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PACIFIC CIRCLE NEWS

MEMBERS' NEWS

Congratulations...to Marcos Cueto on the recent publication of *Cold War, Deadly Fevers: Malaria Eradication in Mexico, 1955-1975*, published by the Wilson Center and Johns Hopkins University Press. This study explores the politics of the US-funded and planned campaign to eradicate widespread and persistent malaria in Mexico. Marcos describes the international basis of the program, its national organization in Mexico, its local implementation by health practitioners and workers, and its reception among the general population.

...and to Geoffrey Gray, whose *A Cautious Silence: The Politics of Australian Anthro-pology*, was recently published by the Australian Institute of Aboriginal and Torres Strait Islander Studies. This volume is the first scholarly exploration of modern Australian social anthropology to examine the forces that helped shape its formation. The study considers the struggle to establish and consolidate anthropology in Australia as an academic discipline, including how anthropologists had to demonstrate that their discipline was the predominant interpreter of Indigenous society and culture.

RECENT MEETINGS AND BUSINESS

Janet Garber has been kind enough to forward the following report from the *Southern California Coastal Research Project*:

“On June 7, 2007, the Southern California Coastal Water Research Project held a reunion of former employees and friends at their new facility in Costa Mesa, California. There were tours of the laboratories and speakers recalling the history of the project, which was founded in 1969 by five major local government agencies responsible for wastewater treatment in southern California. It was planned as a three-year research project, but has been extended several times, finally being made a permanent study of the ecology of the near-shore waters from Point Conception to the Mexican border, to a distance of 12 miles to sea. It has become a model for ecological studies of the ocean, emulated by scientists worldwide. Populations on every continent are concentrated near ocean coastlines. Treatment and disposal of human and agricultural wastes constitute an enormous ecological problem everywhere, but especially near coasts because of the importance of food supplied from the ocean, and recreational uses of near-shore waters. The problem has been solved more successfully in southern California, considering the millions of people living there, than nearly anywhere else.

The history of the project was recounted by Alan Mearns, one of the earliest scientists employed by the project, and by Janet Bell Garber, who served as a citizen commissioner representing the city of Los Angeles from 1972 to 1990. Since 1990,

commissioners have been local and national government employees. A copy of the history of the Southern California Coastal Water Research Project written by Alan Mearns may be obtained from Stephen B. Weisberg, Director, at the project office, 3535 Harbor Boulevard, Suite 110, Costa Mesa, CA 92626-1437, U.S.A., telephone: 714-755-3200; web site: www.sccwrp.org.”

IUHPS/DHS NEWS

Interested in receiving news of the Division of History of Science and Technology of the International Union of History and Philosophy of Science? Please register and receive a free email account at www.dhstweb.org.

HSS NEWS

Next year's History of Science Society meeting is scheduled jointly with the Pacific Science Association for November 6-9, 2008, in Pittsburgh, PA. For more information, please visit www.hssonline.org/meeting/mf_annual.html.

The upcoming Three Societies Meeting of the British Society for the History of Science, the History of Science Society, and the Canadian Society for the History and Philosophy of Science will be held at Keble College, Oxford, on July 4-6, 2008. This continues the tradition started in Manchester in 1988 and continued every four years in Toronto, Edinburgh, St. Louis, and Halifax, Nova Scotia.

FUTURE CONFERENCES, SEMINARS and CALLS FOR PAPERS

19-12 October 2007. “Childhood and Adolescence Obesity and Its Complications and Impact in the Asia Pacific Region,” The Third Micronesian Medical Symposium, to be held on Guam. Please contact Leah F. Metra at guammedicalsociety@yahoo.com.

31 October - 1 November 2007. “Making Science Global: Reconsidering the Social and Intellectual Implications of the International Polar and Geophysical Years,” to be held at the Smithsonian Institution, Washington, D.C. Papers will consider the places of the Poles in human imagination, discipline formation, cultural nationalism and politics; the emergence of the modern geosciences and the uses of new technologies to explore the Poles; and the changing assessments of the nature of human cultures in high latitudes. Papers will also consider the significance of the International Polar Years of 1882-83 and 1932-33, as well as of the International Geophysical Year of 1957-58. For further information, please contact James Fleming at jfleming@colby.edu.

9-13 November 2007. “In the Footsteps of the Founding Fathers,” the History of Geology Society’s bicentenary celebration, including a conference and field trip to the Isle of Wight. The formal conference will take place on November 12-13 at the Geological Society of London, Burlington House, Piccadilly.

9-10 January 2008. Second International Conference in the History of Medicine in Southeast Asia (HOMSEA), to be held at the Universiti Sains Malaysia, Penang, Malaysia. The conference theme is “Treating Diseases and Epidemics in Southeast Asia over the Centuries,” and the papers and panels will explore since prehistoric times the development of medical and religious responses to diseases and epidemics. For information, please contact The Conference Secretariat, The Second International Conference HMSEA, Asia-Pacific Research Unit, Universiti Sains Malaysia, 11800 Penang, Malaysia. Email: shakila@usm.my.

26-30 May 2008. Conference on “Weather, Local Knowledge and Everyday Life,” to be held at the Museu de Astronomia e Ciências Afins in Rio de Janeiro, Brazil. The meeting is sponsored by the International Commission on History of Meteorology. For information, please visit www.weatherlife.org

15-19 June 2008. 89th Annual Meeting of the AAAS, Pacific Division, to be held at the Hawai’i Preparatory Academy in Waimea, on the Big Island of Hawai’i. For additional information, please visit: www.sou.edu/aaspd.

23-27 June 2008. International Maritime History Congress (IMEHA 2008), to be held in the Old Royal Naval College, University of Greenwich, United Kingdom. Organizers are soliciting papers considering the roles of the surface of the sea, the undersea domain, and the coastal zone, as well as the sea as a cultural resource. For further information, please visit the Congress website at: www.IMEHA2008.com.

25-29 June 2008. Seventeenth Annual World History Association Conference, to be held at Queen Mary College, University of London, Mile End Campus. The WHA invites proposals from scholars and teachers for panels, single papers, and roundtables related to one, or both of the meeting’s two themes: “Global Cities” and “The Sea: Highway of Change.” The deadline for proposals is January 15, 2008. For additional information, please visit www.thewha.org.

EXHIBITIONS and MUSEUMS

“Botanical Endeavours: Sir Joseph Banks and his Legacy” is on display at the Captain Cook Memorial Museum, Grape Lane, Whitby, England, through October 31, 2007. This exhibition explores Banks’s creation of a botanical empire of discovery, cultivation, and exchange, the problems of transporting plants across the oceans, and his legacy in economic botany and horticulture. Exhibits include specimens collected by Banks. For additional information, please visit www.cookmuseumwhitby.co.uk.

EMPLOYMENT, GRANTS, EDUCATION, and PRIZES

The Unit for History and Philosophy of Science at the University of Sydney encourages applications for graduate study via the Australian Government initiative to increase scholarship opportunities. Please visit www.australianscholarships.gov.au/. For additional information about the HPS program, see www.usyd.edu.au/hps.

The University of Minnesota announces its new graduate program in the History of Science, Technology, and Medicine. The program offers courses in the social and intellectual history of science, technology, and medicine, and also allows students to study topics that are at the boundaries of those areas, such as biomedical engineering and the uses of computer technologies in the health sciences. Financial aid is available. For further information, please write The Program in Science, Technology, and Medicine, 148 Tate Laboratory of Physics, University of Minnesota, 116 Church Street SE, Minneapolis, MN 55455 USA. Email: hstm@physics.umn.edu.

The California Institute of Technology Grants-in-Aid offers research assistance of up to US \$2,000 for work in the Papers of Victor Wouk in the Caltech Archives. The Maurice A. Biot Archives Fund and other designated funds also offer assistance of up to US \$1500 to use the collections at the Archives. Please visit <http://archives.caltech.edu>. Applications are reviewed each year on January 1, April 1, July 1 and October 1.

The School of History, Technology, and Society (HTS) at the Georgia Institute of Technology announces its M.A. and PhD. graduate program in History and Sociology of Technology and Science. These interdisciplinary programs prepare students to engage the social issues posed by modern technology and science. Financial aid is available. For more information, contact Hanchao Lu, Director of Graduate Studies, School of HTS, Georgia Tech, Atlanta, GA 30332-0345. Email: hanchao.lu@hts.gatech.edu.

