed they would be lost forever.

Question 27 - 31

Do the following statements agree with the claims of the writer in Reading Passage?

In boxes 1-5 on your answer sheet, write

YES if the statement agrees with the claims of the writer

NO if the statement contradicts the claims of the writer

NOT GIVEN if it is impossible to say what the writer thinks about this

27 The Pacific islands were uninhabited when migrants arrived by sea from Southeast Asia

28 Andrew Sharp was the first person to write about the migrants to islanders

29 Andrew Sharp believed migratory voyages were based on more on luck than skill

30 Despite being controversial, Andrew Sharp's research had positive results

31 Edwin Doran disagreed with the findings of Lewis's research

Questions 32 - 38

Choose the correct letter, A, B, C or D.

Write the correct letter in boxes 6-10 on your answer sheet.

32 David Lewis's research was different because

- A he observed traditional navigators at work
- B he conducted test voyages using his own yacht
- C he carried no modern instruments on test voyages
- D he spoke the same language as the islanders he sailed with

33 What did David Lewis's research discover about traditional navigators?

- A They used the sun and moon to find their position
- B They could not sail further than about 1,000 nautical miles
- C They knew which direction they were sailing in
- D They were able to drift for long distances

34 What are we told about Edwin Doran's research?

- A Data were collected after the canoes had returned to land
- B Canoe characteristics were recorded using modern instruments
- C Research was conducted in the most densely populated regions
- D Navigators were not allowed to see the instruments

35 Which of the following did Steven Horvath discover during his research?

- A Canoe design was less important than human strength
- B New research methods had to be developed for use in canoes
- C Navigators became very tired on the longest voyages
- D Human energy may have been used to assist sailing canoes

36 What is the writer's opinion of Wall Garrard's research?

- A He is disappointed it was conducted in the laboratory
- B He is impressed by the originality of the techniques used
- C He is surprised it was used to help linguists with their research
- D He is concerned that the islands studied are long distances apart

Questions 37 - 40

Complete each sentence with the correct ending, A-F, below.

Write the correct letter, A-F, in boxes 11-14 on your answer sheet.

- 37 One limitation in the information produced by all of this research is that it
- 38 The best thing about this type of research
- 39 The most important achievement of traditional navigators
- 40 The migration of people from Asia to the Pacific

- A was the variety of experimental techniques used
- B was not of interest to young islanders today
- C was not conclusive evidence in support of a single theory
- D was being able to change their practices when necessary
- E was the first time humans intentionally crossed an ocean
- F was the speed with which it was conducted