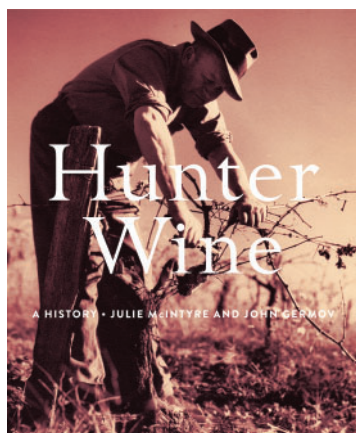


Reviews

Compiled by Peter Hobbins

Department of History, The University of Sydney, NSW 2006, Australia.

Email: peter.hobbins@sydney.edu.au



Julie McIntyre and

John Germov:

Hunter Wine: a History.

NewSouth Publishing:

Sydney, 2018.

304 + xiii pp., illus., ISBN:

9781742235769 (HB), \$49.99.

‘Stories about wine, like wine itself, are an ancient source of human pleasure’ remark Julie McIntyre and John Germov in *Hunter Wine: a History*. The authors have clearly taken great pleasure

in crafting this history of place in the context of a commodity and the people who produce it. Much of the readers’ delight comes from the authors’ deep interest in wine culture, and their intimate relationship with the Hunter district and its communities. Another strength emerges from their ability to situate the ‘three p’s’—place, product and people—in a global context. They explore the ‘circuitries’ and ‘entanglements’ of the region’s wine stories, especially how natural, cultural and technological factors have influenced the development of a wine industry in an unlikely locale.

Hunter Wine achieves its purpose. It demonstrates the pivotal role of the Hunter Valley, its vine growers and wine-making communities in shaping Australia as a wine country. There is no doubt as to the veracity of the research. Wine in Australian society and culture has been the focus of McIntyre’s academic career, and echoes of her earlier book—*First Vintage: Wine in Colonial Australia* (2012)—are present in this new work. However, the rich connections to place make *Hunter Wine* a more tangible history. Described as a ‘historical sociological’ study of wine, the research spans many other fields of scholarship, including anthropology, politics, trade, tourism, marketing and wine production, alongside environmental and technological sciences, especially viticulture as a specialised form of agriculture.

For the most part, the book is written for a broad audience. While many technical terms and processes are defined or explained to varying degrees, some oenological literacy is required. The text is divided into a detailed introduction and eight chronological chapters, fully supported by endnotes and bibliography. Well reproduced historical images and documents from public archives and private collections are peppered throughout. A helpful guide to historical

measurements, yields, wine styles and nomenclature—plus a map and timeline—gives readers an idea of the local and external factors that historically shaped the region’s wine industry. Useful appendices show cultivation and production over time, while lists of heritage cairns, landmarks, cemeteries and sites of memory are also thoughtful inclusions. Some readers may find the index limiting: not all vineyards or estates mentioned in the text are listed, for example. Nevertheless, a second edition may remedy this omission and provide an opportunity to revise the very few proofing errors.

A detailed introduction cements the book as a history text. It explains the intent, methodology and impressively diverse range of sources employed, from documents and material culture to historiography, living memories and an intimate knowledge of the district itself. An important aspect of the academic argument emphasises cooperative rather than individualistic interpretations of the industry. Nevertheless, readers unfamiliar with Australian wine history may be disconcerted by the early focus on overturning the ‘Busby myth’—the enduring fallacy that James Busby was ‘the instigator of Australian winegrowing and the pioneer Hunter viticulturist’. Nevertheless, the tone relaxes as the narrative takes hold, resulting in a lively, richly detailed and engaging social, environmental and political history of the Hunter Region.

The speculative and experimental nature of the science behind the early producers’ understanding of viticulture and oenology come to life with vivid descriptions and observations from various chroniclers. Theories posited and tested included soil types and preparation methods; vine growing techniques, from propagation to harvesting, including planting, pruning and trellising systems; climatic and seasonal conditions; and wine-making processes including crushing, fermenting, aging, bottling and stabilising. The book offers a broader perspective on period commentaries on larger-scale forces such as phylloxera and other diseases, alongside political, economic and industry reforms.