The National Maritime Museum in Greenwich, England, offers four research fellowships: *Caird Senior Research Fellowship* for post-doctoral scholars for research in the field of British maritime historical studies; *Caird Short-Term Fellowship* to encourage research by overseas scholars, museum professionals, or those living at a distance from London; *Sackler Short-Term Fellowship* for a three-month tenure for research into the history of astronomy and navigational sciences at the Royal Observatory, Greenwich; and *Caird North American Fellowship* jointly with the John Carter Brown Library, Brown University, Providence, Rhode Island, for a three-month tenure for scholars living outside the United States to conduct advanced research on maritime collections in the north-eastern United States. Contact Research Administrator, National Maritime Museum, Greenwich, London, SE10 9NF, England. Email: research@nmm.ac.uk.

BOOK, JOURNAL and PUBLICATION NEWS

“Oxford Journals” has announced the addition of *Molecular Plant* to its life sciences list starting from January, 2008. Published on behalf of the Chinese Academy of Science, this journal features an international editorial board and focuses broadly on plant cellular biology, physiology, molecular biology, genetics, development, and evolution.

Social History of Medicine 20:1 (April 2007) featured a special section entitled “Focus on Colonialism, Health and Medicine.” Contributions included David Arnold, “Colonial Pathologies: American Tropical Medicine, Race and Hygiene in the Philippines;” Mark Harrison, “Disease and Demography in Colonial Burma;” Satadru Sen, “Reproductive Health in India: History, Politics, Controversies;” and Nadja Durbach, “Fractured States: Smallpox, Public Health and Vaccination Policy in British India.”

“Science and Culture in Nineteenth-Century Britain” is a new monograph series published by Pickering & Chatto. Bernard Lightman serves as the series editor. The series will focus on the history of British science, including major developments within geology, botany, astronomy and medicine. It will also include works on popular science. The texts will place in international, imperial, religious, political, cultural and social contexts the evolution of scientific ideas. For further information, please email sales@pickeringchatto.co.uk.

Newsletter No. 9 from the Japanese Association for the History of Geology (JAHIGEO) is now available and features two articles of interest: Naotoshi Yamada and Yoshimitsu Koido, “Geological Research on the Nohi Rhyolite in Central Japan During the Last 120 Years,” pp. 2-10 and Yasumoto Suzuki, “Brief History of the Geodetic Study of Crustal Movements of the Japanese Islands before World War II,” pp. 11-16. For additional information, please contact Michiko Yajima, ed. at yajima-michiko@gupi.jp.

SELECT RECENT PACIFIC BIBLIOGRAPHY

BOOKS AND BOOK CHAPTERS

Animals the Ancestors Hunted: An Account of the Wild Mammals of the Kalam Area, Papua New Guinea, by **Ian Saem Majnep** and **Ralph Bulmer**, Belair, South Australia: Crawford House, 2007.

Drift Station: Arctic Outposts of Superpower Sciences, by **William F. Althoff**, Dulles, VA: Potomac Books, 2007.

Ecology: An Australian Perspective, by **Peter Attiwill** and **Barbara Wilson**, 2nd edition, New York: Oxford University Press, 2007.

Growing Palm Trees in Hawai'i and Other Tropical Climates, by **David Leaser**, Honolulu: HI: Mutual Publishing, 2007.

Hydrology of the Hawaiian Islands, by **L. Stephen Lau** and **John F. Mink**, Honolulu: University of Hawai'i Press, 2007.

Island Biogeography: Ecology, Evolution, and Conservation, by **Robert J. Whittaker** and **Jose Maria Fernandez-Palacios**, 2nd edition, New York: Oxford University Press, 2007.

The Light and Smith Manual: Intertidal Invertebrates from Central California to Oregon, 4th edition, edited by **James T. Carlton**, Berkeley: University of California Press, 2007

Seascapes: Maritime Histories, Littoral Cultures, and Transoceanic Exchanges, edited by **Jerry H. Bentley**, **Renate Bridenthal**, and **Karen Wigen**, Honolulu: University of Hawai'i Press, 2007.

Plant Names of Western Polynesia, by **Karl H. Rensch** and **W. Arthur Whistler**, Honolulu, Hawai'i: Archipelago Press and Isle Botanica, 2006.

Social History of Science in Colonial India, edited by **Dhruv Raina** and **S. Irfan Habib**, New Delhi: Oxford University Press, 2007.

ARTICLES AND ESSAYS

“Australian Biodiversity: Threats for the Present, Opportunities for the Future,” by **Peter H. Raven** and **David K. Yeates**, *Australian Journal of Entomology* 46:3 (2007), 177-187.

“Controlling Water, Controlling People: Irrigation Engineering and State Formation in the Dutch East Indies,” by **Wim Ravesteijn**, *Itinerario* 31:1 (2007), 89-118.

“Four New Species of Terrestrial Earthworms Belonging to the Genus *Amyntas* (Megascolecidae: Oligochaeta) from Taiwan with Discussion on Speculative Synonyms and Species Delimitation in Oligochaete Taxomy,” by **Chu-Fa Tsai**, **Huei-Ping Shen**, **Su-Chen Tsai** and **Hsun-Huang Lee**, *Journal of Natural History* 41:5-8 (2007), 357-379.

“Four Species of *Caligus* Muller, 1785 (Copepoda, Siphonostomatoida, Caligidae) Parasitic on Marine Fishes of Taiwan,” by **Ju-Shey Ho**, **Ching-Long Lin** and **Wen-Been Chang**, *Journal of Natural History* 41:5-8 (2007), 401-417.

“Genetic Characterization of Hybridization Between the New Zealand Everlastings *Helichrysum lanceolatum* and *Anaphalioides bellidioides* (Asteraceae: Gnaphalieae),” by **Rob D. Smissen, Ilse Breitwieser** and **Josephine M. Ward**, *Botanical Journal of the Linnean Society* 154:1 (2007), 89-98.

“Geographical Distributions and Host Associations of Larval Parasitoids of Frugivorous Drosophilidae in Japan,” by **Hideyuki Mitsui, Kees Van Achterberg, Goran Nordlander** and **Masahito T. Kimura**, *Journal of Natural History* 41:25-28 (2007), 1731-1738.

“How Navigators Think: The Death of Captain Cook Revisited,” by **Scott Ashley**, *Past and Present* 194 (2007), 107-137.

“A New Approach? Alexander von Humboldt’s Perception of Colonial Spanish America as Reflected in his Travel Diaries,” by **Sandra Rebok**, *Itinerario* 31:1 (2007), 61-88.

“New Species and New Records of *Menegazzia* (Parmeliaceae, lichenized ascomycetes) from Malaysia and Indonesia,” by **Jarle W. Bjerke** and **Harrie J. M. Sipman**, *Botanical Journal of the Linnean Society* 153:4 (2007), 489-499.

“Nocturnal Windborne Migration of Ground Beetles, Particularly *Pseudoophonus Griseus* (Coleoptera: Carabidae), in China,” by **Hong-Qiang Feng, Yun-Hui Zhang, Kong-Ming Wu, Deng-Fa Cheng** and **Yu-Yuan Guo**, *Agricultural and Forest Entomology* 9:2 (2007), 103-113.

“Phylogenetic Relationships Within *Amphiglena* Claparede, 1864 (Polychaeta: Sabellidae), Description of Five New Species from Australia, a New Species from Japan, and Comments on Previously Described Species,” by **Maria Capa** and **Greg W. Rouse**, *Journal of Natural History* 41:5-8 (2007), 327-356.

“Progress in Research and Development on Hybrid Rice: A Super-Domesticated in China,” by **Shi-Hua Cheng, Jie-Yun Zhuang, Ye-Yang Fan, Jing-Hong Du** and **Li-Yong Cao**, *Annals of Botany* (2007), forthcoming.

“Reconsideration of the *Prunus Serrulata* Complex (Rosaceae) and Related Taxa in Eastern Asia,” by **Kae-Sun Chang, Chin-Sung Chang, Tae Yoon Park** and **Mark S. Roh**, *Botanical Journal of the Linnean Society* 154:1 (2007), 35-54.

“Revision of *Chone Kroyer*, 1856 (Polychaeta: Sabellidae) from North America and Descriptions of Four New Species,” by **Maria Ana Tovar-Hernandez**, *Journal of Natural History* 41:9-12 (2007), 511-566.

“A Review of the Pseudoscorpion Genus *Ideoblothrus* (Pseudoscorpiones, Syarinidae) from Western and Northern Australia,” by **Mark S. Harvey** and **Karen L. Edward**, *Journal of Natural History* 41:5-8 (2007), 445-472.

