

Reviews

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Mike Smith: *The Archaeology of Australia's Deserts*. Cambridge University Press: Cambridge, 2013. 424 pp., ISBN: 9780521407458, AUD \$115.00.

The Archaeology of Australia's Deserts is a masterpiece. Mike Smith offers the output of a life of research dedicated to the Australian deserts in a contribution far beyond the limits suggested by the book's title. In this essay, I will review some aspects of the book, focusing on two issues that provide a wonderful basis for comparative archaeological research on the deserts of the world. But first some context is needed.

I am an archaeologist from South America (Argentina) working in the Patagonian deserts and have an interest in the development of comparative approaches to the evolution of desert landscapes and peoples across the globe. A comparative thinker by nature, Smith stirred this field up by organising the '1st Southern Deserts Conference' (Fig. 1), which took place in Canberra in 2003 and produced two published compilations, true jewels of desert archaeology worldwide.¹ This interdisciplinary endeavour continues to this day and the '4th Southern Deserts Conference' will take place in November 2014 in Mendoza, Argentina.

The last three decades of Australian archaeology provide strong foundations for Smith's endeavour at two key levels. A quick survey of research conducted since the early 1980s reveals that the dominant spatial scale of discussion is continental.² On the other hand, there is an overall congruence at the theoretical level of paradigms. In my view, this has not hampered theoretical diversity, but fostered a common ground for collecting and comparing data, and achieving continental discussion. Comparatively, South American archaeology is currently struggling to attain a continental level of discussion when dealing with long-term processes.

Beginning his research career in the 1970s, Smith was a key part of a turning point generation in Australian archaeology. He is a rare combination of expert environmental archaeologist and resourceful cultural historian; these are the skills needed to marshal the astounding amount and diversity of data that is integrated into *The Archaeology of Australia's Deserts*.

I would describe Smith's theoretical take as 'minimalist', in that he seeks to reduce the conceptual scheme to those key elements necessary for making historical sense of the archaeological record. I value this approach since I am also not fond of theory that is not actually used, or theory



National Museum of Australia

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Figure 1.

that is simply projected onto the past. Three successive analytical layers cement Smith's perspective: the environmental stage of historical events, demography, and human agency. Early on he reflects that 'the structure of these hunter-gatherer societies and their capacity to mobilise resources and actors are emergent properties of their demography. In this regard, I see economy as architecture and social life as agency'. There is food for thought in this simple phrase.

Deserts are a historical phenomenon and their study from geomorphic and paleoecological perspectives is paramount for archaeological interpretation throughout the book. For instance, chapters 3 and 4 ('The Empty Desert: Inland Environments Prior to People' and 'Foundations: Moving into the Deserts'), provide an interdisciplinary assessment of the climate and ecology that humans would have met when exploring and colonising Australia for the first time. How large, arid and unpredictable were these deserts? This question is relevant for arguments about the speed and mode of the learning process required for marine-oriented societies entering Australia to deal with the hinterland deserts of the continent.³ Chapter 5, 'Islands in the Interior: Last Glacial Aridity and Its Aftermath', offers another wonderful example of the role of paleoecology and landscape research in the archaeological interpretation of long term demographic processes (see below).

Chapter 7, entitled 'Rock Art and Place: Evolution of an Inscribed Landscape', nicely depicts the processual interactions between the two analytical layers present throughout the book: demography and human agency. This chapter is full of insights for researchers interested in the dynamics of transmission of information, place marking and, ultimately, the social behaviours that produce them. Currently, Australia is one of *the* places to look at, worldwide, for rock-art research coupled with archaeology at large.⁴ This is the background for Smith's assessment of data and arguments on the relation between demographic history and rock art production. The current focus on the antiquity of desert rock-art in Australia is obviously about chronology, although I think this is only the surface of a deeper and more interesting debate; one that involves the changing role of information throughout the peopling of a continent, and the socio-demographic context in which

that information crystallizes into an 'inscribed landscape'.⁵ This is, once more, tasty food for global archaeological thought.

The best books fuel endeavours in multiple research directions. This is the case for *The Archaeology of Australia's Deserts*. I will briefly sketch one such exploration of a fascinating comparative issue for the deserts of the southern hemisphere. This exploration is necessarily cursory, intended only as an example of the contributions that Smith's book holds for comparative archaeology worldwide.

Comparative Analysis of Archaeological Discontinuities in Time and Space

'[W]e cannot work out what tools we need until we know what sort of phenomena are there in the longer-term record to investigate, and we cannot investigate those different phenomena until we have some tools to do it with. And to solve that paradox we will need to work at both simultaneously'. Geoffrey Bailey⁶

Change is the norm rather than exception in archaeological scale, though rate and mode of change are not uniform in time or space. Change accelerates its pace at times in human history producing what we could perceive as punctuated change or discontinuities in archaeological scale. The behavioural, demographic and evolutionary meaning of discontinuities is a complex and truly fascinating issue. Bailey's insightful quote above accurately describes the nature of this task. Working in this spirit, I will explore two issues from the southern deserts bearing respectively on time and space.

Discontinuities in Time: Biogeography, Refugia, and the Case for Bottlenecks

Deserts are, to variable extents, limiting environments. Climate change towards enhanced arid conditions—in already dry regions—may impact strongly in the ecological structure of deserts and, hence, on the demography and spatial organisation of human societies. This is the focus of chapter 5 of *The Archaeology of Australia's Deserts*, a brilliant section of the book indeed.

