

THE PACIFIC CIRCLE



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PACIFIC CIRCLE NEWS

Members' News

Congratulations to the following Pacific Circle members:

Marcos Cueto for the recent publication of "The Origins of Primary Health Care and Selective Primary Health Care," *American Journal of Public Health* 94:11 (November 2004) and *El Valor de la Salud. Historia de la Oranizacion Panamericana de la Salud*, Washington, D.C.: OPS, 2004. Contact PAHO Sales and Distribution Center at paho@pmds.com to order a copy of the monograph. The abstract for the article reads: "A historical study of the role played by the World Health Organization and UNICEF in the emergence and diffusion of the concept of primary health care during the late 1970s and early 1980s. The author analyzed these organizations, the political contexts, their leaders, the methodologies and technologies associated with the primary health care perspective, and the debates on the meaning of primary health care;"

Warwick H. Anderson, who recently earned the W. K. Hancock Award from the Australian Historical Association for *The Cultivation of Whiteness: Science, Health, and Racial Destiny in Australia* (New York: Basic Books, 2003);

Helen Rozwadowski for the publication by Harvard University Press of *Fathoming the Ocean: The Discovery and Exploration of the Deep Sea*;

Ron Rainger for his "Oceanography and Fieldwork: Geopolitics and Research at The Scripps Institution," *Museums and Other Institutions of Natural History: Past, Present, and Future*, Alan Leviton and Michele Aldrich, eds. (California Academy of Science Proceedings, 55, supplement I, 2004);

Jacob Hamblin for the publication last month by the University of Washington Press of *Oceanographers and the Cold War: Disciples of Marine Science*; and

Roy MacLeod, who continues as the Cecil and Ida H. Green Visiting Professor at the University of British Columbia for the 2005 Spring Term. Among the courses he is teaching is "Science and Empire," with a strong Pacific component.

Recent Meetings and Circle Business

Many thanks to Jacob Hamblin, who once again filed the Circle's official *Annual Report* with the Secretary General of the IHUPS/DHS. The Report summarizes our activities during the past year, including sponsorship of a panel at the Fifth British-North American History of Science Societies Conference in August 2004, and includes an update of our financial health. Please contact the editor at peterh@hawaii.edu if you would like a copy of the *Report* and the fiscal spread sheet.

Forthcoming Meetings

Ruth Barton encourages Pacific Circle members and their colleagues to participate in the upcoming Conference of the Australasian Association for History, Philosophy and Social Studies of Science (AAHPSSS), to be held in conjunction with the annual conference of the New Zealand Division of the Australasian Association for Philosophy. The conference will begin Saturday evening, December 3 and end with lunch on Wednesday, December 7, 2005. There will be an excursion on Tuesday afternoon. The following themes are under consideration: Trans-Tasman Environmental History, Popularization of Science, The Exact Sciences in Antiquity, and Science in (or about) Southern Lands. Please send inquiries to the conference secretary, Prof. Ruth Barton at r.barton@auckland.ac.nz or c/o History Department, University of Auckland, Private Bag 92019, Auckland, New Zealand.

Michele Aldrich invites Circle members to the upcoming meeting of the AAAS Pacific Division, to be held at Southern Oregon University, Ashland, Oregon on June 12-16, 2005. General information can be found at <http://pacific.aaas.org>.

The Pacific Division is also considering a meeting on the Big Island of Hawai'i during June 2007. The University of Hawai'i—Hilo campus would be the host site. If interested in organizing and/or attending, contact Prof. Roger Christianson, Executive Director, AAAS Pacific Division, Southern Oregon University, 1250 Siskiyou Blvd., Ashland, OR 97520. Email: rchristi@sou.edu.

IUHPS/DHS NEWS

The website for the "Science & Empire Commission" of the Division of History of Sciences/IUHPS is up and running at <http://www.ige.unicamp.br/sciemp>.

Last reminder for the 22nd International Congress of History of Science, to be held July 24-30 in Beijing, China. The theme of the Congress is "Globalization and Diversity: Diffusion of Science and Technology Throughout History." Email: 2005bj@ihns.ac.cn.

