

Reviews

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David Maynard and Tammy Gordon:
Tasmanian Tiger: Precious Little Remains.
Queen Victoria Museum and Art Gallery:
Launceston, 2014. 127 pp., illus.,
ISBN: 9780646919638 (HB),
AUD \$34.95.

Precious Little Remains is a compelling title. Its double meaning encompasses both the value and quantity of extant thylacine (*Thylacinus cynocephalus*) material, while referencing the Queen Victoria Museum and Art Gallery (QVMAG) collection that forms the focus of this book and its associated exhibition.

The ‘exhibition’ is, in fact, a display corner within a large museum gallery signposted ‘Tasmanian Connections: a Wild Experience of Science and History’. Dominated by a huge dinosaur skeleton, I was surprised by the limited gallery space allocated to the thylacine. My unease was because the Tasmanian tiger is such a unique animal and a recent, human-led extinction that deserves prominence. Located in Launceston, QVMAG is centred within a former thylacine habitat where both physical material and memories of the species have been recorded. Many local stories, some sourced by former senator Bob Brown and associates in the 1960s and ‘70s, are held in the Community History Collection. However, QVMAG comments that its exhibition has relatively few physical items as it was unable to compete with the high prices offered by animal dealers, and the specimens it did acquire were often exchanged with other museums for exotic species.

The display concentrates on trapping stories, thylacine bones and old photographs—many familiar to Tasmanians—plus some unfamiliar images. One is the only surviving nineteenth-century photograph of the species in London’s Zoo. Through the selection and presentation of

these items, the curator makes science and history interesting, and readily accessible, although more use of interactive resources may offer an added attraction for younger viewers.

The book *Precious Little Remains* is freely available as an Acrobat file on the Museum’s website, and is also sold in hard copy. It is full of intriguing and poignant vestiges of ‘one of the world’s most remarkable and misunderstood animals’. Some of its content replicates the exhibition material, so it stands as a ‘takeaway’ slice of the display. However, it also adds a contextual dimension to the items, including extracts from early QVMAG registers, historical information about the institution and a list of the major searches for thylacines since 1936. The book continues to detail the Museum’s collection of thylacine material: five taxidermy mounts; skulls and where they came from (mostly captive animals); descriptions of methods for snaring the species; mandibles and vertebrae, feet and claw bones; cave deposits and whisker and skin samples.

The work concludes with fascinating individual recollections from the 1930s by people with direct experience of the species. These include finding a carcass on the beach at Wynyard, observing a fight between a thylacine and a dog (the dog’s owner captured the thylacine), and the origin of Dilger’s specimen—a key mount in the Museum’s collection. Naturalist David Fleay considered the bite on a buttock he received while photographing a thylacine ‘the highlight of his natural history career and a compliment paid to him by the animal’. A range of contemporary newspaper reports and photos, disturbing but indicative of the attitudes that so often result in extinction of species, closes the book. My only criticism is that details of some images have not been accessed in relevant secondary sources, which are also absent from the reference list.

Together, the display and the book comprise an important and valuable research and educational resource. Both successfully negotiate the fine line between spectacle and evidence. In their capacity as custodians of the remains of species—and as public interpreters of science—QVMAG exemplifies what museums should be doing: informing viewers how extinction occurs, revealing the valuable items in their collection, encouraging further research and concern for species presently under threat. This slim, but attractive, volume can also stand alone as a permanent record of thylacine material in their Natural Sciences collection—the precious remains of one of Australia's most significant faunal losses.

Carol Freeman
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Deb Anderson: *Endurance: Australian Stories of Drought*.
CSIRO Publishing: Collingwood, 2014.
236 + xviii pp., illus.,
ISBN: 9781486301201 (PB), AUD\$45.00.

The past decade has been one of extremes: of catastrophic floods, fires, winds and a decade-long drought. Forged during the long dry—the so-called Millennium Drought—Deb Anderson's project also responds to growing concerns about anthropogenic climate change and rural Australia's uncertain future. This national mood of crisis produced important research in drought policy, climate science and environmental history, focussed particularly on the challenges facing the stricken Murray–Darling Basin. In *Endurance*, Anderson builds on this scholarship, reflecting upon its significance to understanding the past, present and future of the Victorian Mallee.

