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PACIFIC CIRCLE NEWS and NOTES

Business Matters

The Circle's email is: thepacificcircle@gmail.com. Please contact the editor should you have any questions, requests, or information to be shared with Circle members.

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The editor keeps back issues of the *Bulletin* for potential new members, conference publication tables, and departments. Please notify the editor if you would like to take copies with you to a conference or if a colleague might appreciate a gratis copy of the *Bulletin*.

Recent Publications, Honors & Scholarly Activities by Circle Members

Congratulations to...

Warwick Anderson for "Remembering the Spread of Western Science," *Historical Records of Australian Science* 29:2 (2018), 73-81 and "Epidemiology, Social History, and the Beginning of Medical Anthropology in the Highlands of New Guinea," *Medicine Anthropology Theory* 5:1 (2018), 78-87.

John Gascoigne, "Global Intersections: U S Whalers and Voyagers and Australasia," *The Journal of Pacific History* 53:2 (2018), 148-163.

L. M. Ratnapalan, "Science and Politics in the Hawaiian Kingdom: The Progress of the Honolulu Social Science Association, 1882-1887," *The Journal of Pacific History* 53:2 (2018), 133-147.

Alan E. Leviton with Rafe M. Brown, Utpal Smart, and Eric Smith, "A New Species of Long-Glanded Coralsnake of the Genus *Calliophis* (Squamata Elipadae) from Dinagat Island, with Notes on the Biogeography and Species Diversity of Philippine

Calliophis and *Hemibungarus*," *Herpetologica* 74:1 (2018), 89-104.

Zouyue Wang for "Theory Attached to Practice: Chinese Debates over Basic Research from Thought Remolding to the Bomb, 1949-1966," in David Kaldewey

and Desiree Schauz, eds. *Basic and Applied Research: The Language of Social Policy in the Twentieth Century*, New York: Berghahn Books, 2018, 228-247; “Donald F. Hornig,” *American National Biography*, New York: Oxford University Press, 2018 and “Science Under the Trump Administration in Historical Perspective,” *H-Diplo/ISSF International Security Studies Forum*, April 17, 2018.

Prof. Wang also helped organize a session on “Exploring Public Facets of Science and Technology Studies” at the June 2018 Meeting of the Pacific Division of the American Association for the Advancement of Science and plans to attend the History of Science Society Annual Meeting as Chair and Commentator for the panel on “Sino-Foreign Scientific Relations from Republic to People’s Republic: Transnational Connections and Movements.”

FUTURE MEETINGS, CONFERENCES and CALLS FOR PAPERS

1-4 November 2018. History of Science Society Annual Meeting, to be held in Seattle, WA. Please visit: <http://www.hssonline.org/>.

3-5 December 2018. Pacific History Association Conference, to be held in London and Cambridge.

6-7 December 2018. “The Sea in the 20th Century: Globalization, Science, Networks and Heritage,” to be held in Lisbon, Portugal. Please contact seaxxcentury@gmail.com.

10-12 April 2019. British Society for the History of Science Postgraduate Conference, to be held at the Department of History and Philosophy of Science, Cambridge University. Dr. Sujit Sivasundaram will be the keynote speaker.

BOOK, JOURNAL, EXHIBITION and RESEARCH NEWS

Congratulations to the Geological Society of Japan, which this year is celebrating its 125th anniversary. The Society has over 3,700 members as of 2018. Please see the current issue of its official journal, *Geologe*, for the following articles: Yuka Masaki, “The Mt. Fuji, Solitary Mountain, Dr. Kuniyo Kawabata, “The World of Fault Rocks” and Yuko Okayama, “The ‘Tagoto Moon’.”

“Symposium Overview. Insect Conservation in Australia,” *Austral Entomology* 57:2 (2018), 119-123.