Most researchers agree on some aspects of the Late Glacial Maximum (LGM) archaeological record in the Australian deserts: human populations experienced a demographic low, and large-scale spatial rearrangement. Beyond this

level, disparity of opinion exists, and things get interesting. Peter Veth's *Islands in the Interior*, giving its name to chapter 5, is an outstanding work that established a biogeographic framework for assessing the impact of LGM aridity on human societies in Australia.⁷ The core of this proposal lies in postulating *refugia*, where humans persisted during the LGM; *barriers*, or tracts of land unsuitable for continued human use that were eventually colonised in later times; and the intervening *corridor* areas, where human settlement was possible but highly sensitive to climatic shifts. As good models do, this one stirred up productive debate continuing to this day.⁸

The structuring of refugia is a consequence of landscape fragmentation due to enhanced arid conditions. As some ecologists use it, 'The refugial concept usually involves contractions in range (...), as well as, implicitly or explicitly, reductions in abundance. It thus *involves an element of the genetic usage of "bottlenecks" as "reductions in population size followed by population size increases"*'.⁹ Combining archaeological radiocarbon data and GIS spatial analysis, Alan Williams is revisiting the demographic basis of changes through the LGM.¹⁰

Bottlenecks have spatial and temporal components that affect their outcomes.¹¹ In this regard, key questions emerge. What was the pre-LGM demography in the Australian deserts? What is the actual amount of land that becomes a barrier at aridity's peak? There is a range of demographic and behavioural responses to such an event, including migration and paths towards increasing carrying capacity within refugia. Technological innovation and/or economic intensification are likely outcomes.

Currently, there is a 'mid-Holocene gap' debate in several southern South American arid regions,¹² mirroring some aspects of the LGM issue. In many South American regions, parts of this period are associated with dry conditions likely produced by latitudinal displacement to the south of the westerly storm-tracks.¹³ Granted, there are huge differences in scale and intensity of the climatic and ecological changes involved in these two cases. Nonetheless, issues of scale aside, I suggest that the conceptual structure of the debate is similar, in particular regarding its demographic basis. The same can be said for the archaeology of India, the Arabian

Peninsula, and parts of Africa following the super eruption of the Toba volcano.¹⁴

So far, in South America there is an intriguing collection of local cases showing mid-Holocene decreases of occupation, plus some promising steps towards large-scale spatial analysis.¹⁵ There is evidence suggestive of spatial rearrangements at this time, with some Andean localities that are less exposed to aridity showing increased occupation, and many others showing low or even null evidence. Building on these initial efforts, and combining available blocks of data, we should aim at a continental assessment of desert expansion and of the spatial structure of the mid-Holocene archaeological record. This would be the appropriate scale at which to move from local histories of occupational intensity to continental demographic processes, disentangling spatial rearrangements from actual changes in population size. When doing this, I suggest we need to consider bottlenecks as a likely consequence, one that could have had lasting spin-offs in biological and cultural realms.¹⁶ Deciphering the long-term archaeological signature of these processes requires a continental scope and molecular anthropology should play a key role. We could learn a great deal from a comparative take on the matter.¹⁷

Discontinuities in Space: Linguistic Spread and its Mechanisms

Recurrently around the world, the distribution of languages indicates large-scale demographic processes resulting in linguistic spread across space, usually associated with migration of people to varying extents.¹⁸ Whether this occurs over previously empty or inhabited land is a key aspect, since it involves different sets of demographic and social mechanisms.¹⁹ Among other Holocene issues, chapter 6 of *The Archaeology of Australia's Deserts* ('The "Desert Culture" Revisited: Assembling a Cultural System') presents the intriguing Pama-Nyungan case (PN), which is predominantly interpreted as an instance of linguistic spread.²⁰

'The distribution of Australian languages shows marked asymmetry. The north and northwest of the continent is a diverse, deeply etched linguistic mosaic made up of twenty-seven unrelated language families. In sharp contrast, a single language family—the

Pama-Nyungan (PN)—with numerous closely related languages, blankets the rest of the continent, including the whole of the desert interior'. Building on this, '... the evidence suggests that some time during the early Holocene, an existing linguistic mosaic in the desert was erased as PN languages spread across the interior'. This is an amazing spatial discontinuity whose interpretation carries with it Bailey's challenge at its best. The task ahead is not only empirical, but also largely theoretical.

Mike Smith further asks, if PN languages actually spread across the desert interior, what drove this expansion? And most importantly, what is the dominant mechanism behind this process? Is it a case of large-scale linguistic and population replacement? (An alternative he does not favour). Or is it, on the other hand, a case of 'language shift, in which existing desert groups adopted PN languages from their neighbours'. Peter Veth suggests, 'migrations into the Western Desert may have been made into sparsely populated or unoccupied areas and therefore may not have involved language shift, per se'.²¹ Once again, I argue here that a comparative take provides fertile ground for future research.

The historical and linguistic record of Patagonia and the Pampas of southern South America during the sixteenth to nineteenth centuries indicate a large-scale linguistic shift involving extant so-called 'Araucanian' languages (Mapudungun or Mapuche), which are a set of closely related languages, and other poorly known languages currently extinct, belonging to the historic Tehuelche complex, such as Güñuna Küne.²² The recent historical character of this process makes it a well-known case of linguistic shift involving a relatively fast demographic and cultural spread over populated land, producing assimilation rather than replacement. I suggest this could be a useful analogue for one of the main alternative paths of the PN spread.