The Scientific Instrument Commission of the IUHPS will hold its next annual meeting in Beijing as part of the 22nd Congress. Those wishing to participate in the SIC meeting should register for the full Congress and send a copy of that registration form to Dr. Sara Schechner, Secretary, Scientific Instrument Commission, Department of the History of Science, Harvard University, Cambridge, MA 02138 USA.

The International Commission on History of Meteorology has a panel on "Diversity in the Global Reconstruction and Representation of Weather and Climate" at the Congress. The list of papers is at <http://www.meteohistory.org/beijingsymposium.doc>.

Proceedings of the International Commission on History of Meteorology, volume 1, number 1, has just been published on line at <http://www.meteohistory.org/2004proceedings1.1/>, linked off of the home page of the ICHM at <http://www.meteohistory.org/>.

HSS NEWS

Future HSS meetings are planned for November 3-6, 2005, in Minneapolis, MN (held jointly with the SHOT), November 2-5, 2006, in Vancouver, British Columbia (held jointly with the PSA), and November 1-4, 2007, in Washington, D.C. Additional information is available at: http://www.hssonline.org/meeting/mf_annual.html.

PACIFIC WATCH

A recent symposium at the John Carter Brown Library at Brown University examined the life and voyages of *Alejandro Malaspina*, the Italian explorer who sailed under the Spanish flag. Malaspina led a five year scientific expedition (1789-1794) that charted the west coast of the Americas and then traversed the Pacific as far as the Philippines. In contrast to Captain Cook's

reception upon returning home, Malaspina became embroiled in political intrigues in Spain and was thrown into prison. The Naval Museum of Madrid published his journals in 1990 and the Hakluyt Society has recently translated those into English. Those publications and the Brown symposium are attempts to explore the significance of his life, works and voyages.

FUTURE CONFERENCES, SEMINARS and CALLS FOR PAPERS

3-5 June 2005. Annual Conference of the Canadian Society for the History of Medicine, to be held at the University of Western Ontario. The conference theme will be "Paradoxes of Citizenship: Environments, Exclusions, Equity." For additional information, please contact Prof. Shelley McKellar, CSHM Program Chair, Department of History, SSC 4424, University of Western Ontario, London, Ontario, Canada N6A 5C2. Email: smckell@uwo.ca.

13-16 June 2005. 4th Annual Hawai'i International Conference on Social Science, to be held at the Waikiki Beach Marriott Hotel, Honolulu. Email: social@hicsocial.org.

27-29 June 2005. 14th Annual Conference of the World History Association, to be held at Al Akhawayn University (AUI), Ifrane, Morocco. The conference themes are "The Mediterranean in World History" and "Africa in World History." For further information and to register, please visit <http://thewha.org> or email thewha@hawaii.edu.

3-9 July 2005. The 20th International Congress for the Historical Sciences at the University of New South Wales, Sydney, Australia. Visit <http://www.cishsydney2005.org>.

4-11 July 2005. Annual Meeting of the International Commission on the History of Geological Sciences, to be held at Prague (Bohemia) and Mikulov (Moravia), Czech Republic, including a pre-conference field excursion in Western Bohemia on July 2-3 and a post-conference field excursion to visit mid-Bohemian Karst localities on July 12. Conference themes include: History of Geophysics, History of Geology and Paleontology in Central Europe, and History of Mining. For information, contact Dr. Jan T. Kozak,

Geophysical Institute, Czech Academy of Sciences, Bocni II, c.p. 1401, 14131 Prague, Czech Republic. Email: kozak@ig.cas.cz.

6-8 July 1905. The Sixth Conference of the European Society for Oceanists (ESFO), to be held in Marseilles, France. The theme is: "Pacific Challenges: Questioning Concepts, Rethinking Conflicts." Visit <http://cc.joensuu.fi/esfo/conferences/conf5/marseilles.htm>.

11-16 July 2005. National Marine Educators Association conference, to be held in Castle Hall at the Maui Arts and Cultural Center on the Island of Maui, Hawai'i. The meeting will focus on Cutting Edge Research, Conservation and Sustainability, and Multidimensional Marine Science, including cultural and artistic aspects. Concurrent sessions will take place at Maui Community College and will cover a broad range of hands-on educational activities, as well as topics in marine science research and technology. For additional information, visit the conference website at www.hawaii.edu/maui/oceania/NMEA05.html or contact Ann Coopersmith, Maui Community College at coopersm@hawaii.edu.

