



# The Bulletin 365

The Royal Society of New South Wales

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1 May 2013

1210th Ordinary General Meeting

**In an Analogue World, Envisioning the Digital Future:  
Paul Otlet, a Forgotten forefather of Today's Information  
Society**

Join the Society for the OGM and lecture delivered by Prof W. Boyd Rayward.



Afterwards you are invited to stay for dinner, at a cost of \$75. Please RSVP to the office for dinner.

Paul Otlet (1868-1944), a Belgian lawyer, bibliographer, internationalist, and pacifist as a young man became concerned about the increasing volume and fragmentation of the literature of science and scholarship. With his colleague, Henri la Fontaine, winner of the Nobel Peace Prize in 1913, he spent his life in building experimental "knowledge" institutions that he hoped might facilitate global access to information in a range of new formats. His analyses of what he called documentation, of multimedia substitutes for the book, of encyclopedias, museums and libraries led him to explore the possible use of the new technologies of his days such as X-Rays, radio, telegraphy, cinema, sound recording and eventually television for disseminating information through a universal information network. And he proposed special organisational arrangements for the network's management and use be means of what he called Mudaneums. He also envisaged the development of a range of new kinds of intellectual machines and instruments that, suggested by what was already available, would create new functionalities in information access and use. In these ideas we find foreshadowings of the digital and other technologies that have created such phenomena as the Internet, the World Wide Web, Google and even – and perhaps especially – Wikipedia, that are fundamental to what we now regard as a new kind of information society.

W. Boyd Rayward is currently emeritus professor in the Graduate School of Library and Information Science of the University of Illinois and in the School of Information Systems, Technology and Management of the University of New South Wales. He was educated in Australia and the US. His PhD is from the University of Chicago. He has held professorial and decanal positions in the University of Chicago and the University of New South Wales. He is the recipient of the American Society for Information Science Research Award. He has been editor of the *Library Quarterly* and is currently co-editor of *Library Trends*. He has edited special issues of *Information Processing and Management*, *IEEE Annals of the History of Computing* and *Library Trends* on aspects of the history of information science.

*For full details please see separate flyer.*

## Future Events

Lectures in Sydney are held on the first Wednesday of the month at 6:30pm.

### May

**Wednesday 1 May 2013**

**6:00 pm for drinks**

Lecture begins 6:30 pm

**"In an Analogue World, Envisioning the Digital Future: Paul Otlet, a Forgotten forefather of Today's Information Society"**

Delivered by Em. Prof W. Boyd Rayward

*Union Club*

*25 Bent St Sydney*

*\$5 members/\$10 guests*

[Details at right.](#)

### June

**Thursday 6 June 2013**

**6:00 pm for drinks**

Lecture begins 6:30 pm

**Royal Society Forum**

*Coles Theatre, Powerhouse Museum*

Details to be announced.

### Southern Highlands Branch

**Thursday 16 May 2013**

**6:15 pm for a 6:30 pm start**

**"Advances in Aviation"**

Delivered by Dr Rick Heslehurst

*Performing Arts Centre*

*Chevalier College, Burradoo*

*Entrance off Charlotte Street.*

## Patrons of The Royal Society of NSW

Her Excellency Ms Quentin Bryce AC CVO, Governor-General of the Commonwealth of Australia

Her Excellency Professor Marie Bashir AC CVO Governor of NSW

# Inaugural Fellows Lecture

## 1209th Ordinary General Meeting

Wednesday, 3 April 2013

“An evolutionary history of Australia”



Professor Michael Archer AM

The Society was proud to have **Professor Michael Archer AM** present the inaugural Fellows Lecture on Wednesday, 3 April 2013. Professor Archer was one of the first Fellows appointed by the Society, recognising his outstanding work as a palaeontologist, particularly in relation to the Riversleigh fossil find in Queensland, one of the richest fossil deposits in the world.

Until about 50 years ago, only about 70 fossil mammals had been found in the whole Australian continent, compared to about 50,000 in North America. The geology of the Riversleigh area, in northern Queensland, is unusual. There are large expanses of very old (1.6 billion years) Precambrian rock and more recent Cambrian deposits (500 million years old) that contain rather unremarkable fossils of the era. But there are pockets of more recent geological deposits, 10-25 million years old, that have been found to contain extraordinarily well-preserved fossils. There are about 40 sq. km of these deposits. A wide range of unusual animals have been found: five kinds of thylacine, giant, toothed platypus, flesh-eating kangaroos and ancient birds. Some of the birds are the biggest ever discovered and would have weighed up to 400 kg. Also, huge fossilised snakes, importantly, a diverse range of ancient bats and a great variety of trees and plants have been discovered.