Hunter Wine contains close to fifty mini-biographies of individuals and families whose contributions shaped the region and its wines from the 1820s until today. Some built dynasties and their names remain preserved in well-known brands. One of the book’s substantial contributions is to restore many of the more obscure contributors to the story. This ‘who’s who’ is understandably male dominated, but the authors are careful to acknowledge and explore women’s roles, where known. Great care is likewise given to making Aboriginal Australians visible throughout the book, acknowledging their sacrifices as land was usurped by colonisers, while foregrounding their presence and contributions in the wine community.

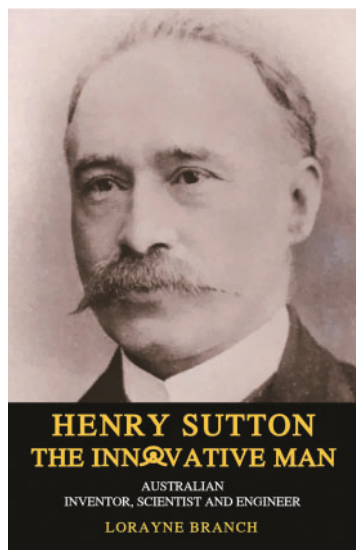
A masterstroke in making sense of the region's 'long-game' is the characterisation of the 'generations' that shaped consecutive time periods. These codifications are referred to throughout, and are central to the book's narrative structure, from the early 'imaginers', 'experimenters' and 'first wave globalists' of the colonial world, to the 'forgotten', 'stoic' and 'renaissance' generations of the twentieth century, concluding with present-day 'second wave globalists'.

Through these stages we see developments in technology coinciding with a growing understanding of viticulture in the region, which refined and now define Hunter wine. Buoyed by an increasingly receptive local and global consumer market, ever-more confident Hunter winemakers were no less creative or willing to experiment than their forebears. They now produce wines—in the words of famed winemaker and surgeon Max Lake—from the 'marvellous gifts of capricious nature' for 'the connoisseur and beginner alike'.

The authors' deep respect for humanity and empathy for historical figures elevates this work beyond mere archival analysis. It intimates a very personal appreciation for people in the past, while celebrating relationships with contemporary community members. The result is an engaging and evocative history of the Hunter Region through its wine community, each shaping the other to create a place of distinct flavour, identity and personality.

Jacqui Newling

Department of History, The University of Sydney
Resident Curator and Gastronomer, Sydney Living Museums



Lorayne Branch:

*Henry Sutton:
the Innovative Man:
Australian Inventor,
Scientist and Engineer.*
Lorayne Branch, Ballarat,
2018. 397 pp., ISBN:
9781925332346 (PB), \$66.00.

The author of this book, Lorayne Branch, is a great grand-daughter of Henry Sutton, the book's subject. Driven by curiosity, over ten years she collected and collated information that led her eventually to write this comprehensive biography, launched in Ballarat in December 2018.

Sutton's parents, Richard and Mary, emigrated from England to Australia in 1854 to mine for gold. They had little success. However, Richard, a mechanic, used his knowledge of musical instruments to set up a business selling and servicing them. The company soon expanded and employed all four of his sons, becoming one of the largest music firms in Australia.

Henry, the first son, was born in 1855 in Ballarat. Along with his siblings he was educated by his mother until around the age of eleven. He read widely from the library at the Ballarat Mechanics' Institute and by the age of fourteen had read every book and journal

on science in the library. After learning to play the piano and violin, his work in the family business made him handy with tools. Sutton also had a lifelong interest in photography.

At the age of ten, Sutton began studying flight and flying machines. This led to his constructing an ornithopter, a small flying machine with flapping wings driven by a clockwork motor that provided power to counter drag and provide lift. He wrote about it to the Aeronautical Society of Great Britain, resulting in two of his articles being published by the Society in 1878.

Sutton attended a private school in 1869 and then in 1872 the Ballarat School of Mines, where he studied physics, chemistry and other subjects. From 1883 to 1889 he lectured to an electricity class and equipped a laboratory at the School of Mines, resigning to concentrate on his career as an inventor.