Proceedings of the California Academy of Sciences, ser. 4, 64:3 (2018), includes Gary C. Williams, “Illustrated Key and Synopsis of Shallow-Water Gorgonians and

Pennatulaceans of the Central Philippines,” pp. 361-398 with 27 figures and Alan E. Leviton, Cameron D. Siler, Jeffrey L. Weinell, and Rafe M. Brown, “Synopsis of the Snakes of the Philippines: A Synthesis of Data from Biodiversity Repositories, Field Studies, and the Literature,” pp. 399-568 with 145 distribution maps and 119 color photos.

SELECT RECENT and FORTHCOMING PACIFIC BIBLIOGRAPHY

BOOKS and BOOK CHAPTERS

Aboriginal Biocultural Knowledge in South-Eastern Australia, by **Fred Cahir**, **Ian Clark**, and **Philip Clare**, CSIRO Publishing, 2018.

Bringing Whales Ashore: Oceans and the Environment of Early Modern Japan, by **K. Arch**, Foreword by **Paul S. Sutter**, University of Washington Press, 2018.

Darwin's Fossils: Discoveries that Shaped the Theory of Evolution, by **Adrian Lister**, CSIRO Publishing, 2018.

Fishing Lessons: Artisanal Fisheries and the Future of Our Oceans, by **Kevin M. Bailey**, The University of Chicago Press, 2018.

The Flora and Fauna of the Pacific Northwest Coast, by **Collin Varner**, University of Washington Press, 2018.

Insects of Mount Wilhelm, Papua New Guinea, eds. **Tony Robillard**, **Frederic Legendre**, **Claire Villemant**, and **Maurice Leponce**, The University of Chicago Press, 2018.

Island Rivers: Fresh Water and Place in Oceania, eds. **J. R. Wanger** and **J. K. Jacka**, ANU Press, 2018.

Maenge Gardens: A Study of Maenge Relationship to Domesticates, by **F. Panoff**, Pacific-CREDO Publications, 2018.

ARTICLES and ESSAYS

“Aboriginal People in Western Australian Mental Hospitals, 1903-1966,” by **Philippa Martyr** and **Sophie Dawson**, *Social History of Medicine* 31:3 (2018), 462-484.

“Antennal Morphology and Micro-Sensory Architecture of the New Zealand Magpie Moth,” *Nyctemera annulata* (Lepidoptera: Erebididae) Diversity, Distribution and Dimorphism,” by **Cassandra J. Mark**, **Stuart Parsons**, and **Gregory I. Holwell**, *Austral Entomology* 57:3 (2018), 303-323.

“Antennal Symmetry is not Associated with Social Behavior in Australian Hymenoptera,” by **Christopher B. Freelance, Megha Majoe, Simon M. Tierney, Mark A. Elgar**, *Austral Entomology* (2018), forthcoming.

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“C:N:P Stoichiometry of Ericaceae Species in Shrubland Biomes Across Southern China: Influences of Climate, Soil and Species Identity,” by **Qiang Zhang, Qing Liu, Huajun Yin, Chunzhang Zao, Lin Zhang, Guoying Zhou, Cunying Yin, Zhijun Lu, Gaoming Xiong, Yuelin Li, Jiaying Li, Wenting Xu, Zhiyao Tang, and Zongqiang Xie**, *Journal of Plant Ecology* (2018), available online at <https://academic.oup.com/jpe/>.

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“Water Transport of Native and Exotic Tree Species in Relation to Xylem and Anatomical Characteristics in Low Subtropical China,” by **Yanting Hu, Jianguo Gao, Ping Zhao, Weijun Shen, Peiqiang Zhao, Liwei Zhu, Guangyan Ni, Junfeng Niu, and Lei Ouyang**, *Journal of Plant Ecology* 11:3 (2018), 423-433.

“When the Gods are Angry: Volcanic Crisis and Eruption at Bali’s Great Volcano,” by **R. Gertisser, F. M. Deegan, V. R. Troll, and K. Preece**, *Geology Today* 34:2 (2018), 62-65.

