NOTICE OF GENERAL MEETING

The 3rd General Meeting of the Society for 1985 will be held in
THE CONSERVATION CENTRE, 120 WAKEFIELD STREET, ADELAIDE
on
MONDAY 27th MAY 1985 AT 8.00 PM.

AGENDA

1. Apologies:

2. Minutes of the previous General Meeting:
Minutes of the previous General Meeting held at the Conservation Centre, Monday 22nd April 1985, having been circulated in this Journal, to be confirmed.

2. New Members:
The following new members have joined the Society since the last meeting:--
   Mr. G.J. SPEED
   Ms. CAROLINE LAWRENCE
   Mr. BARRY CRAIG
   Mr. STEPHEN HARD

4. Papers and Journals:
Papers and journals received from other societies and organisations will be tabled at this meeting.

5. Business:

6. Speaker:
   Mr Harry Howard will address the meeting and the title of his address, illustrated with slides will be:-
   "Travels through the Tanami Desert."

   Harry has been a member of this Society for many years, and has a deep interest in Rock Art.

7. Supper will be served.

R. Allison
Hon. Secretary
c/o 213 Greenhill Road
EASTWOOD SA 5063

SUBSCRIPTIONS. Members are reminded that subscriptions for 1985 were due last October. After June, unfinancial previous subscribers will no longer receive the Journal.
Researchers set a new date with radiocarbon

A logical technique of radiocarbon dating is due for a fillip later this year. Engineers are putting the finishing touches to a roomful of scientific equipment in Oxford which will use a new technique to measure the amount of radiocative carbon in an ancient specimen. With the apparatus, researchers should be able to analyse an item in 15 minutes when the current technique takes days.

Moreover, as a result of the $500,000 Oxford project, archaeologists will have to give up for dating only a tiny portion of their specimen, 1 milligram or less. Conventional methods of dating objects by analysing radiocarbon, a sample of between 1 and 5 grams is normally required. Researchers are often reluctant to provide this weight of sample, especially when it has to be cut away from a valuable fragment of, say, bone or wood.

In traditional radiocarbon dating, an important archaeological tool for 30 years, workers measure the decay of radioactive isotope carbon-14. In any organic specimen, carbon-14 is present in tiny quantities, being swamped by the more abundant isotope, carbon-12. The proportion when the specimen is alive is constant at around one part in $10^{14}$. But after death, the amount of radiocarbon de-creases at a fixed rate; it halves every 5730 years.

Measuring the radiation emitted by whatever proportion of carbon-14 is left indicates how long the specimen has been dead, and hence its age.

Workers at Oxford University's Research Laboratory for Archaeology decided to try a different tack. Instead of measuring the proportion of radiocarbon indirectly by detecting radiation, they set on quantifying the number of carbon-14 atoms in a given specimen.

The most difficult job is to separate carbon-14 from the far more abundant carbon-12. In the Oxford project, this is done by producing, from a specimen of graphite, carbon ions which are accelerated at very high energy past an array of magnets. On account of their different magnetic properties, weight and velocities, the carbon-12 ions follow a slightly different course from their radioactive counterparts and can thus be separated. A spectrometer counts the number of carbon-14 ions left after the lighter ions are separated.

The equipment for funneling off the carbon-12 takes up two sides of a workshop the size of a church hall. The apparatus is controlled by a console that would look more at home in a nuclear power station or in the cockpit of a jumbo jet.

Edward Hall, the director of the laboratory, says that archaeologists are keen to try out the new system. He hopes that the equipment will be used 12 hours a day once demand builds up.

The Science and Engineering Research Council, which is providing the funds for the equipment, will coordinate a programme in which researchers from all over the country will send specimens to the unit. The new system should provide reliable dates for objects 60,000 years old; the upper limit with existing radiocarbon techniques is 40,000 years.

Tests with the new system have dated remains containing carbon with an accuracy of about 3 per cent. The Oxford workers want to reduce this to 1 per cent before starting a full service.

Ancient remains found in Judea

JERUSALEM: Archaeologists probing a site in the Judean desert yesterday said they had unearthed some of the oldest mummified linen and painted wooden carvings ever found, dating from almost 9000 years ago.

"In the past four or five years, I would say this is perhaps the most significant archaeological find in Israel," the vice-chairman of the Israel Museum, Mr Meir Meir, told reporters.

The objects include an almost complete linen serpentine and wooden masks and statues with the paint still bright, all used during the Neolithic age in which agriculture began almost 9000 years ago.

The archaeologists found the objects in a site near Nahal Mendel, between the Dead Sea and Beersheba, the Judean desert town visited by Abraham, Isaac and Jacob.

The curator of pre-history at the museum, Mr Tamar Noy, speculated that the objects had unknown religious significance.

"We never have, in one place, found all the major cultic materials...the plaster skull, the human-size figurine, the figurines," she said.

Mr Noy said tribal societies often used caves, which were believed to be holy, for storing religious objects.