“Sea Spiders (Arthropoda: Pycnogonida) from Waters Adjacent to the Nansei Islands of Japan,” by **Yoshie Takahashi**, **Matthew H. Dick** and **Shunsuke F. Mawatari**, *Journal of Natural History* 41:1 (2007), 61-79.

“A Supplement to the Checklist of Chinese Blackflies (Diptera: Simuliidae),” by **Han-Bin Chen**, *Journal of Natural History* 41:21-24 (2007), 1467-1480.

“Systematic Implications of Wood and Bark Anatomy in the Pacific Island genus *Meryta* (Araliaceae),” by **Alexei A. Oskolski**, **Ekaterina L. Kotina**, **Ivan V. Fomichev**, **Frederic Tronchet** and **Porter P. Lowry II**, *Botanical Journal of the Linnean Society* 153:3 (2007), 363-379.

“Systematic Review of the Land Snail Genus *Neocepolis* Pilsbry, 1891 (Pulmonata: Camaenidae) from North Vietnam,” by **Chirasak Sutcharit**, **Fred Naggs** and **Somsak Panha**, *Journal of Natural History* 41:9-12 (2007), 619-631.

“Variable Wood Formation and Adaptation to the Alpine Environment of *Ephedra pachyclada* (Gnetales: Ephedraceae) in the Mustang District, Western Nepal,” by **Hiroyuki Motomura**, **Shuichi Noshiro** and **Masayuki Mikage**, *Annals of Botany* 100:2 (2007), 315-324.

“Vikings Against Tuberculosis: The International Tuberculosis Campaign in India, 1948-1951,” by **Niels Brimnes**, *Bulletin of the History of Medicine* 81:2 (Summer 2007), 407-430.

BOOK REVIEWS

Raymond John Howgego, *Encyclopedia of Exploration 1850-1940: A Comprehensive Reference Guide to the History and Literature of Exploration, Travel, and Colonization in the Oceans, Islands, New Zealand, and the Polar Regions from 1850 to the Early Decades of the Twentieth Century*. Potts Point [Sydney], New South Wales: Hordern House, 2006. Pp. x + 724. Bibliographies. Indexes. Cloth: AUSS\$245 and US\$200 and ISBN 1-875567-41-0.

In reviewing the first two volumes of Raymond Howgego’s scholarly masterpiece—see *Bulletin of the Pacific Circle* 11 (October 2003), 9-11 and 15 (October 2005), 22-24—this reviewer nearly exhausted his stock of superlatives. Now, only two years after the appearance of the second volume, the author and publisher have brought forth a third,

closing a gap of almost a century after 1850. So large did this instalment grow, however, that it was necessary to split it into two parts, the second half of which, covering the continental land masses, is even now in the press. The final volume will soon complete what is surely one of the most significant reference projects of the last generation.

The volume at hand covers the oceans, islands, and polar regions from 1850 to about 1940. Its 521 articles include biographical information for nearly 3,000 people who were engaged in exploration (about two-thirds of them “leaders,” and one-third “participants”), as well as covering every major island or island group. The format continues to devote separate articles to the major expeditions of prominent explorers—thus according Ernest Shackleton seven articles vs. Robert Scott’s three—and to regions of the larger islands and eras in their history—devoting, for example, three articles to Hawai’i, four to New Guinea and ten to New Zealand. Major articles are devoted to Antarctic and Arctic exploration, and somewhat shorter ones to other themes, including new innovations as Aviation—divided into lighter-than-air and aeroplanes—and Telegraph Cables. Wide-ranging hydrographic expeditions are covered, as are circumnavigators. Women also appear in significant numbers for the first time—including archaeologist Zelia Nuttall, artist Marianne North, Arctic scientist Louise Boyd, ethnographer Katherine Routledge, and the indefatigable Isabella Bird Bishop. Mere tourists are generally excluded, save for an article on World Travelers, although those self-described “tramps,” Mark Twain (Samuel Clemens) and Jack London have articles to themselves.

This latest volume contains more than 14,000 bibliographic citations, divided between primary and secondary sources, cited in their original languages and, where extant, published translations. These, quite apart from the biographical and thematic entries, are astonishingly comprehensive and well worth the price of the book. The author’s decision to append biographies of “participants” to those of their “leaders” avoids repetition, and relieves the reader of the need to make those connections. The whole is tied nicely together by the Index of Persons, keyed to the running heads in the text, as well as by an Index of Regional, Island and General Articles, and an Index of Ships, Boats, Aeroplanes and Airships.

Volume 3 of this scholarly tour de force brings the total number of articles thus far published to 3,580 containing more than 44,000 bibliographic citations, articles notable not only for their comprehensiveness, but for the excellence of their author’s prose. The publishers have, once again, done the author proud, with a handsome, splendidly printed and bound volume, in which the absence of maps is perhaps the only significant, albeit quite justifiable, compromise. Like its predecessors, this third volume is monumental, comprehensive, authoritative, and now, more than ever, indispensable.

Merrill Distad
University of Alberta

Sandra Herbert, *Charles Darwin, Geologist*. Ithaca, NY: Cornell University Press, 2005. Pp. xx + 485. B/W and Color Illus. Index. Cloth US\$39.95. ISBN 0801443482 and Michael Ruse, *Darwinism and its Discontents*, New York: Cambridge University Press, 2006. Pp. x + 316. B/W Charts and Map. Cloth: US\$30.00 ISBN 0-521-82947-x.

At one point in *Darwin and its Discontents*, author Michael Ruse observes that his version of the natural creation of species on earth is “almost certainly not” a true and complete description of those theoretical events: “There will be revisions and substitutions, with other ideas coming to the fore.” This is as true about Charles Darwin himself as it is about his theories. An early commentary on Sandra Herbert’s *Charles Darwin, Geologist* seemed sure, however, that there was a limit to what can be said about the great naturalist, querying whether the biography of Darwin-as-rockhound signaled the “end of the Darwin Industry?” Ruse’s and Herbert’s books, however, form chronological and disciplinary bookends on the spectrum of work on the most popular Victorian, and demonstrate that any limit on the history and commentary on Darwin and Darwinism is, at best, ephemeral. With each page written there are seemingly ten waiting to be published, the product of (1) the sheer weight of the Darwinian archive, thousands of letters, notebooks, and publications written by and to the nineteenth century’s iconic scientific figure, and (2) the fundamental topic of Darwin’s interest: the origin of life. To understand a single aspect of Darwin’s life and work is to raise ever more questions of context and significance which keep “Darwinism” at the forefront of scientific and cultural interest.

Herbert’s work in particular is of interest to Pacific Rim scholars, as it details Darwin’s travels aboard the *Beagle* through important Pacific discoveries, and critically for this audience, illuminates the discoveries which themselves explain the origins of Pacific islands. *Charles Darwin, Geologist* presents a highly detailed view of how Darwin set out in 1831 to build a career not as a specialist in evolution or biology, but as a geologist. The first two chapters of the book look at Darwin’s youth and introduction to geology, notably under the tutelage of his professors at Cambridge, John Stevens Henslow (who recommended Darwin for his post on the *Beagle*), and Adam Sedgwick, professor of geology, with whom Darwin kept up a lively correspondence during his years traveling the globe. Chapter Three focuses on his *Journal of Researches* from the *Beagle* voyage, and thereafter Herbert locates Darwin’s career through an elaboration of the state of Victorian geology as an established but maturing scientific profession, placing Darwin in the company of an important English scientific lineage, *inter alia* Sir Roderick Murchison, Charles Lyell, *et al*, even before his own contribution with 1859’s *Origin of the Species*. Where often Darwin is presumed in biological circles as a modern “man of science,” a revolutionary in a fast-changing scientific community, Herbert usefully establishes him as an extension of an extant scientific community, an *evolutionary* figure.

Herbert’s discussion of *Origin* is found only in the last of her ten chapters, however, the interim chapters address specific geological issues as mini-histories, each chapter standing as a chronologically inclusive essay on Darwin’s work on a given point of geological research: coral reef formation, volcanic creation of islands, the geology of South America, glaciers, etc. In this way, Herbert does a splendid job of packaging

Darwin's theories as components to which the reader can refer in assembling Darwin's later theories; the effects of Darwin's geological discoveries on his later theories of speciation are thus rendered more apparent.