What began as a doctoral project supported by a unique partnership between Museum Victoria and the University of Melbourne's former Australian Centre, has become an outstanding study of climate and culture in the Australian wheatlands. Anderson's *Endurance* is the product of a decade of painstaking research and engagement with people and place. Her twenty-two oral history interviews with residents now form the centrepiece of the Museum's Mallee Climate Oral History Collection, documenting

'the lived experience of drought and perceptions of climate change in a particular place and time'.

Endurance is an outstanding longitudinal study of how Mallee residents experienced, understood and remembered climate variability during the Millennium Drought. Very few researchers sustain such an ongoing commitment to a community, and it is a testament to Anderson's skill as a journalist and historian that she recognised the significance of this approach. According to some residents, drought 'is part of the Mallee', there remains a 'future in farming' and 'you can't be worried about things you can't control'. Others, however, 'feel a failure', are 'getting anxious', and 'don't want to have to sit through another drought and watch somebody put everything they've got into it ... for *nothing*'. These are deeply personal stories that residents have confided in Anderson; she shares them with great respect and empathy.

The longitudinal approach also allows Anderson to examine changing relationships between people and place over time, and how memory adapts to accommodate the ever-changing present. This approach reveals her skills as both an oral historian and journalist, able to navigate the 'Australian narrative of rural endurance'. Despite a 'history of Mallee exceptionalism', the pioneering legends of overcoming environmental and economic adversity resonate throughout the nation's agricultural and pastoral communities. Interpreting "'stories about stories" about nature' is the focus of environmental historians who seek to understand how settler Australians have attempted to negotiate an ancient land. Lest the term 'stories' trivialise their importance, such human narratives help overcome what climatologist Mike Hulme describes as 'climate reductionism' in climate change discourse, overlooking the complexities of human–non-human interactions.

Anderson's study is highly interdisciplinary, drawing on political science, cultural studies and environmental history to make sense of the people and place of the Mallee. Her insightful analysis of the scholarship on drought, rural policy and climate change updates and synthesises a vast and complex literature often overlooked in rural crisis headlines. Extensive use of documentary, photographic and oral sources makes for a colourful book of many voices, although one could have been louder: Anderson herself.

This aside, *Endurance* is a work of great significance that will inform not only historians of rural Australia, but also, I hope, policymakers and politicians whose decisions continue to shape Australian stories of endurance, drought and climate change. It is they who 'need to *keep listening*'.

Ruth Morgan
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Tim Low: *Where Song Began: Australia's Birds and How They Changed the World*. Penguin Group: Melbourne, 2014. 416 pp., illus., ISBN: 9780670077960 (HB), AUD \$32.99.

The title of Tim Low's new book excites the reader's expectations from the get-go. The claim that 'our' birds be accorded an instrumental position on the global stage intentionally surpasses the scope of previous works on Australian birds.

The title is also designed to provoke the scientific orthodoxy of the global north where, Low suggests, 'prejudices are falling now, and Australia is the fulcrum on which the new thinking turns'. Bird behaviour is more diverse and surprising in the south. While this ec-nationalism serves as a potent call to action, it must be substantiated with robust evidence. Can Low deliver on his ambitious claim?

Where Song Began is arranged in chapters that define the contingencies of life in Australia. 'Food worth defending' describes the production of sugar and exudates by plants that fuel a clamorous land, populated by large and uniquely aggressive avian pollinators. Australia's heaths, woodlands and forests support a host of competitive nectar-feeders where 'ample sunshine and depleted soils encourage plants to produce more carbohydrates than they can use'. Honeyeaters and parrots feed conspicuously on the abundant sugar in the form of nectar. Others, like the pardolotes, depend on lerps: crystallized honeydew that forms over psyllid insects. The phenomenon is so pervasive that, Low reports: 'malleefowl raise young only in years when something like lerp provides a boost'.

Molecular biology has revolutionized our understanding of avian evolutionary history, and recent phylogenetic research provides the

armature upon which Low's narrative is hung. His evidence, drawn from a striking range of disciplines, reflects a host of different environments. An inveterate traveller, Low supports his arguments with observations made in Australia and across the globe.