What strikes me the most with these cases is not linguistic shift per se, but the social mechanisms of interaction between societies of similar socio-political scale that can account for such cultural trajectories.²³ Notably, as Smith points out, the PN case 'shows a broad pattern of transfer from high-density populations to less densely populated regions'. Global reviews suggest that the former areas would also show higher linguistic diversity.²⁴

A similar demographic suggestion can be made for the South American 'Mapuche' case, which also included economic intensification of food resources in the source area of linguistic spread. At the risk—or certainty—of oversimplification, I suggest that differences in the scale of social cooperation between societies are a central variable in explaining language shift. In particular, cooperation when facing some sort of conflict could be paramount in determining directions of change, since it allows mobilising people to different extents.²⁵ As has been suggested a number of times, these linguistic discontinuities in space provide a wonderful chance to learn about the mechanisms of interaction between societies.²⁶

There and back again

Now back to *The Archaeology of Australia's Deserts*. At the level of Australian archaeology, Smith has produced a beautiful statement reaching every aspect of desert archaeology. It is fair to say that by carefully assembling this wide-scope picture, he has moved the archaeology of Australia's deserts to another level. In Harry Allen's words, 'If the next decades of archaeological research challenge some of these ideas and refine others, this will only be because he has produced a magnificent foundation for us to build on'.²⁷

This book has a parallel role to play at the level of world archaeology. By (almost) synthesising the history of a continent, it is a tempting invitation to compare demographic and social trajectories in different regions and continents. There is a great deal to learn about long-term processes in human history about their recurrences and unique aspects. From the perspective of an archaeologist working in South American deserts, I will be looking at this book in years to come as an inspiration and a challenge. And I thank Mike Smith for that.²⁸

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Endnotes

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²⁸ I would like to thank Libby Robin for the invitation to write this review, and Sara Maroske for her assistance. I benefited greatly from comments and discussions with Mike Smith, Peter Veth, Luis A. Borrero, J. Peter White, Billy Griffiths, Robin Torrence, Karen Borrazzo, Alan N. Williams, Valeria Cortegoso, Erik Marsh, Amalia Nuevo Delaunay, César Méndez, and Jo McDonald.

Simon Holdaway & Patricia Fanning:

Geoarchaeology of Aboriginal

Landscapes in Semi-arid Australia.

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Rhys Jones once declared the Australian landscape to be 'ungenerous to the archaeologist'. 'It is important not to underestimate,' he elaborated, 'the sheer brute difficulty of carrying out meaningful field prehistoric research in Australian conditions unless one has the full panoply of modern scientific methods at one's disposal.'²⁹

There are few less generous landscapes than Fowlers Gap in far western New South Wales, yet archaeologist Simon Holdaway and geomorphologist Patricia Fanning have managed to produce a compelling study of its ancient past in *Geoarchaeology of Aboriginal Landscapes in Semi-arid Australia*. The book has been many years in the making. The major fieldwork was conducted in two phases between 1995 and 2002, and many of the findings have been published in a series of journal articles since. This book brings this research together in a data-heavy, but accessible format.

Geoarchaeology of Aboriginal Landscapes in Semi-arid Australia opens with a series of colour plates—a photographic essay of sorts—which bring the harsh and unstable landscape to the fore of the reader's mind. Fowlers Gap is a stratigrapher's nightmare. A long geomorphic history of erosion and deposition, accelerated by the arrival of sheep, rabbits and goats to the region, has brought thousands of artefact scatters and

hearths to the surface. Heavy bursts of rainfall infrequently destroy, bury and displace these cultural remains, reshaping the landscape in the process, so that two hearths that sit side-by-side on the surface may be the remnants of meals cooked five hundred years apart. 'It is useful to think of the Fowlers Gap landscape,' write Holdaway and Fanning, 'as forming a mosaic of different aged deposits with little direct relationship between space and time.'

The dynamic nature of Fowlers Gap has shaped the very questions that the authors ask. This is not a study of a site, or even a series of sites: Holdaway and Fanning are interested in the landscape as a whole. After introducing Fowlers Gap and clarifying their geoarchaeological approach and methodology (Chapters 1 & 2), the core of the book is organised into three simple questions: Why are the artefacts where they are? How long ago were they deposited? And what can we learn from them about the actions and behaviour of people in the past? These questions, each grouped into chapters on geomorphology, geochronology and stone artefacts, are synthesised in the sixth and final chapter as part of a broader reflection on Aboriginal land use.

Aboriginal people have intermittently visited the area of study since the mid-Holocene (6000 BP). Radiocarbon dates from heat-retaining hearths scattered throughout the landscape suggest that this history is marked by cycles of occupation and abandonment. There are major gaps in the chronology that cannot be explained by hearth erosion, and many of these gaps correlate with shifts in the climate of western NSW and in some cases with variations at a continental scale. The Medieval Climatic Anomaly between 900 and 1150 years ago, for example, appears to have triggered changes in human settlement in the area. When faced with scarcity of resources, Holdaway and Fanning suggest that people moved away from the region.

The stone artefact analysis reinforces this interpretation and paints a picture of a highly mobile society. Holdaway and Fanning read the stone artefact assemblages as a proxy for movement, as a means to understand what happened between the places where stone artefacts were made. They find that people made use of the abundant raw materials in Fowlers Gap area and then 'geared up' with supplies of flakes to use elsewhere. Despite constantly fluctuating

environmental conditions, Holdaway and Fanning note the consistency of stone stool assemblages over time, suggesting that ‘similarities in technology across long time periods might be viewed as a form of technological adaption’.

In a discipline that trades in reports and journal articles, a book-length study of an Aboriginal landscape is a rare and valuable thing. This book offers fascinating reflections on Aboriginal connections to land and presents a significant body of archaeological data on semi-arid Australia; unfortunately the strength of this research is occasionally let down by a clunky prose style. Moreover, in what is an otherwise holistic study of a landscape—encompassing ecology, geomorphology and archaeology—there is a curious absence of historical and ethnographic information.