Charles Darwin: Geologist relies heavily on the primary sources in the Cambridge University Archive, primarily Darwin's notebooks, field notes and correspondence. In that approach, Herbert's interpretation of the material is original and unaffected by secondary opinions and analyses of other historians. At the same time, this narrow focus may overlook some sources at the expense of historical clarity; for example, Darwin's discovery of coral reef formation was not the final word on the subject, even after his death in 1882, but the discussion here does not consider it in the larger debate. Readers may be encouraged to do their own sleuthing on this and other topics to provide larger context, but some might be disappointed in missing similar material in this work.

Ruse's *Darwinism and its Discontents* takes the modern liberty of examining only the larger Darwinian debate, explaining Darwinism as scientific theory and cultural lightning rod. Ruse's first chapter provides a brief historical review of how Darwin came to his theory, and why it may rightly be claimed *his*. Chapter Two discusses the validity of the theory as science and, in anticipation of later discussions, addresses the central problem of the utility of modern science: what is truth, and what constitutes valid evidence of same. In looking at the traditional attacks on Darwinism, Ruse points out that much of the evidence for which Darwin was attacked in his time, anecdotal material and indirect, non-experimental evidence, is the exact same sort of proof that we happily rely on for most other events in life. Scientific theory, like cultural narratives of other disciplines, is valuable only to the extent that it can usefully explain and predict. The fact is, Darwinian evolution explains a vast number of natural events and enables scientific discovery in many fields. For Ruse, the proof is in the pudding; notwithstanding that Darwin had limited resources from which to produce evidence of natural selection and transmutation, the theory consistently holds up against modern scrutiny. "By any normal understanding of the terms, evolution is a well-established fact," states Ruse.

Readers well know that, established fact or not, Darwinism draws an immense amount of discussion in virtually every popular and academic forum, and there is no shortage of Darwin critics. Each of his subsequent chapters goes about defending Darwinism against such onslaughts and debunking those who claim that there is no "proof" for evolution, or that natural selection as a system is inaptly applied. Ruse frames the debate in advantageously optimistic terms. For example, in discussing the "Origin of Life" in Chapter Three, he points out that evolutionary theory has been successfully used in many fields, and to that extent it is reasonable to expect that, with proper inquiry, the theory will be successful in explaining how life emerged on the planet. This is not an unfair position at all, but accepts a rational definition of science and its progress. To those who discard Darwin's conclusions based on the notion that it has not proved that men evolved from lower primates, Ruse responds, "just wait."

Patience as a scientific ethic is certainly validated in subsequent discussion. When history has provided claims that evolution has been disproved, it has almost always had to admit the error. Ruse provides a lively discussion of how the fossil record was misinterpreted

to deny evolution, as well as how Darwinism was, and still is, criticized as being the ‘scientization’ of a cultural value system (Victorian imperialism, for example). Where Darwin’s theories have proven successful, which is to say far more often than not, those events have surely removed natural selection and its corollary principles from the category of mere social theory dressed up as science, a la eugenics. Ruse spends valuable discussion admonishing Darwinian critics for their lack of patience as well: arguments against the validity of natural selection which use the “dishonesty” of such cases as the Piltdown Man, are rightfully skewered for overreaching. One fraud does not invalidate an entire scientific record, is Ruse’s point, especially where the comprehensive importance of Darwin’s theories virtually invite fraudulent efforts to prove, or disprove, it’s theoretical tenets.

Ruse’s command of the Darwinian theory manifests itself in his relaxed movement between even cultural applications of evolution: successive chapters on religion, philosophy, and literature are highly entertaining, and do a good job of framing the debates, and the pitfalls, which currently boil the blood of practitioners in those various fields. Overall, the message Ruse wishes to impart that Darwinism is not, nor was intended to be, an explanation of how the world came to be, nor a conclusion of where it will end up. Natural selection is most often indicted on these points, as the religious debate is fueled by the false notion that the mechanism obviates any sort of higher creation or guidance of earthly development, and other popular cultural applications of Darwinism fear its “deterministic” nature. Ruse points out that neither premise was intended by Darwin, nor included in the theory. Foremost, Ruse clearly states that natural selection is not a method of progress, so that determinism-and the fear of adverse constructions of what progress might be-has no place in the discussion at all.

As a mechanism of natural change, both in species and other theatres of activity, natural selection is an engine providing movement. What that movement is at any one time is the product of an immense number of factors, factors which are the subject of scientific inquiry in many instances. Ruse’s discussion of science in *Darwinism and its Discontents* is most intriguing for his wrestling with science itself, its character and function. While Ruse dismisses theories of “the social construction of science” as antithetical to his own preferred scientific motto, “the search for truth,” at the same time he willingly admits that at any given juncture, scientific theories really are not just “disinterested reflections of absolute reality.” They are abstractions from and interpretations of that reality, as scientists try to build models which capture part of experience that is relevant (and ignore the rest of experience that is not relevant) and work toward the best explanation of what there is now, and a basis for predicting what will be. As abstractions, however, scientific theories necessarily embody cultural preferences and epistemic models, which themselves may change over time. If science is the search for truth, then even Ruse will admit the definition of truth itself may evolve.

Sandra Herbert’s picture of Darwin as a geologist is certainly one non-exclusive truth to be told about the great naturalist. Even in that, though, Herbert suggests a great future for Darwinian studies: Darwin as biologist, Darwin as botanist, Darwin as paleontologist, Darwin as animal patron, are all equally narrow, but not fully explored, topics. In the coming years, the Darwin archives will support many such works, each giving us a new and more complete view of Darwin himself, and thus a basis for reinterpreting earlier, more confined

works in that regard. Sandra Herbert's excellent use of the archive provides a solid historical template for what some of that work may be. Where Michael Ruse's *Discontents* explores other of the various and expanding applications of Darwin's work in science and culture, it provides a peak at that same future where the debate over natural selection shall not only draw on, but describe and demand, those new histories waiting to be

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Warwick Anderson, *Colonial Pathologies: American Tropical Medicine, Race, and Hygiene in the Philippines*. Durham and London: Duke University Press, 2006. Pp. x + 355 B/W Illus. Map. Index. Cloth US\$84.95 and ISBN 0-8223-3804-1 and Paper US\$23.95 and ISBN 0-8223-3843-2.

Colonial Pathologies is the product of nearly two decades of reflection on a subject which the author began to study at the doctoral level. Over that time, some chapters of the book were published as articles, most of which will be familiar to scholars of medicine and colonialism. But this book is more than the sum of its parts. Warwick Anderson's earlier work offered important insights into the language and practices of colonial hygiene, but few were aware of his over-arching thesis. The central argument of *Colonial Pathologies* is that colonial hygiene and sanitation were an integral part of a strategy of deferred citizenship rather than a technology of exclusion, as it often was in earlier colonial regimes. Filipinos were prepared for 'biomedical citizenship' by their American rulers, but their assimilation was never complete and full citizenship was infinitely delayed. Anderson's study of hygiene in the American Philippines can therefore be seen as a case study of an early form of development discourse, one that had not altogether abandoned the patronizing racial assumptions of the colonial 'civilising mission.' But the book is concerned as much—perhaps more—with the fragility of American identity in the colonial tropics, with what Anderson calls 'the distressed and assertive colonial culture of bourgeois white males' (6). The attempt to discipline Filipino bodies revealed anxieties about their own bodies and the maintenance of civilized norms in alien circumstances.

The first chapters of the book examine the Spanish-American War of 1898 and the advent of American rule in the Philippines. American medical involvement in the region was initially confined to protecting the health of soldiers, but, as in most colonial regimes, it was found that the health of troops could only be effectively safeguarded by extending sanitation to the surrounding population. American military medics thus embarked on a civilizing project that closely resembled its broader military strategy in the islands. The control of germs and the control of Filipino *insurrectos* used much the same methods and had much the same objectives.

From the outset the goals of American governance in the Philippines were openly reformist. While developing a modern legal, medical and commercial infrastructure, they also sought to instil the values of bourgeois democracy, partly in

order to distinguish American ‘imperialism’ from that of its European counterparts. And yet the difference was not as marked as American rhetoric or this book suggests. In India—which the Americans regarded as a prime example of regressive imperialism—the British had already begun moving toward self-government at a local level and this increased after the end of the First World War. Indeed, the aims of American and British imperialists—especially its liberal exponents—were not so very different; both claimed to prepare subject peoples for self-government and both deferred it indefinitely.