13-17 July 2005. Meeting of the International Society for History, Philosophy and Social Studies of Biology, to be held in Guelph, Ontario, Canada. Among the sessions will be those on Biology and Aesthetics, Social Activism and Biology/Biology Studies, "Applied" Biology, and Relations Between Popular and Elite Biology. Information at: <http://www.ishpssb.org>.

14-16 July 2005. British World Conference, IV: Broadening the British World, to be held at the University of Auckland. Continuing the cycle of conferences held previously in Capetown (2002), Calgary (2003), and Melbourne (2004), this meeting seeks to enhance, broaden, and re-appraise historical discussion of the effects and implications of the British diaspora of the 17th through 20th centuries. Themes include: The First Neo-Britain? The USA in British World Perspective; Other Worlds: The British World in Comparative Perspective; Intangible Bonds: Culture, Sport and Science in the British World; Surviving the British World: Indigenous Peoples; and Genderings and Sexualities in the British World. For more information about the conference and host site, please visit http://www.arts.auckland.ac.nz/departments/index.cfm?S=D_History.

15-17 July 2005. Annual Meeting of the British Society for the History of Science, to be held at the University of Leeds, United Kingdom, in

conjunction with the meeting of the International History, Philosophy and Science Teaching Group. In addition to plenary sessions with Harry Collins and Peter Bowler, there will be joint sessions focusing on topics of interest to both organizations, such as History of Science Education, Science Communication, and Science and Religion in Teaching. Please visit <http://www.bshts.org.uk/conf/2005annual/>.

15-17 July 2005. The Atomic Bomb and American Society, a three-day conference to be held at Oak Ridge, Tennessee.

15-20 August 2005. The 11th International Conference on the History of Science in East Asia, to be held in Munich, Germany.

7-10 September 2005. History of Medicine Conference, to be held at Ministère de la Recherche, Paris. A joint venture of the European Association for the History of Medicine and Health and the Society for the Social History of Medicine. Please address all inquiries to Prof. Patrice Bourdelais at Patrice.Bourdelais@echess.fr.

12-16 September 2005. European Meteorological Society Fifth Annual Meeting, to be held in Utrecht, the Netherlands. The conference theme is "History of International Cooperation in Meteorology." For proposals and registration, visit: <http://www.emetsoc.org/EMS5/index.html>.

13-18 September 2005. 24th Annual Conference of the European Society for the History of the Human Sciences (ESHHS), to be held in Moscow. The program committee welcomes suggestions for sessions and discussions, as well as papers and posters. Please consider themes with an historical dimension relevant to the human sciences. For further details, contact Roger Smith at rsmith@mail.ru.

29 September - 2 October 2005. Fifteenth Conference of the Canadian Science and Technology Historical Association. Topics include: Canada's scientific and technological heritage; World Year of Physics—2005; and other subjects relating to the history of science and technology. Proposals should include a title, summary of no more than 100 words, and a brief c.v. Abstracts and papers may be in either French or English. The deadline for proposals is May 2, 2005. Please send to Suzanne Beauvais, Canada Science and Technology Museum, 2380 Lancaster Road, Box 9724, Station T. Ottawa, ON K1G 5A3, Canada. Email: CSTHA-AHSTC-2005@technomuses.ca.

22-25 March 2006. European Social Science History Association Conference, to be held in Amsterdam. Panels and papers on science topics are invited, including those addressing health and ideologies, global health, colonial health, and nutrition. For general and registration information, please visit <http://www.iisg.nl/esshc>. Questions about specific papers and panels? Contact Enrique Perdiguero Gil (quique@umh.es and/or Iris Borowy (iris.borrowoy@philfak.uni-rostock.de).