Despite these misgivings, *Geoarchaeology of Aboriginal Landscapes in Semi-arid Australia* makes an important contribution to the field of Australian archaeology. It is a compelling example of the strengths of a geoarchaeological approach to an Aboriginal landscape, and an impressive display of what can be learnt from even the most unforgiving parts of what Rhys Jones termed ‘the obdurate continent’.

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Endnote

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Penny Olsen: *An Eye for Nature: The Life and Art of William T. Cooper*. National Library of Australia: Canberra, 2014. 288 pp., ISBN: 9780642278463, AUD \$49.99.

William Cooper is Australia’s best known and most prolific contemporary ornithological artist. A lifetime spent observing the form and behavior of the world’s most exotic families of birds has

resulted in a impressive series of monographs produced in collaboration with ornithologist, Joseph Forshaw: *Parrots of the World* (1973), *The Birds of Paradise and Bower Birds* (1977), *Australian Parrots* (1980), *Kingfishers and Related Birds*, in six volumes (1983–1994), *Turacos* (1997 and 2002) *Cockatoos* (2001). This prodigious partnership has earned Cooper a place among the world’s most distinguished natural history illustrators. However, his publications are not confined to avian taxonomies; he has penned an instructive text on the art of illustration, *Capturing the Essence: Techniques for Bird Artists* (2011), as well as providing luscious images of rainforest fruits for publications by botanist Wendy Cooper, to whom he is married. Now in his eightieth year, it is fitting that the National Library of Australia has recognized Cooper’s remarkable output in a biography of coffee-table proportions.

Cooper’s list of publications echoes that of his progenitor, John Gould (1804–1881), moreover, he often emulates Gould’s preferred format—the featuring of a pair of birds arranged in foliage to best show off key diagnostic details. Such similarities disguise crucial differences in their approach. Apart from two years spent in Australia, it was Gould’s preference to be based in London, at the epicenter of the ‘naturalist’ trade, where he devised compositions for the representation of particular species from the forensic examination of study skins sent to him from distant outposts. By the late twentieth century, it was de rigueur for wildlife artists to pursue their subjects with binoculars, rather than as desiccated specimens packed in crates at the end of an elaborate network of colonial exchange. Cooper has traveled widely in search of his quarry, and his work calls on the subtle integration of field observation, photography, the intimate inspection of captive birds, as well as the examination of skin specimens, which still provide vital information of colour, shape and texture.

Cooper approached nature author Penny Olsen to write his biography. Olsen, whose impressive catalogue includes *Feather and Brush: Three Centuries of Australian Bird Art* (2001), was eventually persuaded to take on the task. Her privileged position as ‘authorized biographer’ included access to Cooper’s archive of journals, field sketches, photographs and ephemera.

Cooper is a meticulous observer, alert to the compositional possibilities and species-specific idiosyncrasies. The field sketches, many of which are reproduced, reveal the artist thinking about his subject; testing postures, recording the colour of eye, gape and bill, noting habitat and assembling details to be used later in more measured works.

The field sketches are later developed in the studio for two purposes. First and most significant, are scientifically driven taxonomic illustrations for publication, and secondly large works on canvas for exhibition. In the first category, monumental volumes, such as *Parrots of the World*, have brought to completion the work commenced in the nineteenth century of artists such as Edward Lear in his *Illustrations of the Family Psittacidae, or Parrots* (1830–1832). Weighty volumes by Cooper and Forshaw now satisfy critical gaps in the jigsaw of the world's avian diversity, taking their place with earlier esteemed volumes on the shelves of the world's libraries.

Cooper's 'artworks', however, perform a very different function while at the same time, demonstrating comparable fidelity. Unfortunately Olsen does not explore the relevance of this idiom at a time when high quality digital photography is bringing us compelling images of bird behavior in their natural habitat. I would argue that Cooper's detailed paintings are examples of a heritage genre in frozen moments, which like museum dioramas, struggle to capture the complex diversity of nature in a single distilled scene. The inclusion of a high proportion of these images, together with Cooper's rustic landscapes dilutes the sense of focus that has distinguished Cooper's remarkable career.

It also appears that Olsen's access to the Cooper archive has led her to rely heavily on paraphrased entries from the artist's own journal. These accounts of daring doo and encounters with influential figures tend to distract our gaze from Cooper's quality and consistency as a scientifically informed illustrator. In seeking to cover a detailed itinerary of Coopers adventurous life, Olsen does not dig deep. The sense of responsibility shown to her highly respected subject appears to have prevented her from achieving the critical distance essential for a more searching biography.

Olsen's portrait does, however, track the trajectory of a boy who encountered Gould's

Birds of Australia in a public library, and was compelled to nurture his dream to become an artist. Cooper's story is a profound testament to the power of images to spark a passion that can shape a young life. In turn, his illustrations of cockatoos, hornbills and birds of paradise, reproduced so handsomely in an *Eye for Nature*, are bound to ignite a lifelong infatuation and wonder in a new generation of naturalists.

John Kean
Melbourne

Hilary S. Howes: *The Race Question in Oceania: A. B. Meyer and Otto Finsch Between Metropolitan Theory and Field Experience, 1865–1914*. Germanica Pacifica, vol. 12, Peter Lang edition: Frankfurt am Main, 2013. 344 pp., ISBN: 978 3 631 63874 3, SFR 73.00.

