



A geologist's life, of rocks, reefs and wrecks

An edited transcript of an address by Dr Phillip Playford to the Perth Modernian Society AGM 2014

I attended PMS from 1944 to 1948. The first three years were not happy ones, as I languished near the bottom of the class. However, my salvation came when I found that I was good at tennis, winning the school championships in 1947. In 1948, my tennis mates and I resolved to win the Slazenger Cup, a schools' tennis tournament that had been won by Wesley for the previous six years. We practised hard, and it paid off with victory in the competition. Tennis did a great deal for me because it increased my self-confidence, so that my academic results improved considerably, and by the end of fourth year I was near the top of the class, and I gained a general exhibition through my Leaving Certificate results.

I chose to study geology at the University of WA because it seemed to offer me the best opportunity for an adventurous life. At that time few people knew anything about geology and geologists. In WA there were no oil or gas fields, and the only mining operations were at Kalgoorlie-Boulder (for gold) and Wittenoom (for asbestos). The main opportunities for employment as a geologist were with the Commonwealth Bureau of Mineral Resources (BMR) and the Geological Survey of Western Australia. I decided to join the BMR and became a cadet, so that I had a small income during the last two years of my university studies. I

decided to do honours and chose as my subject the Jurassic geology of Geraldton, which had never been studied in any detail before then. Geraldton was also further away from

Australia. Many people had claimed that we'd never find oil in Australia, but there it was, a flowing oilfield. This not only stimulated exploration for oil but also for minerals,

throughout the nation. The oil discovery was made by West Australian Petroleum Pty Ltd (WAPET), and immediately after this the company decided to raid the BMR for geologists, especially those who were familiar with the Carnarvon Basin. They made us offers,



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Perth than any other honours projects that had been undertaken at that time.

For field work, I bought a motorcycle, a Triumph 3T, and drove it all over the countryside around Geraldton. I made a big collection of ammonite fossils, and sent them to the world expert on ammonites, Dr W.J. Arkell, in Cambridge. My first publication, co-authored with Arkell, was on the Bajocian ammonites of Western Australia, published in the Philosophical Transactions of the Royal Society of London. At that time this journal was one of the world's most prestigious scientific publications.

After graduation, I had one year (1953) with the BMR, working in the Carnarvon Basin, east of Carnarvon. At the end of that year there was the famous oil strike at Rough Range, a momentous event in the history of

but I was not in favour, maintaining to the others that 'we should reject these offers because they're not high enough'. Indeed every one of us rejected the offers. So WAPET 'got the message', and came back with wonderful new offers – for me it was double the salary I was getting in BMR. We all accepted, and WAPET proved to be a fantastic company to work for. For my first year with the company I worked in the Shark Bay area. We camped in an old woolshed and saw, nearby in Hamelin Pool, many remarkable stromatolites. They were club-shaped columns built by blue-green algae (now known as cyanobacteria). Since then the Hamelin Pool stromatolites have become world famous, because they're the best examples of living marine stromatolites known anywhere in the world. Seeing them in the hypersaline waters of Hamelin

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Pool is like looking back into Precambrian times, two and a half billion years ago, when the only living beings were the micro-organisms that built stromatolites.

In 2010 I decided to re-examine the geology of Shark Bay and write a book on the topic. I also looked at some places that I hadn't examined before. The major new discovery was that of giant tsunami deposits. These contain huge boulders of limestone, weighing up to 700 tonnes, that were ripped off the coastal cliffs by huge tsunami waves, 30 m or more in height. These deposits are up to 5,500 years old, and were formed by successive tsunamis crashing onto the coastal cliffs that extend from Shark Bay to Barrow Island and on to Legendre Island. They reach as much as 400 m behind the cliff faces. These tsunamis are believed to have resulted from the periodic massive collapse of sediments on the continental slope, probably initiated by earthquakes. There are also some other remarkable mega-tsunami deposits that extend around the Kimberley coast and these probably resulted from Indonesian earthquakes.

In 1955 I went to Dirk Hartog Island to see whether it would be a prospective place for an oil test bore. Altogether we drilled 17 bores to determine the underground structure, but unfortunately the subsequent test well proved to be dry. While I was on the island, one of the places I visited was Cape Inscription, where Dirk Hartog had landed in 1616. He was the first person who really put Australia on the map, when it became

known as 'The Land of the Eendracht' (after the name of Hartog's ship). Hartog left a plate on top of the cliff where he landed, inscribed with a record of his visit and nailed to an upright post. That plate was found in 1697 by Willem de Vlamingh, who put up another plate, nailed on a new post. He took away Hartog's plate, and it was sent to The Netherlands.

Vlamingh's plate was found by a French expedition in 1802, and again in 1818, after which it was taken to Paris, where it disappeared for more than 100 years. The plate was eventually found, in the basement of a Paris institute, in 1944. After the war, the French Government agreed to give the plate to Australia, in recognition of its role in helping to protect France during two world wars. The proposal had resulted from representations by another old



Dirk Hartog
and his plate

Modernian, Sir Paul Hasluck, who had written to France before

the War, suggesting that the plate be returned to Australia. It is now held in the Maritime Museum in Fremantle.