Although seemingly conversational, *Where Song Began* is based upon an impressive review of the literature. Circumstantial, historic and ethnographic records, as well as scientific findings, are stirred into a mix that may be too rich for some. While Low writes with flair for a general audience, parsimonious subject specialists may recoil from his apparent overreach.

The author is unabashed about his love for the Australian environment. A gifted travel writer, Low's knack is integrating information from diverse disciplines to craft a compelling story, located in place. His writing shares the intimacy of A. H. Chisholm (*Mateship With Birds*, 1922) and the geographic and intellectual scope of David Quammen (*The Song of the Dodo*, 1996).

Low insists that biologically, 'New Guinea is Australia'. Much of his evidence is obtained from the islands that, in evolutionary terms, only recently separated from the mainland. Emphasising the conservation value of refugia, both in the short and long-term, Low's observations of endangered Swift Parrots feeding on Sugar Gums in central Hobart affirm his assessment of New Guinea as 'the main home for Australian rainforest birds'.

While a Palm Cockatoo shrieks discordantly from the book's cover, the Superb Lyrebird should be its hero species—and not only because it is acclaimed as the world's greatest performer. Molecular research places lyrebirds, and the equally vociferous scrub-birds, at the base of the global evolutionary tree of songbirds. Low asserts that the ancestors of this ancient group 'heralded a new dawn for planetary acoustics. Never before had the world thrilled to notes so liquid, pure and powerful'.

Indeed, a deafening silence regarding the evolutionary significance of Australia's songsters motivated him to write the book. Low sets out molecular and paleontological evidence for the dispersal of songbirds from Australia and their serial re-colonisation, a process fuelling the evolution of numerous familiar lineages. Put simply, songbirds that evolved in Australia spread and differentiated, becoming the globe's most diverse

and abundant order, filling the terrestrial world with song.

While songbirds are at the heart of Low's argument, he turns successively to other orders, noting for example the critical role of seed dispersal by pigeons and cassowaries in the expansion of rainforests. Indeed, his description of the exquisite relationship between birds and plants foregrounds the author's expertise as a field ecologist.

Assuming a synoptic view over the southern ocean, Low demonstrates that the Procellariiformes (albatrosses, shearwaters, prions and petrels) are as dominant at sea as the Passeriformes (songbirds) are ashore. New Zealand—a landmass historically free of mammalian predators—emerges as critical for perpetuating the breeding sites for many seabird species. With the erudition of an accomplished storyteller, he concludes that 'the world has one hemisphere weighted towards mammals [the north] and one towards birds, since one is mainly land and the other partitioned by sea'.

Where Song Began is an eminently readable book, published as bird watching is once again ascending. Told over geological time, it celebrates the instrumental effect of southern birds on the world's avifauna. The evolutionary history of Australia's birds also makes a compelling story that will percolate through the national consciousness, giving scientific substance to the extraordinary natural sounds that envelop us.

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David Solomon and Tom Spurling:

The Plastic Banknote: from Concept to Reality. CSIRO Publishing: Melbourne, 2014. 225 + xv pp., illus., ISBN: 9780643094277 (PB), AUD\$39.95.

This book outlines how two Australian organisations worked together over twenty years to produce the world's most secure and durable banknotes. This technology is now used for all Australian banknotes—and those issued by 34 other countries.

The authors are both former scientists from the Commonwealth Scientific and Industrial Research Organisation (CSIRO): David Solomon, who led CSIRO's work on the project, and Tom

Spurling, who is driven by a deep interest in the history of Australian science and innovation.

The story begins in 1968, when the Reserve Bank's Governor, H. C. (Nugget) Coombes, sought to apply Australian science and technology to improving the security of banknotes. His concern arose after it was discovered in 1966 that the new decimal currency—introduced that year—had already been forged.

Coombes instigated a series of meetings which saw CSIRO partnered with the Reserve Bank. This relationship accorded with CSIRO's policy of conducting high-quality scientific research that could be published and used for economic benefit. The Bank at that time designed and printed all Australian banknotes. Conducting no technical research and development of its own, it employed overseas-supplied technology; its competitors were forgers, not other legitimate banknote producers.

By the end of the Currency Notes Research and Development (CNRD) project, these business models had undergone radical change. Both CSIRO and the Reserve Bank now operate in a commercial environment and expect a return on capitalising their intellectual property. Tracing the history and implications of these changes is a key theme of this book.