Hilary Howes' book draws from her doctoral thesis. It is an interesting, thoroughly researched addition to the growing scholarship of the history of anthropology in nineteenth-century Oceania. The book centres on two German scientists, university-educated A. B. Meyer and autodidact Otto Finsch. Howes takes the reader on a journey to Oceania and Europe, through the written texts of these men. By examining their writings, published and personal, Howes suggests that the intimate and challenging encounters these men had with Indigenous people during their Oceanic voyages altered their theoretical understandings of race—especially in regard to the fixed, physical determinations of race prevalent in late nineteenth-century anthropology. Howes also examines the difficulties they had in promoting their ideas in the metropolis, resulting in clashes with metropolitan savants such as Quatrefage and Hamy.

A lengthy introduction provides the reader with insight to Howes' methodology. Her research is strongly influenced by Bronwen Douglas's work on both Indigenous countersigns and voyages and encounters in Oceania. She also touches on Chris Ballard's cardinality of comparison. A detailed précis of exploration in Oceania, nineteenth-century anthropology, and German and metropolitan ideas of race are included, providing the reader with a detailed background to launch into Howes' analyses of Meyer and Finsch's work.

Chapters One and Three focus on Meyer. Howes presents the confusions, intrigues and tensions of the intimate interactions Meyer encountered in the field and the challenges of writing these experiences up for metropolitan audiences. Meyer's time in the field caused him to question his own and the prevailing metropolitan ideas of race, particularly the reliance on craniometry.

Howes writes of Meyer's own meditation on the 'subjective nature of field observation'. In taking actual physical measurements of the 'robust' and 'tall' Papuan man Sremma, Meyer was surprised to find Sremma smaller than himself. Again, Meyer viewed another Papuan man, Reibobi, as broad, however he measured no broader than Meyer. These tensions and challenges did not diminish Meyer's belief in his fieldwork, rather he returned to the metropolis critical of the prominent role given to cranial measurements in racial determination based on his time in the field. He differed from Alfred Wallace in his discussion of the variability of physical appearance amongst Papuans, noting these variations could be other than the result of intermixing. In the metropolis, Meyer battled with Quatrefage and Hamy and their stranglehold on craniometry as essential to ideas of race. The large collection of skulls and jawbones that Meyer returned with compounded his difficulties as he recognised the importance of the collection to metropolitan savants, whilst simultaneously decrying craniometry's prominence in racial determination.

Chapters Two and Four concentrate on Finsch. Finsch's experience in the field resulted in his disavowal of physical anthropology and criticisms of missionaries, believing missionaries were changing Indigenous cultural practices. This facilitated Finsch's focus on material and cultural descriptions and collections. It also allows for a greater sense of Indigenous agency in comparison to Meyer's tortuous, complicated relationship with his skull collection.

When Howes returns with Finsch to the metropolis she notes his discussions of nakedness and cannibalism were a means to critique contemporary German society, as much as to write about his field experience. Her discussion of the *Lebensreform* movement in Germany adds to the reader's understanding of Finsch's work. Finsch's relationship with, and his writing about,

the Matupit Islander youth Tapino is compelling. Whilst Finsch became fond of Tapino, he also proffered him as an anthropological specimen and used Tapino to further his own colonial aims.

Howes strong conclusion brings together the major themes from her work and examines the limited effect of the work of Meyer and Finsch in the metropolis. And yet, as she notes, their work was important and the role of the field, in contrast to the dominance of the armchair theorist at the time, is valuable to consider. Howes problematises the notions of metropolis and armchair savants and recognises the power of intimate encounters in the fraught context of the field and the capacity of these encounters to challenge metropolitan theories, even if metropolitan theorists were unwilling to listen. This is a theme that historians such as Helen Gardner, Martin Thomas and Rebe Taylor have engaged with. Howes' book is an interesting addition to this discussion.

A limited index is forgiven for the retaining of footnotes at the bottom of the page, both showcasing the depth and breadth of Howes' research and preventing the awkward back and forth that comes with endnotes.

Howes work is a detailed furrowing down into words and their contextual meanings to draw out an interesting, thorough and valuable analysis of two German scientists who ventured into Oceania's field and had their views challenged and changed. Whilst the metropolis may have been less than open in receiving the ideas and fieldwork of Meyer and Finsch, the field of history should be grateful to Howes for bringing to light their work.

Amanda Lourie
Deakin University

**Ragbir Bhathal, Ralph
Sutherland & Harvey Butcher:**

*Mt Stromlo Observatory: From Bush
Observatory to the Nobel Prize.*

CSIRO Publishing: Canberra, 2013. 344 pp.,
ISBN: 9781486300754 (HB), AUD \$39.95.

Mt Stromlo Observatory provides a fascinating journey through a lot of the history of astronomy in Australia. For someone for whom radioastronomy was a key career component and who had the privilege of involvement as a member

of various Stromlo Committees and the Anglo Australian Telescope Board, it revived many memories. I have met all the Stromlo Directors from Bark Bok to Matthew Colless, the present director and I have worked closely with Don Mathewson on a number of projects.

This is a book you can read straight through as a history of a pre-eminent Australian astronomical observatory. On the other hand, it is a great reference book for a scientist's shelf. Just the images themselves are a delight for anyone interested in the history of astronomy.

This book is a must-read for anyone with an interest in the history of science in Australia, and indeed for all science professionals. The principles of the science discussed will be accessible to people with minimal science background. The book has been meticulously researched and has the benefit of a number of personal interviews conducted with astronomers over the years by one of the authors. It does great justice to the many people who contributed to the building of the observatory and its continuing contributions to science. The many cross-linkages with other optical and radioastronomy observatories in the broader Australian astronomy scene are well presented and allow the reader to understand the broader developments in this country.