How did this extraordinary preservation take place? Professor Archer explained that there were two phenomena that together resulted in this remarkable deposit. Water that percolated up from subterranean deposits were saturated in calcium carbonate and this quickly precipitated around any dead animals that fell into the water. This was responsible for preserving skeletons intact and is easily removed using weak acid such as acetic acid that quickly dissolve the calcium carbonate, exposing a well-preserved fossilised skeleton. But in addition, another phenomenon called “bacterially-mediated phosphatisation”, means phosphates from bat droppings have preserved soft tissue, resulting in remarkably complete fossils being found in many areas. In a process known as “tufagenic barrage”, calcium carbonate deposits formed dams that allowed fossilisation to take place. These dams were ultimately breached but the fossils were preserved. At the time, Riversleigh area was covered with rainforest but this has gradually receded to coastal zones.

The Riversleigh deposits cover five phases from 25 million years ago to 1.5 million years ago and is the richest sequence in Australia. (There is only one other similar deposit in the world – this is in France.) The Riversleigh find has completely changed perceptions about Australia’s past. It is now clear that there is a diversity in the fossil record suggesting an environment that was as rich at the time as Borneo and the Amazon regions are today. About 15 million years ago Australia started to dry out, yet it was not until about 3 million years ago that extensive grasslands formed.

Professor Archer pointed out that the fossil record gives us a very rich understanding of the way in which current species have evolved from which we can deduce how habitat change can be managed and to protect species that might be at risk of extinction as climate change takes place. We can also gain insight into which species are at threat by understanding the extent to which their populations have increased or declined over long periods of time.



### New Members of the Society

We welcome the following new members to the Society:

- Shakti Ram
- Ian Wilkinson
- Lloyd Herman Hopkins
- Lesley Joy Hill
- Louise Young (associate)

For information about membership please contact the Society’s office or visit the Society’s website or contact Emma at [royalsoc@royalsoc.org.au](mailto:royalsoc@royalsoc.org.au)

We encourage members to introduce new members to the Society.

### Annual Dinner 2013 Gallery



## From the President



April has been a great month with three important events in the Society's calendar. On Wednesday 3 April, the annual general meeting was held with very good attendance. It's great to see new members coming on Council and the enthusiasm and drive that continues to develop. I would particularly like to thank the retiring Council members for the contribution that they have made over the last year, and particularly to thank John Hardie, Brynn Hibbert, Heinz Hora, Michael Burton, David Beale and Emma Dallas for the work that they've done during 2012/13.

Immediately following the AGM, was the 1209th OGM at which the inaugural annual Fellows Lecture was held. The Society has 14 distinguished Fellows and we intend inviting one of them to address the Society each year at the annual Fellows Lecture. The inaugural lecture was particularly successful. It was delivered by Professor Mike Archer AM, an internationally-renowned palaeontologist. His subject was "An evolutionary history of Australia" and traced the extraordinary Riversleigh find in Queensland, one of the richest fossil



Left to right: Donald Hector, Judith Wheeldon AM, Marilyn Renfree, John Hardie and Joanne Whittaker.

deposits in the world. Professor Archer was one of the key palaeontologists involved in recognising the significance of this find and developing it. His talk was an outstanding start to the annual Fellows Lecture series.

On Friday 19 April, the annual awards evening and annual dinner was held at the Union University and Schools Club in Sydney. The dinner was extremely well attended and the address by Judith Wheeldon AM was very topical and stimulated a lot of discussion. Ms Wheeldon presented the Clarke Medal to distinguished zoologist Marilyn Renfree, the Edgeworth David Medal to Dr Joanne Whittaker, a remarkable young geophysicist who is doing ground-breaking work on plate tectonics, and the Royal Society of NSW medal to John Hardie in recognition of his 40 years of contribution to the Society, six of which have been as its President.

We are pleased that planning is well underway for the Royal Society of NSW Forum 2013 that will be held at the Powerhouse Museum on the evening of Thursday 6 June. We are most fortunate that Professor Brian Schmidt, the 2011 Nobel Prize winner for physics is available to participate on our panel which will also consist of Professor Steven Schwartz, formerly Vice Chancellor of Macquarie University and Professor Merlin Crossley, a distinguished biologist and Dean of Science at University of NSW. Please keep an eye on the website for details as these are finalised.

Just a reminder to encourage your friends and acquaintances to consider joining the Society – we can achieve much more with a vibrant, growing membership base. Nomination forms can be downloaded from the website.