BOOK REVIEWS

Neville Exon, ed. *Exploring the Earth under the Sea: Australian and New Zealand Achievements in the First Phase of IODP Scientific Ocean Drilling, 2008-2013*, Canberra, ACT: ANU Press, 2017, ISBN (print) 9781760461454 and ISBN (online) 9781706461461.

This paperback volume of thirteen chapters, edited by Professor Neville Exon (himself author of eight separate chapters), with a foreword by Dr. Geoff Garrett AO, is a fine compilation of what Australian and New Zealand researchers have achieved in the first five years (2008–2013) of deep drilling in the Southern Ocean.

Profusely illustrated in color, with photos of researchers, sea-floor maps and cross-sections, there are informative tables setting out authors, their institutions, expertise and years involved in the project. The book is prefaced by a two-page list of acronyms, which are used throughout the text.

Scientific ocean drilling began in 1968 by Australia (Dr. Gordon Packham) and New Zealand (by ANZIC), using the ship, *Maya*, drilling a maximum of 5,000m below the sea floor, using continuous wireline logs. This project had the potential to strike occurrences of oil and gas.

Between 2008 and 2013, numerous Australasians were involved, and by 2015, 132 kms of core had been obtained. This had involved staff from 14 Universities, four government research bodies, and two government agencies (in New Zealand).

Chapter 9, by Exon, discusses the series of planning workshops held world-wide (Bremen, Tokyo, Goa, Sydney, Costa Rica and Alaska). The text identifies 35 participants (34 ship-board), who carried out the research from 2008, beginning with Chris Fergusson, (University of Wollongong) to 2013, with later workers, from research bodies in Japanese institutions, including trumpeter (!) Trevor Falloon (University of Tasmania), Bob Carter, Christopher Moy, M.H. Davies, Carol Larson, Stephen Gallagher, Gary Huftile, Chris Yeats and Matthew Jack. Researchers in the intervening years, Sarah Howgego (to 2011) and Catherine Beasley (from 2012), are identified.

The text is generally free from typographic errors, although ‘Kenne’ for ‘Keene’ (p. 14) has escaped the eagle eye of the Editor. Earlier extensive references document the extensive international geological community which has been involved in this program of oceanic research.

David Branagan
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Timothy P. Barnard, *Nature's Colony: Empire, Nation and Environment in the Singapore Botanic Gardens*, Singapore: NUS Press, 2016, pp. xiv + 287. Bibliography. Index. Maps. Illustrations. Paperback ISBN 978-981-4722-22-3. \$34.00.

There is now a definitive, comprehensive institutional history of the Singapore Botanic Gardens. Dr. Timothy Barnard, an associate professor at the National University of Singapore and environmental historian of Southeast Asia, examines the Gardens from its beginnings in 1859 until its recent successful effort to win UNESCO World Heritage status. The book is beautifully produced, with numerous illustrations, photos, and maps, and is accessible to both the serious and casual reader, with thematically organized chapters and an extensive index. It is built on multi-archival research, and Barnard had extensive access to both the files and archives of the Singapore Gardens, as well as the records of Kew Botanic Garden, who were the principal correspondents of the colonial-era scientists in Singapore. And in addition, to place the Gardens within the Singaporean community, he has combed printed materials, including not just official scientific publications, but also newspaper and print-media reports about the Gardens.

Barnard's main theme is the relationship between the scientists at the Botanic Garden and the governing community of Singapore, and the history of their mutual efforts to shape each other. Like other historians of nineteenth-century British botany, Barnard analyzes the Singapore Gardens as an institution and locus of imperial power, in which science and botanical knowledge served the needs of British Empire. But he also carefully examines the complex relationship between the city and community of Singapore, which had its own wish for a park that provided a refuge from the city, an entertainment center, and a horticultural supplier. And by carrying the history past 1965, he shows the challenge of turning a colonial institution into a productive unit within the new nation of Singapore.