Chapter 3 focuses on medical research conducted under the emerging civilian regime in the Philippines. Scientific studies of disease at the beginning of the twentieth century were moving away from the climatic paradigm that had dominated ideas about health in the tropics. Nineteenth-century pessimism about adaptation to warm climates was being replaced by a certain degree of optimism, as the new sciences of bacteriology and parasitology identified the pathogens responsible for diseases such as typhoid and malaria. These discoveries offered the possibility that diseases previously attributed to the direct action of climate could be prevented by technical intervention or by scientifically-based hygiene. Official attention began to focus increasingly on native cultures and habits as potential sources of disease and these began to assume importance as markers of difference between races.

The management of bodily waste, according to Anderson, became one of the most effective means of organizing a formerly diffuse population and of maintaining social distinctions. Through control of the body and moral training, the state attempted to discipline the bodies of both Filipinos and Americans. Americans were defined by their ability to maintain strict control over their bodily orifices, while the habits of Filipinos had to be brought into conformity with those of their rulers. The management of excrement forms the subject of chapter 4, which examines attempts to educate Filipinos in hygiene and the construction of a sanitary infrastructure. Here, Anderson provides some useful insights into the colonial mentality, but his account of sanitary action suffers from the lack of attention to Filipino perspectives. The reader learns little about how educational and sanitary initiatives were regarded by Filipinos or the difficulties faced by agents of the colonial state when attempting to implement them.

Chapter 5 returns to the theme of colonial anxieties. It observes that most white bureaucrats stationed in the Philippines experienced a mental breakdown at some point in their career. While the main danger to physical health was now thought to lie in the habits of natives, it still seemed that climate might exert a powerful and detrimental effect upon the mind. Tropical neurasthenia was said to be common among civilian administrators, but comparatively rare in the military; indeed, mental exertion was thought to be the main predisposing factor in the disease. Although it was a nineteenth-century term, ‘neurasthenia’ proved compatible with Freudian analysis and made a fitting subject for psychoanalysis. From the 1920s, however, cases of neurasthenia became less common. This was partly because fewer white males were stationed in the Philippines, but also because those who experienced nervous exhaustion were reluctant to translate their experiences into Freudian terms. Uncomfortable with sexualized explanations, they reverted to older climatic accounts of the effect of tropical airs upon white brains. But, at the same time, American psychiatrists began to remark on an epidemic of neurasthenia among educated Filipinos, explaining it in terms of

their inability to withstand the rigours of modernity and American civilization.

In chapter 6 Anderson turns to the subject of leprosy, through a case study of the leper colony at Culion. Although marginal to Filipino society, lepers appeared to be among the most eligible for biomedical citizenship. As Anderson puts it, ‘Through hygiene and treatment protocols linked to civic performance, lepers in the exemplary micro-colony were expected to achieve “emancipation” in advance of the non-lepers of the macro-colony’ (9). Old family ties were severed as lepers entered the colony and this made it easier to instil abstract concepts such as progress and modernity. Anderson argues that this was the first time that leprosy sufferers had been subject to intensive forms of discipline with a view to therapeutic improvement and social transformation. Whether or not this is true of other colonies is unclear, but leprosy treatment at Culion nicely illustrates the point that Anderson is trying to make about imperialism and bio-medical citizenship, especially as the initiatives formerly concentrated in Culion became more widely dispersed in the 1930s.

The last two chapters of the book chart the de-stabilization of American ideas about race, culture and environment. Chapter 7 examines the campaign against hookworm conducted by the Rockefeller Foundation and explores the tension between emerging ideas of development and traditional colonial/racial boundaries. For example, Rockefeller emissaries regarded Filipino health workers as flawed copies of their white American colleagues and, despite the rhetoric of democracy and development, only Americans were regarded as eligible to lead health programs. Anderson’s analysis is finely nuanced and he reflects usefully upon party-political differences over the employment of Filipino health workers. The examination of a few sources written by Filipino doctors is also to be welcomed. However, the claim of American exceptionalism which underlies this chapter—as in some early chapters—remains to be proved. Anderson argues that moves towards self-government which supplemented ‘native homogenization with limited individuation and developmentalism’ were largely confined to the American empire (183). But the 1930s also saw moves towards self-government in a number of British colonies, which were mirrored in new leadership roles for indigenous peoples in matters of health. Apart from the case of India, which has already been mentioned, the British colony of Ceylon was granted universal manhood suffrage in 1931 and the director of its medical service—like most of its doctors—were Ceylonese. Indeed, in the 1930s the British Colonial Office was generally moving from older notions of a civilizing mission to recognisably modern concepts of development similar to those evident in the Philippines.

The final chapter of the book examines malaria prevention and focuses on the growing importance of ecological and technical approaches. Here, again, the contrasts between American and other colonial contexts are overdrawn. For example, Anderson claims that the British (Ronald Ross and Malcolm Watson apart) saw malaria as a ‘racial’ disease, whereas Americans were becoming more interested in its ecological character. This is not correct, as ecological thinking in malaria prevention and in a wide range of other colonial activities was much in evidence in British colonies between the wars. Nor did the ‘racial’ approach to malaria dominate before 1910. Colonial regimes generally found the measures suggested by those who took a racial view of malaria to be impracticable. Segregation and quinine prophylaxis were expensive and difficult to enforce, except in relatively confined spaces. Also missing from this chapter is any mention of the First World War, during

which French and British forces found that quinine prophylaxis did not work. This failure strengthened the case of Ross and others who had argued for mosquito control, and provided a stimulus to more ecological approaches in the 1920s and 30s.

Anderson concludes his book with some interesting reflections on the legacy of American initiatives in the Philippines. He suggests that some of the public health strategies developed in the Philippines were later applied to immigrants to the United States and that they shaped military medicine and industrial hygiene. The Philippines, he argues, also became one of the most important models for international development. He shows that experience in the Philippines had a formative influence upon such important figures as Dr Paul F. Russell of the Rockefeller Foundation, whose frustration with 'racial development' on the archipelago induced him to try an ecological approach to malaria control. Such disease-specific eradication strategies were to dominate international health initiatives in the years after the Second World War but how much of this was due to American experience in the Philippines remains to be determined.

As a case study in the transition from colonial 'civilizing mission' to post-war ideas of development, *Colonial Pathologies* has much to offer. As the author points out in his introduction, few books on 'colonial medicine' have covered this relatively neglected period or have made this theme their central focus. Anderson is at his best when charting shifts in discourse and providing insights into the mind-set of successive generations of American doctors and administrators in the Philippines. He makes effective generalizations while remaining sensitive to differences and ambiguities, and he is particularly effective when revealing the insecurities and tensions underlying the American presence in the archipelago. Although the book draws on the insights of a range of theorists—including a good deal of post-colonial theory—it is engagingly written and accessible. The only real flaws in the book are its insularity—the lack of an effective comparative dimension to justify claims of American exceptionalism—and the lack of attention to the implementation of policies, especially the responses of indigenous Filipinos. The reader comes to understand a good deal about what Americans thought should happen in the Philippines, but much less about what actually did happen and how sanitary initiatives affected the lives of Filipinos. The lack of attention to Filipino perspectives is rather surprising given the endorsement on the back cover from the noted post-colonial scholar Ann Laura Stoler, who states that the book meticulously explores the 'subjectivities' of colonized peoples as well as the colonizers themselves. The latter is certainly true, but one has to search hard for evidence of the former.

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Aaron Sachs, *The Humboldt Current: Nineteenth-Century Exploration and the Root of American Environmentalism*. New York: Viking, 2006. Pp. xii + 496. US\$25.95. ISBN 978-0-670-03775-9

The Humboldt Current is not about the large marine ecosystem of the southeastern Pacific, as one might expect from the title; this book rather deals with the impact by the illustrious Prussian naturalist, geographer, and explorer Alexander von Humboldt (1769-1859) on four American environmentalists of the nineteenth century, as the subtitle suggests. Exploring the role by “the Albert Einstein of his day” (96) in much scientific thinking of ante-bellum America, Sachs’ book is a natural history as well as a study of intellectual and cultural history and even of political economy in true Humboldtian fashion, of interest to a broad audience. If we can interpret the title as a historical metaphor in more than one way, the author has without doubt intended to draw a direct analogy between the ecologically rich current that today bears Humboldt’s name and his extensive impact on nineteenth-century American thinking about nature in an attempt at recovering the naturalist’s lost fame from obscurity. Had Sachs thought of the diverse influences by Humboldt on American intellectual life, he might have chosen the more descriptive title of *Humboldt Currents*, but at the obvious cost of the revealing analogy.