Sutton devoted his efforts to researching and developing a wide range of technologies. Early in his career he explored, developed and demonstrated important improvements to technologies including telephones, batteries, incandescent lamps and colour printing. He communicated regularly with inventors in Britain and published papers in learned society journals there. His work was far better known in the UK than in Australia.

This diversity set the pattern for the rest of Sutton's life, right up to his death in 1912. At that time he was researching radio transmission in a laboratory and radio station at his home in Melbourne, while assisting the Royal Australian Navy in developing long-distance telegraph transmission.

Sutton travelled to England with his wife and son in late 1890, mainly to commercialise his photographic process for publishing half-tone images for newspapers and journals. He had first demonstrated the technique in Australia in 1887 and secured fifteen patents, five in Australia and ten in various countries worldwide. The process soon became widely used by newspapers in Britain.

While in England, Sutton presented papers on several of his inventions that were published and aroused much interest. He made many contacts in London because he was already well known through some of his inventions and published papers, and through his correspondence with British inventors.

On his return to Australia in 1893, Sutton settled in Melbourne to join with his brothers in the management of the family music company, which at the time was struggling through a worldwide depression. He managed a new branch of the business: bicycles and motor bikes designed and developed for production in Australia.

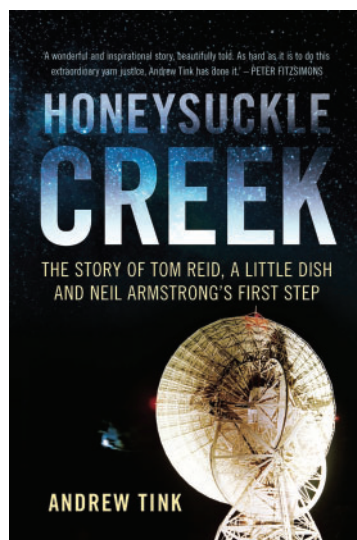
Sutton saw a long-term future for internal combustion engine vehicles, and was soon working on the design of engines and automobiles. In 1898, he lodged his Australian patent for internal combustion engines and in the following year lodged patents around the world. Some of his engines were designed to run on kerosene fuel.

However, Sutton's health rapidly declined and he died suddenly in 1912 at the age of 56.

Branch's book is a comprehensive and readable account of Sutton's amazing career. Around one quarter of the text is taken up by extracts from learned society papers and other documents, some of which make heavy reading. Professor Mark Dodgson, Professor of Innovation Studies at the University of Queensland describes Henry Sutton as 'Australia's greatest ever inventor and,

indeed, one of the greatest inventors the world has ever seen'. For everyone who has an interest in the history of invention and innovation in Australia this book is a must read.

Ian Arthur
Sydney



Andrew Tink: *Honeysuckle Creek: the Story of Tom Reid, a Little Dish and Neil Armstrong's First Step*. NewSouth Publishing, Sydney, 2018. 288 pp., illus., ISBN: 9781742236087 (PB), \$34.99.

With the fiftieth anniversary of the first Moon landing marked in July 2019, this book provides a timely reminder. It details the critical role played by the Australian Honeysuckle Creek Tracking Station in bringing live images of astronaut Neil Armstrong's first steps

on the Moon to a global television audience.

This contribution is often overlooked in popular histories, perhaps due to the fictional account of events portrayed in the movie *The Dish* (2001), starring Sam Neill, in which the Commonwealth Scientific and Industrial Research Organisation (CSIRO) 64 m Parkes Radio Telescope was depicted as playing a pivotal role. In this larger account, Andrew Tink outlines the role that the tracking stations at Honeysuckle Creek and Tidbinbilla—as well as the radio telescope at Parkes—played in support of the US National Aeronautics and Space Administration's (NASA) Apollo missions.

The book is in part a biography of Honeysuckle Creek's director, Tom Reid. It also incorporates personal history, as at one time Tink dated Reid's eldest daughter. This intimate view provides an engaging perspective. Tink describes his own grandfather shaking his head in disbelief after watching the Moon landing, recalling that he was nine when the Wright brothers first accomplished sustained powered flight in 1903. Such direct associations remind us of the extraordinary progress made during one lifetime.