Throughout the CNRD project, the main emphasis was on developing banknote production technology to enhance security. It gradually became clear that using plastic film rather than paper as a substrate offered better possibilities for security features, including transparent areas and 'optically variable devices' such as diffraction gratings and holograms.

The firm decision to proceed with producing an Australian plastic banknote incorporating CNRD innovations was made in 1982 by Bank Governor Bob Johnston, soon after his appointment. Interestingly, he had attended the first meeting called by Coombes in 1968. The inaugural release was a commemorative \$10 note issued for the Australian bicentenary in 1988.

This book, written in the form of Solomon's recollections, describes the CNRD project in detail, including important research activities, meetings, discussions and decisions. Its authors hoped that their account would do two things. First, to convey not only the excitement of undertaking highly applicable science, but also the frustration and hard work required to bring ideas

to the marketplace. Their second aim was to show how CSIRO contributes to the nation's economic and social wellbeing via 'market pull' projects.

Their hopes have been realised. *The Plastic Banknote* should be read and enjoyed by anyone interested in the management of large projects that involve extensive scientific research. As such, it makes a major contribution to the history of Australian technology. Well produced, with a comprehensive index and references, plus several illustrations, it can be read and understood without the need for special scientific knowledge or reference to other documents.

Ian Arthur
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Fred Ford: *John Gould's Extinct & Endangered Mammals of Australia.*

NLA Publishing: Canberra, 2014.

271 +vii pp., illus.,

ISBN: 9780642278616 (HB), \$49.99.

Added in blood-red letters on the cover, Fred Ford's insertion of the words 'Extinct & Endangered' qualify his engagement with John Gould's *The Mammals of Australia* (1863). They aptly signal this book's sad and salutary theme of species destruction and decline. Inside, the richly illustrated pages, superb design and engaging text ensure that this handsome publication will attract, inform and move a broad, non-specialist readership.

The National Library of Australia has produced several attractive works, showcasing its natural history collections. Gould's mammal plates already feature in Roslyn Russell's biography, *The Business of Nature* (2011), which Ford—a zoologist—partly draws upon. But he goes further, offering a balanced assessment of Gould's contribution to mammalogy, while tracing and explaining the fate of Gould's mammals that suffered most from European settlement.

The facts are stark. Sixteen species Gould described are now extinct. Too many others survive precariously in a portion of their former range. In all, 46 of Gould's mammals are now listed under the *Environment Protection and Biodiversity Conservation [EPBC] Act 1999*.

Beginning, appropriately, with the thylacine, 'the decisive extinction story', Ford provides an image of each mammal from the original H. C. Richter lithograph, and also a reference

summary. This is a book designed for browsing, as well as for consumption whole. Listed are the animal's common and scientific names, plus its EPBC status. Past and present distributions are clearly mapped, while a timeline tracks each mammal's survival history since 1788. Additional illustrated text covers current knowledge of the species, what was known in Gould's time, its history since, and modern conservation efforts.

No argument is sustained throughout. Instead, a series of discussions help build a cumulative understanding of the cost of colonisation, including settlers' culpability in the slaughter of some species. Ford also emphasises the multi-faceted role of rabbits, which destroyed habitat and stimulated the spread of foxes. But their subtlest impact, he argues, lay in rupturing the colonists' former close association with smaller native mammals, which rabbits replaced as sources of food, fur and resentment.

Scientific aspects seem soundly based on contemporary and modern publications, plus Ford's evident professional expertise. Fresh historical evidence has been unearthed from Trove's historic newspapers, but missing from the bibliography are the scholarly Australian history works that could have provided richer context for discussing species decline. Ford says nothing, for example, about the timing and geography of pastoral expansion. Similarly, his observation on the cultural roles assumed by rabbits would have been enhanced by Alan Atkinson's insights into the place that native animals held in the imagination of European settlers. Ford's anachronistic use of the terms, 'Victoria' and 'Northern Territory' is perhaps a minor quibble, but symptomatic of this thin historical foundation. The bibliography is also a poor substitute for endnotes, although page references are provided for direct quotations.

None of these complaints detract too much from this striking publication. Its visual feast—comprising Richter's plates, early landscape paintings and modern photographs—complements the book's engrossing text. Revealing what has been lost and what might yet be saved, it serves up timely food for thought.