EXHIBITIONS and MUSEUMS

The Macleay Museum at the University of Sydney is currently showing "Ship to Shore: Pacific Photographs from the ship H.M.S. Espiegle, 1883-1884." The photographs were taken by an unidentified photographer who presumably traveled on board the ship. They captured the ship's stopovers around the Pacific before the vessel joined up with the naval squadron that annexed southern New Guinea in the name of Queen Victoria. Most of the images are taken close to where the ship anchored and depict local cultural artifacts and the interaction of Europeans and Pacific Islanders. The exhibition runs through May 25, 2005. Also on display of possible interest to readers is a selection of tools and scientific instruments that belonged to Rev. William Bran- white Clarke (1798-1878), a prominent scientific figure in nineteenth-century Australia. The exhibits include his geological hammer, a leather satchel, a "portable laboratory" for chemical tests on rock samples, and a hand-held portable shower. Among his many scientific projects, Clarke undertook an extensive geological survey of potential gold-producing districts for the New South Wales government.

EMPLOYMENT, GRANTS and PRIZES

The Society for the History of Natural History reminds young scholars that funding is available for those attending the Society's meetings. The Alwyne Wheeler Bursary Travel Award funds can be used for both travel to the meeting and conference registration. Preference is given to applicants delivering a paper or other presentation at the spring meeting of the Society. Recipi- ents will be invited to submit a paper to *Archives of Natural History*, the Society's official journal. For application materials, please contact the

SHNH Secretary, c/o The Natural History Museum, Cromwell Road, London SW7 5BD, United Kingdom. Email: secretary@shnh.org.

The Forum for the History of Science in America seeks nominations for the best article published in English in 2002-2004, by a scholar who has received a Ph.D. within the last ten years (1995 or later). The subject area is the history of North American Science, including Canada, Mexico, the Caribbean, and the United States. Self-nominations will be accepted. Nominations are due no later than May 15, 2005. Please send to: Daniel Goldstein, Shields Library, Humanities and Social Sciences Department, 100 NW Quad, University of California—Davis, Davis, CA 95616-5292. Email: dgoldstein@ucdavis.edu.

RESEARCH, ARCHIVES AND COLLECTIONS: PRINT & ELECTRONIC

The SciPer Project of the Universities of Leeds and Sheffield recently announced the publication of its first instalment of *Science in the Nineteenth-Century Periodical: An Electronic Index*, which is available at <http://www.sciper.org>. The SciPer Index provides a scholarly synopsis of material relating to science, technology, and medicine appearing in eight general periodicals published in Britain between 1800 and 1900. The journals indexed in this first instalment include *Punch*, the *Review of Reviews*, *Harper's New Monthly Magazine*, and the *Cornhill Magazine*. There are entries describing nearly 7,500 articles. For additional information about the SciPer Project, please visit <http://www.sciper.leeds.ac.uk>.

Biographical information is requested concerning *Albert Mocquerys*, the natural history collector who was active in Africa and South America during the 1890s. After collecting in the French Congo, he traveled to Venezuela, where he collected birds and plants from September 1893 until April 1894. Please forward any information to Laurence J. Dorr, Department of Botany, MRC-166, National Museum of Natural History, Smithsonian Institution, P. O. Box 37012, Washington, D.C. 20013-7012, USA. Email: dorr.laurence@nsmnh.si.edu.

The University of Nebraska Press is pleased to announce *The Journals of Lewis and Clark Expedition Online*, which makes available the text of Gary E.

Moulton's edition of the Lewis and Clark journals. Included are pages from the written texts, a gallery of images, and various audio and video clips of commentary. Please visit <http://lewisandclarkjournals.unl.edu>.

Interested in scientific instruments and their makers? There is a Database of Scientific Instrument Makers at <http://www.adlerplanetarium.org/history/websters/>.

The Science Museum in London has made available over 30,000 images of pictures and artifacts at <http://www.ingenious.org.uk>.

BOOK AND JOURNAL NEWS

Victorian Literature and Culture seeks articles for an upcoming special issue on Victorian natural history, edited by Barbara Gates. Essays should follow MLA guidelines and may address any aspect of Victorian natural history. Please send two copies of the manuscript no later than December 31, 2005 to: Prof. Barbara T. Gates, Department of English, University of Delaware

Cambridge University Press announces the publication of two new volumes in Joseph Needham's "Science and Civilisation in China" series: *Volume 5. Chemistry and Chemical Technology, Part 12, Ceramic Technology* and *Volume 7. Science and Chinese Society, Part 2, General Conclusions and Reflections*.