Tink follows the events leading up to the 1969 Apollo 11 Moon landing. He provides a thorough account of the development of NASA's space tracking network and the critical contribution Australia made to space exploration. Aimed at the reader with no technical or scientific background, the story culminates in the transmission of the television pictures of Armstrong's first step on the lunar surface via the 26 m dish at Honeysuckle Creek. For eight and a half minutes Honeysuckle provided the primary feed for the global broadcast before the signal switched to Parkes, which then relayed the remaining two-and-a-half hour broadcast.

Following the Moon landing, Reid moved to supervise the expansion of the Tidbinbilla Tracking Station that would act as

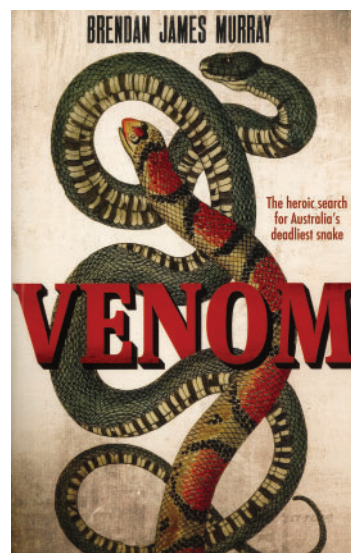
Honeysuckle Creek's wing station for the remainder of the Apollo program. This expansion included the construction of a new 64 m dish (later increased to 70 m). After the conclusion of the Apollo program in 1972, Tidbinbilla refocused on deep-space tracking of NASA probes such as Viking 1, the first spacecraft to land on Mars, and the Voyager spacecraft that are still providing data today.

In 1981, deep cuts to NASA's budget led to the closure of the Honeysuckle Creek Tracking Station and the 26 m dish was relocated to Tidbinbilla. It continued in service until it was finally decommissioned in 2010. CSIRO now operates the Tidbinbilla tracking station (Canberra Deep Space Communications Complex) on behalf of NASA and decided to preserve the 26 m Honeysuckle Creek dish. It now stands pointed upwards at the entrance to the Deep Space Tracking centre as a sentinel reminder of its contribution to space exploration.

By all accounts, Tom Reid was an intensely private man. Tink has thoroughly researched his background and bought his contribution to the NASA program to life, despite Reid resisting discussion of his work and achievements while he was alive. Through Reid's tireless efforts, Honeysuckle Creek would become synonymous with excellence in NASA's space tracking network. Reid's career was not a straightforward journey; both personal and professional challenges threatened to derail progress throughout his work life. He stepped down as director of Tidbinbilla in 1988 and passed away in 2010. His contributions have been recognised by awards from both Australia and the USA.

I would recommend this book to anyone with an interest in understanding Australia's contribution to space exploration. It is a highly readable and engaging account of events leading up to one of the milestone events of human endeavour.

Harry Wendt
Sydney



Brendan James Murray: *Venom: the Heroic Search for Australia's Deadliest Snake*. Echo Publishing: Melbourne, 2017. 385 pp., illus., ISBN: 9781760405694 (PB), \$32.99.

Navigating the fraught pathway between history and creative non-fiction, Brendan James Murray takes risks. Pursuing the trails of the taipan through Aboriginal experience and western science, he writes an account that is much larger than simply a snake

story. *Venom* is an exciting read that fizzles with a sense of place, cultural memory and Australian racial politics. Whether it can be drawn upon as a source for the history of science, however, is a vexing question.

Moving across locations and memories, the text is propelled by an underlying chronological logic. Murray briefly traces western knowledge of the taipan (*Oxyuranus scutellatus*) from the 1860s until its rise to prominence in the 1920s, building the bulk of his tale across 1930–60. Known to Aboriginal people in Australia's north-east as the nguman, it first rose to prominence amongst whites as the 'cane snake'. Only in 1935 did the local Wikmunkan word, taipan, stabilise as its enduring moniker. By this time, Murray observes, the species had established itself 'as an animal whose bite had a one hundred per cent fatality rate'.