The reader is taken from Duffield's vision in 1905 for a Solar Observatory in Australia through the first 'Bush Observatory' to Brian Schmidt's Nobel Prize in 2011. From its early days as a solar observatory working in the new field of 'Astrophysics', the observatory was a significant contributor. The sun was the key subject in the early studies with Giovanelli and Higgs discovering the linkage between radio flares on the sun and short-wave radio communication blackouts, which was later followed up by Allen. Overseas radio communications in those days depended on using multiple reflections between the ionosphere and the ground to link Australian stations with those in Europe and the United States. Allen's work made it possible to predict the blackouts.

After taking on the role of optical munitions factory during the Second World War, the observatory was well placed to become a major centre for the development of optical instruments for their own telescopes and more generally. Woolley's role in the post war period with his

acquisition of the Great Melbourne Telescope, the building of the 1.9 metre telescope, and the transfer of the observatory to the Australian National University in 1955 is well presented. In the midst of this, of course, Woolley had to deal with a destructive bushfire that destroyed the workshop and many records.

The tensions between the radio and optical astronomy communities that led to the appointment of Bok as Woolley's successor are well presented, as are those at the time of the establishment of the Anglo-Australian Observatory when the community, led by Professor Hanbury Brown at Sydney University, wanted an independent facility, not under the control of the Mount Stromlo group. We are told of the destructive fires in 2003 and the recovery work of Penny Sackett. Under Penny's leadership Mount Stromlo Observatory became involved with the Giant Magellan Telescope—with its six 8.4 metre diameter segments.

Throughout the book, there are descriptions of the work conducted at the Observatory such as on invisible material, the galactic magnetic field, the Magellanic Stream, measurements of the Hubble constant, dark matter particle detection and Brian Schmidt's work on the acceleration of universal expansion finishing with Brian's Nobel lecture.

It is clear as one reads the book that a key factor in the success of the Observatory has been a series of leaders who were active astronomers themselves and whose leadership style has allowed a great deal of freedom to their astronomers. This has played a critical part in the great productivity of the observatory. Founder Geoffrey Duffield's desire was 'that we take our place among the great observatories of the world'. *Mt Stromlo Observatory* has shown us just how well that desire has been achieved.

Bob Frater
Sydney

Toni & Vicki Harrison:

Theodore Thomson Flynn: Not Just Errol's Father. Artemis: Hobart, 2013. 238 pp., ISBN: 978-0-646-59478-1, AUD \$35.00.

Scientific biographies are, as Erwin Chargaff once claimed, a 'most awkward literary genre'.

All too often, it is the science that is exciting and interesting, rather than the scientists themselves. Arguably, the life of scientists—the personal and particular—offers relatively little insight into the ideas and developments for which they are famous. Science is, after all, a collaborative enterprise, a community of knowledge, rather than an expression of individuality. If Darwin had not formulated the theory of evolution by natural selection, Wallace would have. Scientific discoveries grow within a shared milieu, and while some participants might be blessed with having birthed a particularly ingenious, insightful or innovative idea, their creations cannot be said to be the product of a singular individual life in the same way that the work of an artist might be said to be unique.

This is not to say, as many have, that the personal lives of scientists are boring. On the contrary, closer inspection often reveals scientific lives every bit as passionate, irrational and troubled as that of any artist or celebrity. But the relationship between scientists' lives and their intellectual achievements is often more difficult to reconcile.

Tony and Vicki Harrison's biography of Theodore Thomson Flynn provides an excellent illustration of this dilemma. As the founding Chair of Biology at the University of Tasmania, Flynn provides a fascinating case study of the early development of the biological sciences in Australia. His diverse range of research interests, from the reproductive biology of marsupials to marine fauna of southern oceans, attests to the flexibility and breadth that researchers often demonstrate in nascent disciplines. The difficulties Flynn faced balancing his research interests with his teaching responsibilities will be all too sadly familiar to modern academics, as will the dubious behaviour of university administrators exploiting generous research bequests. The risks faced by successful researchers on 'soft money' were also amply illustrated by Flynn who, after twenty-one years of service at the University of Tasmania, summarily found himself an unemployed professor.

Like many researchers who consider themselves undervalued in their home countries, Flynn's skills and credentials were better recognised by overseas institutions. He secured the position of Professor of Zoology at Queen's

University, Belfast, which he held 1931–1948. The appointment of an Australian born and trained scientist to the senior post of a prestigious European university seems at odds with the common perception that Australian universities and departments, at least in their early development, were often dominated by British-trained staff. Perhaps even more unexpected was the fact that Flynn emerged from a working-class country family with no history of university education. And yet, the Harrisons' biography suggests that this was not as uncommon as we might think.

Flynn's pioneering work continues to be well cited in the relevant scientific literature today, suggesting that scientists have retained a place for him in their own ongoing, and constantly evolving intellectual histories. But the attraction of Flynn as a subject for biography is not just his science, but also his personal life, most notably as the father of the famous Tasmanian movie star, Errol Flynn. Notwithstanding the close bond between father and son it is difficult to see that much light is shed by Theodore on his son's remarkable life, nor by the famous son on his father's professional achievements. There are many elements of Theodore's life that are, perhaps, noteworthy—from his fractured childhood family life and his own unconventional marriage, to his challenging attitudes to administration and impressive response to wartime efforts in the Belfast Blitz. But he remains a somewhat elusive figure for much of the Harrisons' biography, often swamped by a vast cast of surrounding characters. Given the disjunction between the personal and the professional, perhaps it is not surprising that it is only in retirement, largely spent managing his son's estate in Jamaica, that Theodore Thomson Flynn seems to emerge in his own right.