In 1954, when working in the Shark Bay area, we stayed on Tamala Station for a while, and there I met a stockman named Tom Pepper. He told me how, in 1927, while traversing the cliffs 40 miles south of the homestead, he had seen a lot of wreckage at the foot of the cliffs and had climbed down there, picking up several coins and other bits and

pieces, which he showed me, having kept them in an old flour bag for the past 27 years. My eyes popped out at this, of course. He told me approximately where to find the wreck. I drove south down the old stock route, which was very slow going, but I eventually got to the coast where Pepper had directed me, and walked north along the cliffs for about two or three kilometres, without finding anything. After returning to my starting point, rather dispirited, I walked south for about 200 metres, where I could see quite a lot of timber at the base of the cliff, including a long ship's spar. I scrambled down the cliff, getting more and more excited as I went, and at the bottom picked up a couple of coins, with the date 1711 and the name Zeeland, and a sailor's belt buckle. There were many broken bottles scattered along the cliff top. They must have been Dutch gin bottles, left there by survivors of the wreck after seeking to salve their sorrows in such a desperate situation.

I drove slowly back to the homestead, in the dark, arriving there at about 10 pm. It had been one of the most exhilarating experiences of my life. On returning to Perth I organized an expedition to the site, funded by WA Newspapers. The coins we found there included many schellings and double stuivers, all with the date 1711 and the name 'Zeeland', together with ducats and pieces of eight (an international currency at that time).

I then started a long correspondence with museums and archives in the Netherlands, Cape Town and Jakarta and was able to prove that this was the wreck of the Zuytdorp, one of the great ships of the Dutch East India Company that had disappeared after leaving the Cape of Good Hope in April 1712. Records showed that the whole of the 1711 minting of schellings and double stuivers had been sent to Batavia, now Jakarta, in two ships – the Zuytdorp and the

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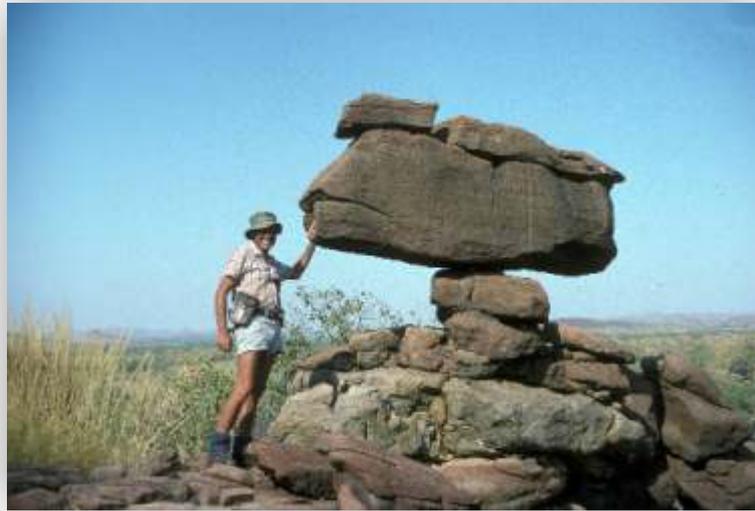


Belvliet. The Belvliet reached Batavia safely, but the Zuytdorp disappeared. Therefore this had to be the wreck of the Zuytdorp. It was the first Dutch wreck to be found and identified on the west coast of Australia. Following a parliamentary shipwreck enquiry I was formally named as a joint primary discoverer of this wreck, with Tom Pepper. In 1996 I published a book on this topic, entitled 'Carpet of Silver', which received a Premier's Book Prize.

After working for WAPET for six years, I decided to seek a PhD at Stanford University in California. I did the field work for my thesis in the Egan Range of eastern Nevada, boarding in a small Mormon village, and found it to be a fascinating and enjoyable experience. When I returned to Australia in 1962 I decided not to go back to WAPET, because although it had been a wonderful company to work for, the oil-exploration scene had moved away from the field work that I really enjoyed – getting out into the bush. So I joined the Geological Survey of Western Australia as a Supervising Geologist.

The biggest research project of my career has been a detailed study of the 'Devonian Great Barrier Reef' in the Kimberley — one of the natural wonders of the world. It's the best-

preserved ancient reef found anywhere on Earth. I also became very interested



in the local Aboriginal cave art and the culture of the three tribes who belong to that area.

In 1947 the British had established a rocket range at Woomera, and in

1964 were planning to shoot their Blue Streak rockets out over the Great Sandy Desert. A newspaper in England raised the question: 'what about the Aboriginal people who are still living there'? As a result, several expeditions were sent out to find them, and because of my interest in Aboriginal culture, I was asked to participate in one of those expeditions. We would look out for smoke in the distance, as a sign of Aborigines hunting in the desert, then drive towards it and camp overnight a few kilometres from the smoke. The curiosity of the Aborigines soon overcame their concerns and they walked into our campsite. An amazing experience, and I took many colour photos, that

have yet to be published. We were able to record the presence of these Aboriginal people, who were leading their traditional lives, without clothes or metal implements and having had no prior contact with Europeans, and to inform this to those who were planning the rocket tests.

I married Cynthia immediately after that expedition, and we have two children – Julia and Katherine – and four marvellous grandchildren,

one of whom will enter PMS next year. I retired as Director of the Geological Survey in 1992, but have never stopped working. I feel very happy to have fulfilled my boyhood dream of an adventurous life!



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