A prominent strand throughout the book focuses on restoring the presence, beliefs and language of Aboriginal people—especially their knowledge of local ecosystems. As such, *Venom* counter-balances prototypical western 'discovery' stories. Instead, it interweaves Indigenous experience with the erratic heuristic roles of travelling showmen, amateur herpetologists, animal keepers, regional doctors and biomedical scientists.

The narrative is derived largely from interviews with surviving protagonists, plus the papers of several key participants in expeditions to capture taipans for venom research. Eschewing formal archives, Murray's exploration of mid-century attitudes relies largely on newspaper accounts. His bibliography reflects this focus on published primary sources, omitting reference, for instance, to Kevin Markwell and Nancy Cushing's 2016 cultural history of the taipan in the *Journal of Australian Studies*.

But *Venom* is no typical academic history. Murray is a perennially inventive writer; in his re-created world, 'anthills bulged like buboes from the whispering grass'. Such innovative phraseology typifies the text, yet it never hinders the narrative's progress. Rather, it actively evokes places, people and—to an extent—historical cultures.

The book is also founded in a sound appreciation of the underlying sciences—including taxonomy, zoology, ecology, toxinology and immunology—although at times they are curiously portrayed. 'When the colonialists imagined the links between species, sorted reptiles based on family and genus', he proposes, 'it was a form of dreaming'.

There are many strengths to Murray's approach, and indeed to the book overall. His depiction acknowledges, and then demolishes, the hysterical headlines of 'a community that was febrile with taipan mania'. Rather, he elaborates the snake's ecological role, and the ways in which the species prospered in a transformed environment of cane fields and cane toads.

The all-too-human stories of bites, desperate treatment and inevitable death are equally prominent. Uniting these strands is the agency of taipans themselves: elusive, rapid and combative snakes that resisted capture. The irony is not lost on Murray, nor did it escape historical observers: 'Queenslanders were killing taipans because they wanted to prevent human deaths, but every taipan killed was a missed opportunity to collect venom for antivenom production'.

In this regard, the tale is a little uneven. Perhaps because of the richness of the interviews and fieldwork diaries, the science of 1950s antivenom production is largely sidelined. Reference to Alf Brogan's 1990 history of the Commonwealth Serum Laboratories (CSL) would have added a little more balance. The result is that the intricacy of antivenom development is subsumed by case studies and clinical experimentation. Murray makes it clear that the first

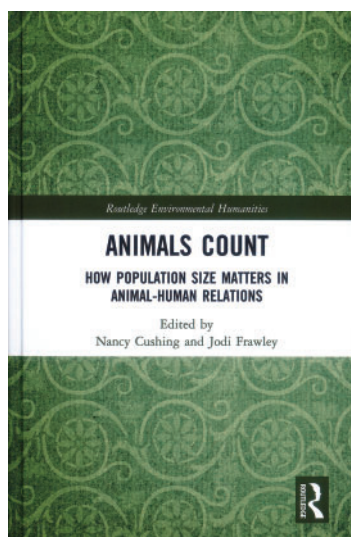
captive taipan was poorly treated—to say the least—by CSL. Conversely, he boldly claims, their horses used to generate taipan antivenom made 'a more significant contribution to Australia than Phar Lap, Makybe Diva and Black Caviar combined'.

The narrative force of the account, however, creates profound problems for assessing its veracity as a history of science. While Murray crafts a lively story, it is clear that he has taken imaginative licence with motivations, circumstances and dialogue, regularly inserting conversations that can only be creations. The result is an enduring unease about the limits of his empirical evidence and the interpretive weight that can be afforded to *Venom*. In this vein, the publisher's errant choice to illustrate the cover with a pair of North American serpents was an unfortunate decision. In their defence, the text itself has been tightly edited at both structural and syntactical levels.

Ultimately, I suggest, *Venom* is not a reference work. Rather, it serves as a model for how historical sources and stories can be creatively rendered to inform how we make meaning of the past. In telling the tortuous tale of the taipan, Murray never veers from his vision of the histories that he wishes to evoke.