The first section, “East,” or “Humboldt and the Influence of Europe,” traces the author’s own search for Humboldt in the America of the early nineteenth-century in a prologue and three chapters. Sachs pays particular attention to the Humboldtian notions of radical Romanticism, i.e. “a Romantic critique to the core beliefs of Enlightenment science, tempering the dream of impersonal objectivity with a conscientiously subjective gaze” (43), and to cosmos, i.e. the mutuality and interdependence of surroundings from a global perspective (76). These concepts entail two major methodological-theoretical corollaries: (1) a sense of humility, responsibility and a social-political engagement towards the environment not limited to a few isolated, compartmentalized pieces of land such as national parks, but extending to all environments, including their human inhabitants, foremost native peoples and the exploited; and (2) an interdisciplinary approach to doing science, of which Alexander has remained exemplary until today. Consequently, Humboldt took a strong stance against not only ecological deprecation, but also slavery, colonialism, and any other form of exploitation. Such a cosmopolitan perspective and interdisciplinary approach, while open to relativistic ideas, notably allowed Humboldt to steer clear of ultra-relativistic traps so characteristic of much postmodernist reasoning about exploitation.

Part Two, “South,” or “J.N. Reynolds and the ‘More Comprehensive Promise’ of the Antarctic,” examines the explorer of the South Seas. Sachs describes Reynolds’ commitment as fundamentally Humboldtian: “he did with islands, reefs, rocks, winds, currents, and marine mammals what Humboldt had done with mean temperatures and vegetation patterns—not as elegantly, to be sure, but just as thoroughly” (130). Reynolds’ most significant discovery on the so-called Palmer-Pendleton expedition was “his confrontation with the fearsome Araucanian [Mapuche] Indians—his one exploration experience that seems to have upended his expectations more than any other” (139). He came to understand their violence as a reaction to the previous wrongs by Spanish colonists rather than as some

inherent characteristic. Ultimately, the Mapuche Indians in Reynolds' encounter remain rather "nice, gentle Victorians" (141) without providing much of a sense of cultural "otherness." If Reynolds appeared to exhibit conflicting attitudes about slavery, "he understood how exploration—and exploration narratives—could make people more curious about the wondrous capacities of both nature and humanity" (153), which made him a forerunner for Romantic novels of the period. "Together, it seems, [Edgar Allan] Poe and Reynolds, with the help from Humboldt, had given birth to America's consummate Romantic hero, the wandering wilderness lover, the never-satisfied road-tripper, the social critic in search of a more direct, original connection with the primeval." (172)

The third section, "West," or "Clarence King's Experience of the Frontier," addresses Humboldt's influences on the geological explorations of western North America by the eccentric geologist and mountaineer who distinguished himself by exploring the Sierra Nevada mountain range in California and became the first director of the U.S. Geological Survey in 1879. Explorations of the West, "far from being Humboldtian exercises in humility, curiosity, and mutuality, [had been] designed primarily to facilitate the passage of the railroad and the waging of Indian wars—designed, in short, to encourage the conquest of the frontier by restless white pioneers" (187), with the Civil War substantially increasing tensions between ethnic groups. In contrast, King advocated a different approach of Humboldtian wonderment about the environment. He also argued for the unity of human populations ("races"), and defended blacks' rights, even if—unlike Humboldt—he retained considerable difficulty recognizing the injustices done by European Americans to Indians (190, 223, 243). "[P]erhaps the most important lesson King drew from reading [Humboldt's] *Cosmos* and the *Personal Narrative [of Travels to the Equinoctial Regions of America]* was simply his determination to be a conscientious viewer, to go off the beaten track and observe every different kind of landscape, no matter what value government bureaucrats or classic writers might attach to them—to see more than his own reflection when he peered into a pool of water, and to be willing even to stare into the void of a bottomless gulf. He learned from Humboldt to see photographically, and that vision truly came into its own when King started collaborating with [the photographer] Timothy O'Sullivan" (215). Had it not been for his strained relationship with Native Americans, King would strike one as the most Humboldtian of the four explorer-environmentalists whom Sachs examines. The author indeed goes so far as to claim that "It would be tempting to speak of Clarence King, in terms of personality, as the reincarnation of Alexander von Humboldt—if Humboldt had not still been very much alive when King was born (in 1842)" (197).

The fourth part, "North," or "George Wallace Melville and John Muir in *Extremis*," deals with an Arctic explorer and chief engineer of the U.S. Navy (Melville) on the one hand and an explorer of Alaska and Siberia and the founder of the Sierra Club (Muir) on the other. A survivor of the failed *Jeanette* expedition to the Arctic, Melville "taught rabid American expansionists to see northern landscapes not as potential commodities, nor as desolate wastelands, but as sublime signifiers of the harsh limits imposed by ecological factors" (26-7). His narrative also reflected a sense of respect towards native peoples and their unique ways, which as an engineer he appreciated as special, preferable adaptations to harsh Arctic environments rather than as primitive institutions. "[I]nstead [of conquest], he favored the

sense of his own smallness conveyed by awe-inspiring landscapes” (296). Similarly, “Alaska inspired conflicts in Muir that Humboldt (and Reynolds, King, and Melville) would have recognized instantly. Nature, here, was fantastical, awe-inspiring, breathtakingly magnificent; it was also terrifying, confusing, overwhelming, fatal” (310). Unlike Humboldt and Melville, Muir first considered native peoples “mostly as exotic curiosities or elements of the environment” and their best quality “a willingness to convert to Christianity,” although he drew on them for “their skills as guides, builders, makers of clothes, storytellers, educators” (313). While pursuing “Humboldt’s lead in studying meteorology, climatology, glaciology, and botany,” Muir eventually became increasingly interested in anthropology, spending “the most time on Humboldt’s musings about Indians” (316, 317) and adopting some insights that built the foundations for the modern ethnography of Arctic peoples. In his later writings, native peoples however disappear, as do other people. In a most un-Humboldtian fashion, “The Muir of the Sierra Club rarely talked about *living in nature*, or remaking our overall relationship with the land; human beings, for him, were merely tourists in the wilderness” (313). Caught in provincialism, American conservationists had lost their cosmopolitan vision of nature as well as any claims to explore and question the very underpinnings of society (343, 346).

Sachs’ book ends with an epilogue on “Humboldt on Chimborazo,” a reflection on humanity’s insignificance and impermanence drawing on Humboldt’s own experiences at Ecuador’s highest summit, an inactive volcano in the Andes. *The Humboldt Current* additionally includes extensive acknowledgments, a chronology, detailed endnotes, a rich list of bibliographic references, and a comprehensive index.

I began reading this book with considerable anticipation, but also with some apprehension. My anticipation simply reflected the hope that Sachs’ book would help to rebuild the recognition long overdue to Humboldt in recent scholarly discourse and rekindled by such books as Gerard Helferich’s *Humboldt’s Cosmos* (2004) and Nicolaas A. Rupke’s *Alexander von Humboldt* (2005); Sachs makes a major contribution to that effect. My apprehension was due to the fact that I have come to Alexander von Humboldt from an entirely different angle—not as a natural scientist, but as an anthropologist and a linguist originally with primary interest in the ideas of his older brother Wilhelm, whom Sachs often recognizes as a central figure in Alexander’s life. Even less well-known in the United States, but no less illustrious in Europe than his younger brother, the elder Humboldt, a linguist, anthropologist, philosopher, and educator, in fact drew on Alexander as the direct and intermediate source for many data on Native American languages and other ethnographic details, just as Wilhelm served as a frequent sounding board for Alexander’s ideas, many of which in turn have directly reflected his brother’s influences. Notwithstanding their differences in academic focus and beliefs, an understanding of Wilhelm has required the study of Alexander’s writings and life (just as the reverse holds true). The younger Humboldt has quickly proved not merely a scholar of incidental interest because of the influence on his older brother, but an achieved anthropologist of the Americas whom history must yet recognize fully for his many diverse contributions. Moreover, Alexander could speak to me as a naturalist. Whereas the older Humboldt frequently *appears* to address a different, older generation of academics, the younger proves to be unusually current even

by modern standards, and raises major issues of concern about the environment today as he did already during his life time (such as the exploitation of rich environmental resources by a dominant elite at the expense of an impoverished minority, be they native peoples or African Americans). This point is a prime message of the book by Sachs, which he achieves eminently well.