The Singapore Botanic Gardens started in 1859 on local initiative by the Agri-Horticultural Society, done in the English garden style with European flora and landscapes. For the first fifteen years it operated as a private club, underwritten by subscription fees and occasional public fundraisers such as flower shows. It served as a pleasure garden for members, who additionally received free baskets of flowers from the Gardens. After only modest success, and then a period of fiduciary collapse, the government of the Straits Settlement took over the Botanic Gardens in 1874, and in addition to opening up the grounds to all visitors, hired the superintendent Henry Murton, on the advice of Joseph Hooker at Kew. Under Murton and his successor Nathaniel Cantley, also a Kew recommendation, the Singapore Botanic Garden became a node in the much larger botanical empire run from the Royal Botanic Gardens at Kew. This re-oriented the efforts of the Botanic Gardens away from horticulture, as Murton, Cantley and the staff focused on collecting local specimens,

both living and dried, which were shipped regularly to London. At the same time, local British officials looked to the Gardens as a useful economic institution, perfect for developing colonial profitability. In the last quarter of the 19th century, it became a formal part of colonial science and enterprise. The horticulturalists and scientists at the Botanic Gardens were caught in the middle.

The great protagonists of Barnard's book are the directors of the Botanic Gardens, especially Henry Nicholas Ridley, who served as director from 1888 to 1912. It was at the end of the 19th century that the Singapore Botanic Gardens developed an identity as an autonomous and independent center for colonial science. This effort began under his predecessor Cantley, who in the early 1880s established himself as the expert on forest use in the entire Straits Settlements. Cantley in his 1883 report had been biting in his critique of government policy that leased lands for agricultural plantations leading to widespread deforestation and the expansion of degenerated land covered in *lalang* grass. Cantley started a Forest Department which oversaw forests reserves in Singapore, while part of the Botanic Gardens proper was turned into a forest nursery. The Gardens led the effort to bring scientific forestry to the British colonies of the Malay Peninsula. This gave the Botanic Gardens a useful direction and an imperial mission, but also brought Cantley's successor Ridley into conflict with not only the private Singaporeans who had previously controlled the Gardens, but also with rival colonial officials and institutions. Ridley lost control of most of the forest initiatives in Singapore and the Straits Settlements in the mid-1890s, and by 1901, forestry responsibilities were transferred to a colonial office in Kuala Lumpur.

After the loss of forestry responsibilities, Ridley sought other ways to establish the status and scientific authority of the Gardens. This included the establishment of zoology exhibits inside the Botanic Garden. Those efforts had started earlier in 1875 when the gardens took receipt of a female two-horned Sumatran rhinoceros. A monkey-house and aviary were added shortly thereafter. Although the zoological effort stalled under Cantley's tenure, Ridley revived the zoo developing a menagerie drawn from species of the Malay Peninsula. Ridley expanded the exhibits, and started a breeding program. Barnard used numerous vivid examples, including photos, to show how especially Ridley used the fauna of the region to project British imperial power over nature, including fierce animals. Nonetheless, notwithstanding these displays of heroic British glory, the zoo was expensive to maintain, and did not correspond to the local Singaporean officials' needs, and that led to the zoo's closure in 1904.

With economic and display functions diverted to other colonial institutions, the Botanic Gardens director after Ridley departure in 1912 sought to make this a scientific institution. The colonial government followed Kew's advice again, and appointed the taxonomist Isaac Henry Burkill as the new director. Burkill focused on Singapore-based botanists systematically organizing existing floristic material, and

synthesizing the identification and description of Malay Peninsula plants. The herbarium became the scientific center-piece of the Gardens, and with that, public outreach meant education of the colonial public about plant-science. Burkill's re-orientation also integrated the Botanical Gardens into a larger scientific network of tropical botanical gardens, beyond its relationship to Kew only, which helped it maintain its scientific identity throughout the 20th century.