Peter Hobbins

Department of History, The University of Sydney



Nancy Cushing and Jodi Frawley (eds.): *Animals Count: How Population Size Matters in Animal-Human Relations*. Routledge: Abingdon, 2018. 210 pp., illus., ISBN: 9780815381365 (HB), \$242.00.

There is something perverse about the relationship between non-indigenous Australians and other exotic animals. Colonisation depends on and continues to require introduced animals growing, reproducing and dying at our command.

Despite these vital relationships, both exotic and native creatures hold ambiguous places in the hearts of colonists past and present. Too many animals in the wrong place is a threat; too few in another locality is a tragedy. It is only by holding exotic and introduced species in equipoise that Australians use animals to construct identity, belonging and security. But how do we define the right numbers, the right place and the right time for non-human animals?

Animals Count: How Population Size Matters in Animal-human Relations argues that counting creatures shapes 'the ways we interact, manage, protect, love and vilify' animals in diverse Australian environments. Quantification enables discussion of shifting animal populations, locations, values and threats. *Animals Count* is organised thematically: excessive animals, abundant animals, animals in equilibrium, scarce animals and extinct

animals. There are fourteen chapters in total; this review examines five in detail to suggest the flavour of the whole.

Libby Robin interrogates excess by considering the contemporary Australian practice of cane toad musters, where volunteer brigades assemble in order to ‘hate together’ and kill introduced cane toads (*Rhinella marina*). She argues that citizens see killing toads as a patriotic pseudo-military duty aimed at protecting vulnerable native species from swarms of invaders. This construction inures Australians to the suffering of cane toads and hides the futility of musters—miss just one toad and the fecund creatures will repopulate almost instantaneously. According to Andrea Gaynor, military metaphors and the nation’s defence forces have been used to control the Australian plague locust (*Chortoicetes terminifera*) in post-World War Two central Australia. Deploying the military to control locusts proved a largely unsuccessful attempt to transform the inland into a knowable and controllable state space.

Resisting state control and creating the illusion of abundance are key features of Rohan Lloyd’s chapter on the bêche-de-mer and trochus industries in the Great Barrier Reef. Fishing for these marine creatures underwent boom and bust cycles caused by scarcity and over-exploitation from the 1890s. According to Lloyd, fishermen and investors have systematically denied scarcity, believing in abundance and forever promising a rosy future just over the horizon. Three state inquiries between 1890 and 1920 and multiple fisheries inspectors argued against abundance and for controls. The issue was never really resolved one way or the other. Rather, it was rendered irrelevant when the market for bêche-de-mer buttons collapsed with the development of the plastics industry after World War Two.

The Australian wine industry and the bucolic image of equilibrium in nature that it promotes are under no threat from market collapse. According to Julie McIntyre, this façade hides violence towards native birds and insects in the struggle to grow exotic grapevines (*Vitis vinifera*) in Australia. She argues that early winegrowers made no effort to conceal the violence necessary to create local wines. Instead they actively campaigned for the control of various native animals as diverse as caterpillars, silveryeye birds (*Zosterops lateralis*) and possums as invasive pests. This frankness only disappeared in the 1970s when the wine industry attempted to promote itself as a healthy and natural component of the landscape that could be visited and enjoyed recreationally.

The animals that people value and the environments they visited often do not fall into neat categories of ‘native good, introduced bad’. This complexity is illustrated by Jodi Frawley’s chapter on recreational fishing and the redfin (*Perca fluviatilis*). Redfin are native to Europe and were introduced to Australia in the 1860s. The nineteenth- and twentieth-century transformation of Australian rivers by agriculture and damming favoured redfin. After World War Two there was a recreational boom in Australia and many people took up angling for the first time. They fished for redfin and perceived them as a laudable element of the local environment. Accordingly, these exotic fish became nativised and critically linked to ideas of national identity in the minds of anglers.

Memorialising extinct animals has become part of museum and art practice in Australia and worldwide. Dolly Jørgensen closes out *Animals Count* by contemplating what these memorials mean.