The Humboldt Current is a rich, thoroughly documented amalgamation of historical details, written in an engaging style that makes it a joy to read. The author conveys the same enthusiasm evident in much of Humboldt's own writing, even if he is not entirely convincing when emulating Humboldtians in his description of his own visits to Nevada (Chapter 1) and if other portions appear disjointed. Aside from occasional references to exchanges with Humboldt during his visit to the United States, pilgrimages by Americans to Europe, and their correspondence with the polymath, the discussion about Reynolds, King, Melville, and Muir, chosen because of their internal conflicts (31), often mentions only incidental parallels to Humboldt's perspective rather than discussing direct and indirect historical lines of influence in any detail, which obviously require further in-depth research. In light of the fact that none of the four explorer-naturalists reached the significance of Humboldt and that with World War I he supposedly passed into obscurity in the United States, the nineteenth-century Einstein would also deserve more attention than the author allocates to him in merely one fifth of the book's space.

What however strikes me as perhaps the book's greatest shortcoming is the lack of an extended discussion of the most Humboldtian American scholar—the pioneer anthropologist Franz Boas (1858-1942), who merely receives occasional mention (327-8, 334, 340, 341, 342). Where-as almost all nineteenth-century anthropologists studying Native Americans saw themselves as Humboldtians in one fashion or another, Boas had special historical ties to the polymath. Not only had he been trained in the German tradition of sciences, including physics and geography, and adopted Humboldtian ideas through various avenues; but he ultimately proved to be more Humboldtian in his overall perspective than Reynolds, King, Melville, Muir, or any of his contemporaries by turning his research to the very people who had figured centrally in Humboldt's own thinking, by focusing on environmental influences in their cultures (rather than on biological or "racial" differences), and by incorporating resources of Alexander's older brother, Wilhelm, specifically linguistics. It is after all through Boas that much of twentieth-century American anthropology, foremost the next generation such as Alfred Kroeber, Robert Lowie, and Edward Sapir with their multiple direct and indirect links to both Alexander and Wilhelm von Humboldt (see Drechsel 1988: 246-8), has retained or even fostered its Humboldtian character, i.e. its cosmopolitan and interdisciplinary quality, as Sachs indeed recognizes (340).

A review of Boas in light of Humboldt would also reinforce an argument by Sachs and others acknowledging Darwinian evolutionary thinking—but not social Darwinism—to have built on Humboldtian ecology (see 240-1). By extension, this insight allows us to recognize the survival of Humboldt's ideas in disguise into the twentieth-century and beyond rather than withering away in conflict with evolutionary theory. If Sachs appears to accept this fact when discussing catastrophism and uniformitarianism (see 247-53), he inadvertently misrepresents Humboldt's ideas as having faded away (2, 10, 331, 333, 334,

339; cf. Penny 2007). Statements such as “all the confluences of the nineteenth century, the palpable influence of Humboldt’s theories on every explorer and scientist who wrote about nature, now constitute barely a rivulet in American intellectual culture” (10) contradict Sachs’ own recognition of much twentieth-century American anthropology as Humboldtian. What he however shows clearly throughout his book is how those scientists who abandoned Humboldt’s perspective and ideals ironically came to serve the political goals of the expansionist establishment with its ruthless exploitation of both the environment and people and with its rabid ideology of progress and individualism.

Ultimately, there remains the question of what is in *The Humboldt Current* for scholars of the Pacific. If we understand the Pacific in narrow terms as Oceania, there is not much of interest in this book with only incidental references to the Pacific Islands. Yet such a restrictive view will miss precisely what distinguished Humboldt from contemporary and later scholars and what has made his interdisciplinary, cosmopolitan perspective so attractive until today. If we understand the Pacific to include the Arctic, the west coasts of the Americas, and the Antarctica (as in fact we should), Sachs’ book offers numerous tidbits of relevance to geologists, meteorologists, geographers, biologists, and social scientists of the Pacific. Humboldt indeed was a global scholar in the truest sense of the word whom modern science cannot ignore for his historical role and impact. To that extent, Sachs’ book also makes a major contribution for the study of the Pacific, for which we should be grateful to him. Now we need an analogous book on the impact by Alexander’s older brother, who deserves as much attention in the United States.

References

Drechsel, Emanuel J. (1988) “Wilhelm von Humboldt and Edward Sapir: Analogies and Homologies in Their Linguistic Thoughts.” *In Honor of Mary Haas. From the Haas Festival Conference on Native American Linguistics*, edited by William Shipley. Berlin: Mouton de Gruyter, pp. 225-264

Helferich, Gerard. (2004) *Humboldt’s Cosmos. Alexander von Humboldt and the Latin American Journey That Changed the Way We See the World*. New York: Gotham Books

Penny, H. Glenn. (2007) “Review of Aaron Sachs, *The Humboldt Current: Nineteenth-Century Exploration and the Roots of American Environmentalism*,” H-German, H-Net Reviews, April, 2007. URL: www.h-net.org/reviews/showrev.cgi?path=124051179935562

Rupke, Nicolaas A. (2005) *Alexander von Humboldt. A Metabiography*. Frankfurt a. M.: Peter Lang

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Keith R. Benson and Helen M. Rozwadowski, eds. *Extremes: Oceanography's Adventures at the Poles*. Sagamore Beach, MA: Science History Publications USA, 2007. Pp. xiv + 393. Bibliography. B/W illustrations. Cloth: US\$54.95 and ISBN 0-88135-373-6

In September 2004, the town of Barrow, Alaska hosted the fourth Maury Conference and Workshop dedicated to the history of polar oceanography. Barrow, the northernmost settlement in North America, was deliberately chosen in an attempt to narrow the distance between the history of polar science and the geographical space in which the practice of polar science has and continues to occur. The theme of both the conference and the present volume is the historical transition in polar oceanography from a previously "marginal status to its present-day centrality." The work brings together twelve contributions by historians and scientists with roots in North America, Europe, and Asia. The chapters are arranged chronologically, beginning with the mid-nineteenth century and ending with the late twentieth-century. Just about equal attention is given to the Arctic and the Antarctic regions.

The "oceanography" of the volume's title is defined broadly. While several of the contributors follow specific developments within the scientific discipline, others choose to focus on geopolitics, on the role of exploration, or on various cultural or technological aspects of ocean science. Such disparity might frustrate some readers, but a core strength of the volume is precisely in showing the multi-faceted role that oceanography has played in human history. As such, the work has much to offer students or scholars interested in the larger socio-political scheme in which polar science and environmental policy have emerged.

The volume begins with Michael Robinson's cultural study of the short-lived theory of an "open polar sea." Contrary to most historians who have presented the theory as wishful and irrational, Robinson shows that it was firmly grounded in the ideas of the day; it not only provided a solution to the mystery of lost the Franklin Expedition of 1845, but it also enabled leading scientists to explain the final destination of the Atlantic's warm Gulf Stream. Robinson uses the history of the theory to show the tight relationship between popular ideas and scientific developments.

In the following chapter, Vera Schwach goes one step further to expose the role that popular support played in sustaining the memory of scientific expeditions. She does this through a brief look at the Norwegian *Vøringen* Expedition of 1876-1878. The voyage was one of the first scientific expeditions to the North Atlantic and was commissioned to study meteorology, oceanography, and the migratory patterns of cod and herring. Nevertheless, despite the significant economic implications of the the expedition, it failed to win the support of the people and was quickly forgotten with the successes of the more sensational journeys of Fridtjof Nansen.

The ensuing two chapters address the means by which scientists organize and present their findings. Cornelia Lüdecke looks to the emergence of German polar science, tracing the development of oceanography through the visual depiction of data. Comparing the oceanographic diagrams of the German South Polar Expedition of 1901-1903 with those of the Second German Antarctic Expedition of 1911-1912, she shows how the "dynamic

representation of currents” of the latter expedition found favor over the qualitative and fundamentally geographic graphs of the former. By doing so, she touches on the emergence of oceanography as a distinct field of science. Moving forward a few decades, Eric Mills traces the development of the global conveying system as a model for understanding the relationship between atmospheric and oceanic currents. This eventually became part of mainstream oceanography with its inclusion in Harald Sverdrup’s *The Oceans* (1942).

The central five chapters of the volume are united by their focus on the tension between polar science and geopolitics, particularly with concern to the role of the poles in the Cold War. Ronald Rainger’s contribution follows the oceanographic activities of the American led International Ice Patrol (IIP). Established in the wake of the Titanic disaster, Rainger shows how the IIP and American oceanographic activities eventually became a cover for military and diplomatic ambitions as wartime Germans and postwar Soviets replaced icebergs as the main threat to maritime freedom.