**D**onald Hector

# Southern Highlands Branch

## Report of March Meeting 2013

### “King Akhenaten: Pharaoh, fanatic or freak?”

Dr Michael Birrell has lectured for the last 15 years in Archaeology at Macquarie University and Sydney University. He has given at least 15-20 public lectures and since 1986 has been involved in archaeological fieldwork in Egypt and Israel. In the last month, he returned from Amarna with new footage and information on Akhenaten. The sixty person audience at Chevalier College was privileged to be the first to hear him lecture after his return.

Dr Birrell described King Akhenaten as the most enigmatic figure from Egyptian history. Akhenaten, son of Amenhotep III, ruled Egypt for just 17 years in the mid-14<sup>th</sup> century BC, and was married to the beautiful Queen Nefertiti. One of the features of Akhenaten that is particularly puzzling is his peculiar physiology as depicted in representational art. These strange and eccentric portrayals show Akhenaten with a sagging stomach, thick thighs, large breasts and a long, thin face.

On the basis of his longer jaw and feminine appearance in numerous depictions, it has been suggested that Akhenaten may have suffered from Froelich's Syndrome. However this seems unlikely because this disorder results in sterility, and Akhenaten is known to have fathered numerous children, including at least six daughters by Nefertiti. Another possibility is that the king may have suffered from Marfan's syndrome, which unlike Froelich's syndrome, does not result in any lack of intelligence or sterility. It is associated however with symptoms arguably observed in depictions of the king and his children, such as a long thin face and enlarged thighs. Genetic diseases such as these are now the subject of new DNA studies. King Akhenaten has long been considered the father of Tutankhamun, but new DNA analysis has suggested that this might not be the case.

There are many explanations possible for the strange depictions of Akhenaten. As well as genetic diseases such as Marfan's syndrome and others, there exists at all times in these Egyptian family trees the high likelihood of genetic abnormalities due to frequent intermarriage through the generations. Another possibility is that the extraordinary bodily depictions result from artistic presentation only, not medical causes, and are not to be read literally. Since the sun god Aten was referred to as the mother and father of all humankind, artwork may have depicted Akhenaten with androgynous features as a symbol of the androgyny of the god. There is logic in this suggestion since Akhenaten himself had abandoned Egypt's traditional religion for the worship of the sun god Aten, and moved the capital to Amarna. He destroyed images of the main state god Amun.

Throughout the lecture, Michael Birrell showed beautiful images of his most recent visit to this ancient land. Every point he made in this fascinating lecture was amply supported by recent photography on site. The large audience was well rewarded by his insights into King Akhenaten, who although Pharaoh for just 17 years, had an enormous impact on Egypt's history.

**A**nne Wood

#### Contact your office bearers

<b>Dr Donald Hector President</b>	<b>02 9484 9007</b>	<b>Em. Prof Heinrich Hora Vice President</b>	<b>02 4627 7769</b>
<b>Mr John R Hardie Vice President</b>	<b>02 9363 9630</b>	<b>Em. Prof D. Brynn Hibbert Vice President</b>	<b>02 9398 9134</b>
<b>Mr Colin Bradley Hon. Secretary</b>	<b>0421 478 670</b>	<b>Prof. Michael Burton Hon.Secretary (Editorial)</b>	<b>02 9036 5282</b>
<b>Mr Shakti Ram Hon. Treasurer</b>	<b>02 9036 5282</b>	<b>Dr Frederick Osman</b>	<b>0418 444 477</b>
<b>Mr Brendon Hyde</b>	<b>02 9498 3520</b>	<b>Ms Janette Searle</b>	<b>02 9036 5282</b>
<b>Mr Reg Hubtop (SHB rep)</b>	<b>02 4886 4199</b>	<b>Dr William Kneprath</b>	<b>02 9581 6000</b>
<b>Professor Richard Banati</b>	<b>0408 121 362</b>	<b>Mr David Beale</b>	<b>02 9036 5282</b>
<b>Em. Professor Roy MacLeod</b>	<b>02 9036 5282</b>		

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121 Darlington Rd, Building H47, UNIVERSITY OF SYDNEY NSW 2006 Australia

**Office hours: 11:00am - 4:00pm Mon - Wed and Fridays.** [www.facebook.com/royalsoc](http://www.facebook.com/royalsoc)

Executive Officer: Emma Dallas t: 02 9036 5282 e: [royalsoc@royalsoc.org.au](mailto:royalsoc@royalsoc.org.au) w: [www.royalsoc.org.au](http://www.royalsoc.org.au)