The explorations encompass memorials to the thylacine in Australia, passenger pigeons in America and to the worldwide sixth mass extinction in the UK. She writes that memorials are a useful way of thinking about the more-than-human world, but also problematic because they are often testaments to human power that eclipse the extinct species being remembered.

Overall, *Animals Count* asks its readers to contemplate both how non-Indigenous Australians have utilised power over animals to create themselves and how animals have refused to sit quietly in the roles allocated to them. It should be read by anyone thinking hard about the meaning of colonisation, control and the changing world we live in.

Pete Minard

Centre for the Study of the Inland
Latrobe University



Vanessa Finney:

Capturing Nature: Early Scientific Photography at the Australian Museum 1857–1893. NewSouth Publishing: Sydney, 2019. 192 pp., illus., ISBN: 9781742236209 (PB), \$A49.99.

Australian Museum Curator Gerard Krefft wrote in 1869 that: ‘A photographic establishment is one of the most essential parts of a modern museum’. His approach was at the forefront of thinking

and embraced the scientific possibilities of photography for a museum.

In this beautifully illustrated paperback, Vanessa Finney explores the history of the Australian Museum through its first glass plate photographic negatives, taken from 1857 to 1893. The book is published to accompany an Australian Museum exhibition with the same title, but sits independently of the exhibition. As a previous Australian Museum archivist and colleague, I have read the book with much delight.

In her ground-breaking 2017 book, *Photography, Natural History and the Nineteenth-century Museum*, Kathleen Davidson explores the use and adoption of photography as part of museum practice. Her account investigated Krefft, the Australian Museum and their connections to England. In *Capturing Nature*, Finney takes a closer and broader focus just on the Australian Museum.

The book concentrates on Krefft, his successor, Edward P. Ramsay, and museum taxidermist and photographer for both, Henry Barnes. Finney examines the transformations of the museum under both curators. Krefft used photography to build his own reputation—and that of the museum—with his scientific peers. His photographs thus served both as documents, and as goods within museum exchange and communication networks.

Stories of Krefft’s life always entail drama, including his embrace of novel ideas (especially the theory of evolution), and

his precipitate dismissal after falling out with the museum's trustees. Ramsay expanded the number of scientists on staff and consolidated collection management procedures with photography grounded as an integral component. However, through the focus on Barnes and other museum workers, Finney's book foregrounds the technical work done at the museum, particularly in the final sections that explore taxidermy and articulation.

The book is organised into two parts: Time, Place and People, and Artisans and Technicians. Part I is then divided into three chapters, 'New visions of the natural world', 'The Men behind the images' and 'Making and managing the collections'. Part II is divided into chapters 4 and 5, 'The Australian Museum photographer, 1857–1893' and 'The Art of taxidermy and articulation'. Within each chapter are small headed sections. Thirteen distinct stories are visually identified by being in blue type on a grey background that is unfortunately a bit hard to read. These narratives cover topics as diverse as photographs versus hand-drawn illustrations, the lungfish, the story of expeditions to Wellington Caves, photomicrography, and gorilla displays and evolutionary debate.

The book features informative endnotes and an index. The text is interspersed with 190 images that have short informative captions. The photographs are mainly of specimens, singly, in arrays, or in arranged groups. All are listed with their negative reference numbers at the back.

This is a volume that encourages browsing, enjoying the detail in the photographic images. I became absorbed in them, looking closely at details of background buildings or workshop walls, rulers in position to show scale, and even feet showing underneath white sheets held up as backgrounds. Particularly interesting are the glimpses of Krefft himself. A formal studio portrait reproduced here is a *carte-de-visite* image by Krefft's German compatriot, Sydney studio photographer William Hetzer. In images through the book we glimpse Krefft in windows, near giant animals, and in a set of four views with a manta ray.

Finney's colleague Vanessa Low authors a section on the wet plate photographic process, explaining all the steps from plate preparation to printing. While the history of photography in the period is briefly covered, future research might explore whether there were links to other photographic practitioners in Sydney at the time. In the period of the book, two museum trustees were both keen and skilled amateur photographers. Professor John Smith of the University of Sydney and, later, Robert Hunt of the Royal Mint, pursued diverse photographic interests and presumably supported the museum darkroom.