Fae Korsmo continues on this theme, arguing that polar science became central to the Cold War “because the Arctic offered not only proximity to the Soviet Union but also opportunities for the transit and storage of dangerous weapons.” This led to unprecedented cooperation between military services and civilian scientists. The Cold War also led to increased funding and new technologies that broadened the scope of oceanographic research. In particular, Peter Neushul’s study addresses the development of the self-contained underwater breathing apparatus SCUBA and its impact on the emergence of marine botany in the polar regions.

In the most comprehensive geopolitical study of the volume, Jacob Hamblin skillfully presents the competing ambitions of the Americans, the Soviets, and other participants in the International Geophysical Year (IGY) of 1957-1958. Despite the guise of international cooperation, Hamblin shows the extent to which the IGY became a battlefield for territorial claims, historical revision, military science, and Cold War politics. In the end, he convincingly shows how the IGY resulted in the the British (and by association, the Americans) losing territorial claims while the Soviets triumphed by obtaining a foothold on the Antarctic continent.

Following the IGY and bringing the volume up to the present, Walter Lenz argues that polar science became less international and more multi-national under the leadership of the United States. As an example of one nation’s experience during the same post IGY period, Zuoyue Wang provides an overview of Chinese activities at both poles. The Chinese, he writes, failed to join the international scientific community during the IGY due to tensions with Taiwan, which were then followed by issues with the Soviets, and finally by the infamous Cultural Revolution. It was only with changes in the social and political situation of the early 1980s that the Chinese established stations in the Antarctic (1984 and 1989) and the Arctic (1995). Like the experiences of European powers a century earlier, Wang argues that the political and cultural benefits were as important to China’s polar ambitions as any scientific or material gain.

The final contribution, Deborah Day’s forty page bibliography of twentieth century arctic marine science, might prove to be the most valuable chapter for future researchers. That being said, since the volume begins in the nineteenth century and covers

both Arctic and Antarctic oceanography, it would have been useful to have included an expanded bibliography or a second bibliography to address these other areas.

The recent publication of this volume could not be more appropriate. The 2007 report of the United Nations Intergovernmental Panel on Climate Change (IPCC) has shown with ever more clarity the central role of polar science in exposing the impact of human development and the natural environment. With the IPCC and now the fourth International Polar Year (IPY) of 2007-2008, scientists of many nations are working together to better understand this relationship. Yet, polar science today is subject to some of the same national and cultural forces that have shaped polar activities in the past. At such a juncture it is critical that scientists are joined by historians so that in seeing where we have been we will better understand the challenges of where we now stand. This volume makes a significant contribution to that end.

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Rainer F. Buschmann, *Oceans in World History [Explorations in World History Series]*. San Francisco, CA: McGraw Hill Higher Education, 2007. Pp. xv+138. Maps, Timelines. Index, Suggested Readings. B/W Illustrations. Paper: US\$ 22.81 and ISBN 978-0-07-301903-1 and 0-07-301903-8.

In recent years, maritime history—and the myriad ways in which humans have forged relationships with the seas around them—has assumed a prominent place in the historical discourse. Specialists from various subfields and across disciplinary boundaries have utilized the sea as a prism through which they can interpret past events. This is a startling change of direction for the field, which had long been viewed as the purview of antiquarians and armchair historians, rich in detail but devoid of overarching theoretical conceptualizations. This age of “old maritime history,” featuring hagiographic treatments of great men and florid depictions of guns and battles, tended to focus on the history of ships and the role they played: micro-histories of ephemeral technical matters tended to dominate the field. But then, something changed: a seeming flood of new maritime historians came of age by examining gender, race and class (on the water) while acknowledging the range of theoretical and political perspectives that have shaped the historical profession over the past two decades. Scholars of vastly different ideological and intellectual stripes, in fact, have used the maritime milieu to interpret everything from burgeoning pirate utopias to the construction of global economies. The fact that oceans lack the artificial constraints of geopolitical boundaries make them especially appealing to those who want to move beyond strict national narratives, and tell a history that is hemmed in by neither time nor tide. The sea, in short, has been historicized.

At the same time that maritime history has been employed as an effective counterweight to traditional “terrestrial” histories, world history has taken on a new prominence, becoming an influential and sophisticated field in its own right. Like maritime history, world history is divorced from nationalist perspectives, allowing for a more nuanced

and highly developed appreciation of past events. But practitioners of world history are often challenged in their attempts to relate tremendous amounts of information and material to students who are grappling with abstract notions and concepts. Too often, then, world history is portrayed along strict chronological and temporal lines, with little room for discussion or in-depth analysis of the material covered. The answer to this predicament may lie in an approach that weds the strengths of both world and maritime histories. Such a route is taken by Rainer Buschmann, whose *Oceans in World History* provides a timely and useful tool for interpreting global history.

Buschmann, a professor of world history at California State University, Channel Islands, is particularly well-suited to write such a text. A graduate of the University of Hawaii's highly regarded program in world history, where he studied under Jerry Bentley, he clearly has the training and pedigree to undertake a volume on world history. Moreover, having developed a world history course that utilizes seascapes as the overarching theme of the course, Buschmann has developed a cogent tool for historical analysis and interpretation. This slim volume, which came about as a result of that class offering, suggests that oceans have done more than separate human societies from one another: they have connected them and have allowed for the development of economic, biological, and cultural exchanges without which the concept of "world history" would have been impossible. By uniting disparate societies into cohesive units, then, oceans have played a major role in world history.

Intended for use as a complementary textbook in introductory world history offerings, *Oceans in World History* is organized into four crisply written chapters, each of which contains an introductory timeline, suggestions for further reading, and series of questions aimed to guide students in their investigations. Buschmann looks, in turn, at the Indian, Atlantic, and Pacific Ocean worlds, before focusing on the nebulous concept of sea power in his closing essay. Each of the first three chapters looks at a variety of forces that were extant in each of the featured oceanscapes: religious exchanges in the Indian Ocean (what Buschmann refers to as "the first maritime crossroad"), biological and cultural exchanges (including transatlantic revolutions) in the Atlantic, and various exchanges and encounters in the Pacific basin. Each chapter is smartly illustrated with maps and other visual images, and contains detailed accounts of the geography, hydrography and natural history of the respective subject matter. Indeed, Buschmann suggests that mastery of currents and winds led to technological advancement that allowed, in turn, for the cross-cultural contact, exchanges and conflicts that ushered in a new phase of world history. Each chapter retells the peopling of the region, the goods that were exchanged, battles fought, expectations realized, dreams deferred and lessons learned by successful and would-be invaders. Throughout the text, the author explores the global interconnections created by the exploration and charting of the world's oceans, and draws important connections between seafaring and technological change. Following from this, *Oceans in World History*, argues that cultural, demographic and socioeconomic factors flowing from oceanic integration proves that seas have furthered, rather than hindered, human development.

In his closing essay on "Sea Power Unleashed," Buschmann focuses on such themes as oceans and empires (which he had introduced in earlier chapters), maritime ideologies (including naval strategy and international conventions concerning the law of the sea),

technological change, transoceanic identities, and environmental concerns. While the first three chapters informed students about world maritime history in general, the last allows for critical thinking and intro-spection, asking students to discern not just what role oceanscapes have played in the past, but what role they play in contemporary (and future) societies. It is a fitting conclusion, and one which refocuses attention away from the particularities of world maritime history, towards the generalities of that field. While the first three chapters answer questions, the last raises them: what is the fate of the oceans? How will nation-states determine access to mineral wealth? How has globalization changed the oceans, and how have the oceans allowed for globalization? These are probing questions, and my only regret is that Buschmann did not develop more such queries, any one of which could form the basis for student papers, or volumes in their own right.

This volume, part of McGraw-Hill's series on "Explorations in World History," succeeds on at least two levels. As a world history textbook it provides instructors and students with a common theme and thread that they can follow and tease out, as they struggle to comprehend and digest huge chunks of time and material in short semesters. As a work of maritime history, it succeeds in documenting how various civilizations and societies have used the seas to their advantage, and the ways in which maritime connections made possible the development of global economies and international relations.

I picked this book up expecting to find a history of the world's oceans; while that information is certainly there, *Oceans in World History* is more than a mere retelling of maritime events: it is a comprehensive look at human development and intercultural contact, conflict, and exchange—in brief, a history of the world—as told from the perspective of the oceans. Rainer Buschmann has delivered a compellingly readable account of world history that deserves a wide—and rewards a close—readership.

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