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Brian H. Kay and Richard C. Russell (Eds):
Mosquito Eradication: the Story of Killing Campto. CSIRO Publishing: Collingwood, 2013. 256 + xxiv pp., illus., ISBN: 9781486300570 (PB), AUD\$69.95.

The ANZACS fight another battle! This time it was in New Zealand, not Gallipoli, and conducted not against Turks, but a mosquito, *Aedes camptorhynchus* (referred to as 'Campto').

The southern salt marsh mosquito, *A. camptorhynchus*, is native to Australia, where it viciously bites humans and carries the human pathogen, Ross River Virus. As this virus is a significant cause of viral arthritis, long-term joint pain and post-infectious fatigue, it was of vital importance to eradicate this mosquito once introduced into New Zealand. It was never definitively determined by which route Campto travelled from Australia to New Zealand. Table 7.1 presents some hypotheses: prevention of subsequent invasion attempts must consider all options, including ships and aircraft. One wonders if climate change—and possible associated changes in wind direction and velocity between Australia and New Zealand—may alter the odds.

The battle outlined in *Mosquito Eradication* was fought from 1998 to 2010 on several fronts: eleven sites on the North and South Islands of New Zealand. Through skill, perseverance and tenacity, the ANZAC forces were ultimately victorious and the mosquito was repelled back to Australia, where it is part of the native insect fauna. The weapons used were the classical epidemiological tools of surveillance and monitoring, plus a liberal dose of chemical warfare, using S-methoprene and *Bacillus thuringiensis israelensis* (Bti) toxin in areas undertaking organic farming. Despite the involvement of knowledgeable, skilled and dedicated scientific and administrative personnel, the war would not have been won without the New Zealand government holding its nerve and providing the necessary funding (approximately NZ\$70 million). It is not often that one can congratulate politicians, but in this case the mosquito was pitted against New Zealand statesmen.

This book is a great read both for biologists (especially entomologists) and medical historians. It was written by 36 different authors, each of who played a key part in the eradication of this

foreign mosquito. Their accounts of the battles, divided into thirteen chapters presented in logical sequence, are well written and relatively easy to read. The figures, often cuttings from newspapers, are relevant and informative. Referencing at the end of each chapter is excellent. The print size, page format and binding of the book made it a pleasure to hold and read.

If I could make any criticism of this fine text, it would be that each chapter would have been improved by incorporating a summary. Some were heavy-going for a non-entomological reader (I am a medical microbiologist). Figure 7.3 was of poor quality as the four different shadings were not sufficiently distinctive to differentiate the options in the figure.

Mosquito Eradication is a great record of a great war against this mosquito in New Zealand, a war in which the ANZAC forces were ultimately successful. I think that not only will entomologists find this book of great interest; so too will others concerned with ecological disturbance and human health. I strongly recommend it.

Stephen Graves
 Newcastle

James I. Viggers, Haylee J. Weaver and David B. Lindenmayer:
Melbourne's Water Catchments: Perspectives on a World-class Water Supply. CSIRO Publishing: Collingwood, 2013. 131 + xi pp. illus., ISBN: 9781486300068 (PB), AUD \$29.95.

This short volume provides a brief and largely institutional history of Melbourne's forested rainwater catchments that, from the 1850s until recently, have been the city's only source of drinking water. From Yan Yean in the 1850s to the mighty Thomson of the 1980s, it outlines how successive water authorities identified and reserved usable supplies, then built the many dams, storages, channels and pipelines needed to bring water into the city. The main focus spans the 1890s to the 1990s, when the Melbourne and Metropolitan Board of Works (MMBW) was the responsible authority. The main author was the last chief engineer for water supply before the MMBW was dismantled in 1991. He enlivens the text with an insider's view of how

the system operated in the second half of the twentieth century.

Melbourne was more fortunate than most cities. When the increasingly polluted Yarra River could no longer supply the population, its timbered and elevated hinterlands were still largely in public hands. It fell to water authorities to persuade governments to reserve these rent-free for harvesting pure, cheap, gravity-fed rainwater. Cities overseas could usually not afford the freeholds of forested catchments, having to make do with river or groundwater cleaned up for human consumption.