Finney brings to the fore the evolution and importance of the photographic archive as part of museum documentation. She shows how photographs can be interrogated as historical documents, as digital scans that reveal hidden details, and as material objects that contain new information. *Capturing Nature* is underpinned by deep research and is captivatingly written. It is a book for readers interested in the history of natural history, the history of museums and the history of photography. It brings an unknown history of photography and science to public attention and shows how a museum history can be explored in new ways.

Jan Brazier
Macleay Museum
The University of Sydney



Anneke van Mosseveld:

The Australian Army Uniform and the Government Clothing Factory: Innovation in the Twentieth Century.

Palgrave Macmillan:
Basingstoke, 2018. 269 pp.,
illus. ISBN: 9783319714240
(PB), \$186.50.

A decade ago, fresh faced and with a coffee in my hand, I entered the university library in search of books on army uniforms. Rifling through the stacks I soon discovered, much to

my bewilderment, an assortment of illustrated guides and nothing more. Where were the in-depth explorations of embodiment and experience beyond pictures of epaulettes? I left the library empty handed and frustrated at endless images of the change from Stroud red to khaki brown. Analytical researchers had left army uniforms untouched.

No longer. Anneke van Mosseveld's tailored study of Australian Army uniforms unpicks a deeper history beyond design changes. Based on her award-winning PhD thesis, *The Australian Army Uniform and the Government Clothing Factory* conveys how the history of the Government Clothing Factory has had widespread and significant effects on Australia's past and present. She conveys this impact through the Schumpeterian concept of innovation—the central focus and argument-driver of her work.

Examining the period of the factory's operation under the government, 1912–95, her work witnesses economic factors of change and development, exploring advancements in design and manufacturing technology. For historians and current practitioners of STEM, the latter focus on applied science in the wider history of the nation is of central interest and importance.

Structurally, the first half of the book feels somewhat like scene setting and context, losing sight of innovation and therefore diluting van Mosseveld's overarching argument. This is one of the text's pitfalls. The book becomes engaging in terms of scientific ideas and clothing around the midway point. Once the work picks up, she deftly stitches together textile history, science history and economic history. Sitting at the seams of subdisciplines makes her work an engaging and thought-provoking read.

Chapter seven, 'Science takes command', conveys the significance of these intersections. The chapter examines scientific additions to the uniform to better enable it to withstand environmental and battle adversities. Notable examples in the chapter include the development of camouflage technology, Computer Aided Design (CAD), and the work of many agricultural scientists, entomologists, chemists and dermatologists, to name a few. The example of shrink-proof socks, in particular, demonstrates these intersections and overlaps in history. A collaboration between the Army and the Council for Scientific and Industrial Research, this innovation ultimately filtered into apparel manufacturing across Australia, well beyond the confines of the military.

Such attention to the links between the factory and numerous external partners reveals a new history of collaborations and knowledge transfer in the history of both apparel and science. Further chapters achieve similar results outside the world of science, examining military innovation and intellectual property issues. These themes make van Mosseveld's work significant not only for the military past but for wider Australian history. It is a pioneering work.

As a historian passionate about qualitative experiences, the reliance on numbers, figures and tables of data left me feeling that more remains to be said about uniforms and the impact of the factory beyond its business history. Embodiment and the experience of wearing a uniform, for example, still remain untraversed. Further, repetition between chapters disrupts the otherwise

chronological flow. Yet, no one historian can document all sides of a story, let alone one told for the first time. In fact, this sparking of interest beyond the facts and figures of the book unveils its tight weave and treatment of subject matter. A strong pioneering piece often leaves one with more questions than answers.

Without doubt, van Mosseveld's work will spark a slew of new research. I look forward to seeing her book on the library shelf, one day surrounded on both sides by in-depth studies of uniforms and technology, ready for future fresh-faced historians to uncover.

Georgia McWhinney
Department of Modern History,
Politics and International Relations
Macquarie University