Amassing a vast array of disparate information around a person must always be challenging for biographers. A careful chronological structure may often be their friend, but not one always used to best effect in this case. Despite this limitation, historians of science, and perhaps film, will find much to intrigue them in this meticulously researched biography.

Danielle Clode
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Eva Wosz & Anita Hermannstädter (eds):

Naturalista, czyli Wilhelm von Blandowski w Australii.

Wilhelm von Blandowski: Ein Naturforscher in Australien. Muzeum w Gliwicach:

Gliwice; Museum für Naturkunde

Berlin: Berlin, 2013. 186 pp.,

ISBN:978-83-89856-63-0, 40.00 zł.

This book documents an exhibition of the same name, held in late 2013 at the Muzeum w Gliwicach in Gliwice (formerly Gleiwitz), Poland, where Wilhelm von Blandowski was born in 1822 and where, following a ten-year stay (1849–1859) in Australia, he returned to spend his later life. The exhibition was organised in cooperation with the Museum für Naturkunde (Natural History Museum) in Berlin, which holds the majority of Blandowski's extensive collections, including preserved specimens, fossils, and a great diversity of illustrated material: annotated field sketches, detailed drawings and watercolours depicting landscapes, geological formations, mammals, birds, reptiles, insects and fish.

Selected items from the exhibition are reproduced in full colour. The accompanying text, in German and Polish throughout, commences with brief introductory essays by representatives of the collaborating museums, locating Blandowski in his broader scientific context (in 1859, the year he left Australia, Alexander von Humboldt died, Charles Darwin published *The Origin of Species*, and Gregor Mendel was diligently breeding peas) and calling for further research into his collections. These essays are followed by a translation of Thomas A. Darragh's detailed biography, 'William Blandowski: A Frustrated Life', originally published in 2009 in the *Proceedings of the Royal Society of Victoria*. Thoroughly researched and very readable, it traverses Blandowski's extraordinarily varied career: his early training as a mining engineer in Upper Silesia; his studies at the Humboldt University in Berlin; his disastrous participation, as a youthful idealist, in demonstrations supporting German claims to the disputed territories of Schleswig and Holstein; his activities as a surveyor, gold miner, and expedition leader in South Australia and Victoria; his involvement in the scientific life of the colony, including the Philosophical Institute (later the Royal Society) of Victoria, the Museum for Natural History

(now Museum Victoria), and the University of Melbourne; the 'Fish Scandal' and its consequences; and his attempts to secure employment following his return to Germany. Drawing extensively on historical correspondence and other archival material, Darragh reveals Blandowski as an ambitious and contradictory character, constantly reinventing himself in response to 'the slings and arrows of outrageous fortune' (often, though by no means always, self-imposed), and unshakeably convinced of the value of his work.

In addition to the full-colour images in the catalogue proper, the text is interspersed with images from Blandowski's 1862 publication *Australien in 142 photographischen Abbildungen nach zehnjährigen Erfahrungen* ('Australia in 142 photographic illustrations, based on ten years' experience'). A review of *Australia: William Blandowski's Illustrated Encyclopaedia of Aboriginal Australia* (2010), an edited translation of this work, appeared in *HRAS* 22:1. Read in parallel, these two recent publications bring to life the colourful Blandowski and his world, and offer valuable insights into the practice of colonial-era natural history and the international transfer of scientific knowledge.

Hilary Howes
Berlin, Germany

Louise Anemaat: *Natural Curiosity:*

Unseen Art of the First Fleet.

NewSouth Publishing: Sydney, NSW, 2014.

256 pp., ISBN: 9781742234090,

9781742246789 (ePDF), AUD \$39.99.

Hot on the heels of the discovery, in 2004, of 56 previously unknown watercolours by First Fleet midshipman George Raper, *Natural Curiosity: Unseen Art of the First Fleet* showcases the spectacular artworks of the TAL & Dai-ichi Life Derby Collection. These consist of six volumes of 745 watercolour drawings created in the 1790s for natural historian and collector Aylmer Bourke Lambert, and acquired in 2011 by the State Library of New South Wales. Published here for the first time, these striking representations of Australian birds, plants, fish, mammals and landscapes 'have the capacity to shake up and challenge the stories we tell about the foundations of European settlement in Australia'.

At one level, *Natural Curiosity* is the ultimate coffee-table book. The Derby Collection watercolours, lovingly reproduced in full colour, are beautiful in a surprising variety of ways. Some, including many of the botanical specimens, are so lifelike they almost leap from the page. Others, although equally accomplished, include elements of fantasy: I was particularly taken by a series of enormous birds striding whimsically across miniature landscapes. Others again, such as a very recognisable, but somewhat oddly proportioned, Crimson Rosella, suggest the difficulties experienced by artists encountering wholly unfamiliar species (or, in some cases, working from poorly preserved specimens). Several are tantalisingly incomplete: full-colour blooms at the top of an orchid stem give way lower down to mere ghostly outlines, and a Black Swan glides majestically through empty air.

My first instinct, therefore, was to leaf through the book, ignore the text and admire the artworks in their own right. However, a closer engagement with the text itself is well worthwhile. Anemaat brings to life the Derby Collection's progenitor, Aylmer Bourke Lambert, a man of considerable means, boundless enthusiasm and extensive social connections. She describes the struggles and surprises of the fledgling colony at Sydney Cove, illustrating the diversity of First Fleet naval officers' and convicts' responses to their unfamiliar surroundings and to ambiguous encounters with local Aboriginal people, and noting the remarkable extent to which art and other cultural activities flourished amid privation and hardship. She reveals intersections between the Derby Collection and others in Australia and overseas, documenting subtle variations between multiple versions of a single image and explaining the importance of copying, the obvious way to duplicate artworks in the absence of mechanical reproduction techniques, but also 'part of a long tradition of art training ... to practise, refine and perfect technical conventions and methods'. She sheds light on the science of dating and provenancing artworks, drawing the reader's attention to details easily missed: dated watermarks, the inclusion or omission of minor elements, the chemical composition of materials used. This rich contextualisation facilitates a deeper appreciation of the artworks themselves, a better understanding

of their production and distribution, and a keener interest in the purposes they served.