After Burkill's departure, the Singapore Botanic Garden reinvented itself again, this time through its premier orchid hybridization and breeding program, especially under the guidance of Eric Holttum, gardens director from 1925 until the Japanese occupation in 1942. Although orchid cultivation had existed since the beginning of the Botanic Gardens, Holttum systematized the collection and breeding of orchids, creating a robust cultivation program in Singapore, which survived the Japanese occupation, and grew into a commercial export business in the early 1960s. Although the commercial orchid growers were private individuals, their success had all been aided by the fruits of Holttum's earlier work at the Botanic Gardens. And the Gardens took ownership of crafting Singapore's orchid identity, when it formally started the VIP Orchid Naming Program after 1965. This program allowed Singapore to cultivate a unique diplomatic program through the naming of orchids after visiting dignitaries and celebrities.

Barnard has organized the century-and-a-half history of the Singapore Botanic Garden by thematic chapters, proceeding mostly in chronological order. This approach, as opposed to a more conventional organization by Garden director, allows him to make specific arguments about the complex, and in many cases sustained, interaction between the scientists and curators at the Gardens, and political and economic actors in Singapore and Malaya. This does not significantly hamper the narrative, sharpens the book's arguments, and shows the multiple ways the Botanic Garden tied together the colonial (and national) state and scientific botany. Barnard writes very sympathetically about the wide range of men who have managed the gardens, emphasizing their collective commitment to a greener and more scientific Singapore. He pays tribute to these directors' efforts to improve Singapore, even as he acknowledges their personal and professional faults, and in the case of pre-1965 directors, their ties with British imperialism.

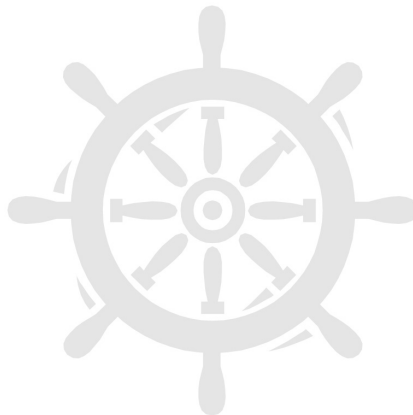
Barnard highlights how these men managed to keep their ideals intact, making important, if sometimes modest, interventions in the political and economic administration of Singaporean nature, even in the maelstrom of colonial and post-colonial politics. At the end of the book he analyzes how after independence, the Botanic Gardens shrunk as the government pushed recreation over science. Nonetheless, even when it was reduced to a park for strolling in the late 1970s, its institutional assets were sufficient to allow a rebirth after Tan Wee Kiat's appointment

as director in 1988. He and his successors have made the Botanic Gardens again meaningful to the Singaporean state and people by promoting nature conservation and improvement. Today, with UNESCO World Heritage status conferred, the Botanic Gardens remains an important contributor to the scientific and horticultural landscape of Singapore.

Between the archives at the Botanic Gardens in Singapore and the archives of the Royal Botanic Garden at Kew, there are very few gaps in the professional records of the scientists prior to 1925, and only a few after that. There are few other tropical botanical gardens where this kind of study would be possible, either because their scope was too large or the sources do not exist. This is a single monograph covering the history of tropical botany and botanical gardens from the mid-19th century until today, showing in one location the continuity and change within the fields of tropical botany and horticulture. This will be especially useful for scholars piecing together the global history of botany, horticulture, and the natural sciences.

Barnard is well-aware of the myriad of scientific networks which included Singapore, including especially to Kew Gardens. But he also points to other networks, emanating from universities in Britain and elsewhere, other Botanical Gardens in the British Empire, and also from scientific institutes outside of the usual British colonial orbit. In an institutional study of botanic garden, it is impossible to see the full significance of the larger networks which included Singapore. Barnard leaves numerous suggestions about these linkages, including connections to for example the famous Dutch colonial Botanical Gardens in Buitenzorg, and this book will be invaluable in efforts to flesh-out the history of global botany and horticulture.

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SUBSCRIPTION and STAFF INFORMATION

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