Forested catchments were and remain a scarce resource. There was a view amongst non-metropolitan citizens that Melbourne took more than its fair share of Victoria's water resources and did not use them well. From the outset loggers, pastoralists and irrigation farmers fought for the right to use the catchments. Most of these political and bureaucratic battles are outlined here, as the MMBW found it increasingly difficult to insist on completely closed catchments. It is symbolic that the Thomson—the largest and most recent storage—is not an exclusive reserve.

As Melbourne continued growing it became increasingly difficult to source new water supplies from remote forested catchments. Periodic droughts left the city with dangerously inadequate reserves and necessitated unpopular water rationing. After the Thomson, large dams and elevated storages became impracticable economically and politically.

As the early twenty-first-century drought intensified, the Bracks Labor government made a radical break by turning to sources outside the local rainwater catchments. Designed to draw water from the Goulburn River and feed it into Melbourne's storages as required, the North-South pipeline infuriated non-Melburnians and was effectively decommissioned by the Liberal National Party government in 2010. The large and costly desalination plant completed recently at Wonthaggi to harvest drinking water from the sea has also never been used. However, as Melbourne continues expanding and global warming reduces rainfall, it will be commissioned eventually. Seawater—combined with massive amounts of electrical power—will increasingly replace forested catchments as Melbourne's source of water.

The book is attractively produced and the text is extensively illustrated with useful maps and photographs. It should appeal to students, planners and engineers interested in the history of Melbourne's water supply as well as the challenges it faces as the city continues to grow.

Tony Dingle
Melbourne

Carol Freeman: *Paper Tiger:*

How Pictures Shaped the Thylacine.

Forty South Publishing: Hobart, 2014.

224 + xiii pp., illus., ISBN:

9780992279172 (PB), AUD\$49.95.

Paper Tiger explores a simple premise. Was the pictorial representation of the thylacine (Tasmanian tiger) responsible for hastening, or even causing, its eventual extinction? Carol Freeman, through extensive and thorough research, presents a reasonable argument that is hard to ignore. More than eighty images from diverse sources, including early twentieth-century photographs, are meticulously analysed along with their accompanying texts. She explains how artistic and literary devices were used to influence popular and government opinion.

The book's scope encompasses European arrival in Tasmania in 1803 to the thylacine's eventual extinction around 1936. Freeman shows, in an enlightening, sombre and poignant tale, how even scientifically important works used deceit and manipulation to demonise the animal as a sheep killer. The thylacine, she argues, was deliberately aligned with already entrenched European views that vilified animals such as the wolf and hyena, while more sympathetic imagery was suppressed or ignored.

As a historical record of the depictions of a single subject—and their influence over public opinion—the book is an impressive piece of research for art and social historians. However, as a scientific record of the decline of a species it is less convincing. As Freeman quite rightly states, Tasmania was the thylacine's last stronghold, with a remnant population of 2000–4000 at the time of first European settlement. What is not emphasised is that a population that small may already have been doomed. Having become extinct on the mainland some 3000 years before, thylacines were already under pressure when Europeans arrived with their sheep.

Even without the extra hunting pressure from pastoralists, habitat loss and population fragmentation may well have sealed its fate.

Paper Tiger is certainly a damning indictment of the power of the media over public and government opinion. This is still apparent today, including sensationalist reporting and wildlife documentaries, most notably over the portrayal of sharks. The book posits that the media of the time may have hastened the thylacine's demise, but there is now no way to test this hypothesis: correlation does not mean causation. Negative attitudes towards wolf-like predators were already well entrenched when Europeans arrived. While 'imagetexts' (Freeman's word) may have reinforced those attitudes, it cannot be proved that they made things worse.

Overall the book has the appearance of a 'coffee-table' edition. The illustrations are

quite stunning, with the landscape format permitting many full-page reproductions. Opening with an engaging introduction, which describes the author's own experiences viewing Aboriginal rock engravings of the thylacine, *Paper Tiger* will potentially appeal to a wide audience, including those interested in art history, psychology, and general natural history. It incorporates a very useful timeline, extensive endnotes and a comprehensive bibliography. However, a minor irritation was several misprints that, while not altering the interpretation of the text, were distracting.

The detailed analyses of the images may deter some interested general readers, but this same attention to detail will delight social, art and science historians alike.

Susan Double
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