I was disappointed to discover that Anemaat's attention to detail did not extend to ensuring the titles of the various artworks were rendered consistently. Some are certainly given in full, accurately reproducing the variant spellings, abbreviations and capitalisations of the original: 'A View of the Tree at Botany Bay, wh yields ye Yellow Balsam, & of a Wigwam' is a good example. In many cases, however, the punctuation and capitalisation of the original are inaccurately reproduced, words are omitted or changed (the most glaring example being the anachronistic replacement of 'native name' with 'Indigenous name'), and elements such as the current common and scientific names of a species are added with no clear indication of whether this information was included in the original title or not. An image clearly titled in the original 'Hook billed Shrike ... Two thirds the Natural size Native name Karro-bee-rang', for instance, is captioned 'Hook-billed shrike, Grey butcher bird (*Cracticus torquatus*), Indigenous name "Karro-bee-rang"'. Where the original title is not visible, which is the case for at least half of the artworks reproduced, readers are left wholly reliant on unreliable captions.

Despite this minor flaw, *Natural Curiosity* is undoubtedly well researched, entertainingly written and beautifully produced. It will be of interest not only to connoisseurs of fine art, but to all those interested in Australia's colonial history, the experiences of early settlers, and the eager communication of those experiences to friends, relatives, colleagues and patrons on the far side of the world. Recommended.

Hilary Howes
Berlin, Germany

John Kean: *The Art of Science: Remarkable Natural History Illustrations from Museum Victoria*. Museum Victoria Publishing: Melbourne, 2013. 177 pp., ISBN: 9781921833250, AUD \$49.95.

Institutions around the world have within their collections rare and fascinating material, which increasingly is being brought before the public in the form of books. These books both show

off these collections and demonstrate the importance of the institution holding this material.

From Museum Victoria comes *The Art of Science*, which gives just a taste of what is held by the Museum. In compiling the book the opportunity was taken to celebrate the important, but possibly lesser known sources of scientific information integral to any institution that has at its centre the study and classification of the living world. The emphasis here is on the variety of media used to create images that are part of the tool-kit used by museum scientists in their work. The focus of this volume is the illustrative material that forms part of the Museum's information resources that are used alongside specimens, field books, collecting notes and other items to inform the work of the taxonomists.

The Art of Science is arranged in broad chronological sections, starting with books that are not unique to the Museum (even if unique in Australia) but represent some of the most spectacular books produced depicting the strange new creatures being discovered in the wake of expeditions of discovery around the globe. These elephant folio volumes are themselves masterpieces of the bookmaker's and engraver's art.

From here the focus moves to the Australian fauna and its depiction in many formats from the more traditional large-scale books, manuscript notebooks and original artworks to modern media such as scanning electron micrographs. A striking feature is the inclusion of material that relates directly to the work of Museum scientists and other observers of the local animals. The observations made by John Cotton, Ludwig Becker and John Bartholomew are highlighted by the reproduction of their manuscript field notes and sketches. The educative role assumed by museum staff is shown by the inclusion of insect plates from the *Prodromus of the Zoology of Victoria*, the work of the Museum's first Director, Frederick McCoy. Many of these insects posed a threat to the agriculture of the colony. These plates are superb examples of lithographic printing, a testament to the expertise of the local printing industry.

It is in the later sections of the book that the close working relationship between scientist and artist, and between specimen and artist, is most dramatically demonstrated. The artist can be an equal partner in the process of discovery and not simply an illustrator. This is shown in

the work of Peter Trussler whose expertise is in the depiction of often fragile fossil bones and from there what these extinct animals may well have looked like. The works of Mali Moir and Rhyllis Plant, while rigorously based on close observation of their subjects, show that scientific illustration is not without humour. In Moir's case, her watercolour painting shows a trio of Hazard Beetles arranged to mirror the readily-recognisable hazard sign, while Plant, working in the unusual medium of wood engraving, gives her works whimsical punning titles.

Some of the works included in the book are well-known and much reproduced: the hydra of Albertus Seba; the platypus of Charles-Alexandre Lesueur; the highly staged mocking birds with rattlesnake of John Audubon. Others are used to show the continuity of the practice of scientific illustration. Sybilla Merian's dramatic work of 1730 was the result of her close study of butterflies in Surinam, each plate showing the metamorphosis from caterpillar to adult butterfly. She was the first to document this transformation. Following in her footsteps were Australian sisters Helena and Harriet Scott whose 1864 work shows indigenous butterflies and their metamorphosis. In the work of both Merian and the Scotts, the butterflies' host plants are depicted with as much care by the artists as the animals. The zoological bias of this book is shown in the omission from the captions of any identification for these plants.

The book has several useful appendices including a glossary of printing techniques used in producing scientific illustrations. Full bibliographic details are given of all the books from which plates have been reproduced, together with comments about the specific copies in the Museum's collections. There is no index.

Unlike similar books, *The Art of Science* is a reflection of the work undertaken in the institution which owns the works selected for inclusion, and not just a means of showing what treasures are in that collection. It successfully draws the reader's attention to the vital part accurate illustrations play in the scientific process. While the selection of works may be eclectic, it is a pointer to the rich collections that reside within Victoria's natural history museum.

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