David Branagan is writing a book-length biography of Sir T. W. Edgeworth David (1858- 1934), the famed Australian geologist with many links to the wider Pacific world. The work is tentatively entitled *The Knight in the Old Brown Hat: A Life of T. W. Edgeworth David*. It will be published by the National Library of Australia. David writes that among the many Pacific connections were his leadership of the second Funafuti Expedition in 1897; encouragement of students, such as Douglas Mawson, E. C. Andrews, W. G. Woolnough, and W. N. Benson in their early work in the New Hebrides, Fiji, and New Zealand; advisory role to H. E. Gregory at the time of the first Pan-Pacific Conference in Hawaii; and personal contacts with American geologists and geographers. Additionally, Sir David had links to the Shackleton Antarctic Expedition of 1907-09 and the Japanese expedition two years later.

BOOK REVIEWS

Helen M. Rozwadowski and David K. van Keuren, eds. *The Machine in*

Neptune's Garden: Historical Perspectives on Technology and the Marine Environment. Sagamore Beach, MA: Science History Publications/USA, 2004. Pp. xxviii + 371. Illus. Cloth: US\$49.95 and ISBN 0881353728.

In *The Machine in Neptune's Garden*, editors Helen M. Rozwadowski and David K. van Keuren offer an eclectic 10-chapter collection of marine science essays from the Third Maury Conference on the History of Oceanography. All of those emphasize the strong connections between technology and history, as well as the diverse richness of oceanography. Nowhere are we more reliant on technology than in the oceans, so oceanography can provide, among other things, a testing ground for how the machine has shaped our understanding of the environment. But there is more than just the history of marine science and technology within these essays; there is an emphasis on connections to naval and maritime history, meteorology, biology, and biography. In fact, one might wonder, given the close interrelationship between marine and maritime fields, how they were ever separated in the first place. In a broad sense, the collection argues for a more holistic approach which overcomes some of the artificial distinctions between related marine disciplines, even between maritime and general history.

Technology has not always been a "given" in ocean science. Michael S. Reidy's "Gauging Science and Technology in the Early Victorian Era" takes us back to a time when great scientific thinkers were truly philosophers, much more comfortable with theory than technology. As philosophers, these scientists did not tinker with machines, but left it up to engineers and others to build automatic tide gauges, and thus introduce technology to the scientific realm and change our perspective on hydrodynamics. Eric Mill's "Mathematics in Neptune's Garden: Making the Physics of the Sea Quantitative, 1876-1900," continues to explore 19th-century attitudes towards scientific measurement and nature. Mills emphasizes the emergence of quantitative ocean science through the work of meteorologists-turned-oceanographer Henrik Mohn. He finds, however, that Mohn's mathematical modeling found no ready audience in the 1880s, no easy acceptance of the quantitative measurement of ocean circulation. Clearly there are starting points for the way technology has shaped oceanography.

The volume then jumps ahead to the critical topic of naval influence on ocean science. In Gary Weir's "Fashioning Naval Oceanography: Columbus O'Donnell Iselin and American Preparation for War, 1940-1941" (chapter

three), the term “cultural translator” is used in describing the communication gap between Woods Hole Oceanographic Institute and the U.S. Navy. Science goals set by the military highlighting management issues and professional borders as obstacles to institutional progress are lessons with which we continue to struggle today. In the early period, the needs for submarine detection defined the investigation of the ocean’s thermal structure. Those with the social skills to cross boundaries, in this case between civilian and military roles, can have great influence indeed. Ronald Rainger’s “A Wonderful Oceanographic Tool: The Atomic Bomb, Radioactivity and the Development of American Oceanography” (chapter four) takes a similar perspective for Scripps Institute of Oceanography that Weir does for Woods Hole. Conducted for military purposes, atomic tests in the Pacific served to help shape the direction of American oceanography in the mid-20th century. Scripps and the Navy were linked. Though Vera Schwach’s “An Eye into the Sea: The Early Development of Fisheries Acoustics in Norway, 1935-1960” (chapter seven) successfully steers clear of American naval history as the dominating paradigm, even Oscar Sund and Norwegian fisheries research in the Lofton Islands benefit from acoustic developments in Allied Submarine Detection Investigation Committee (ASDIC), later called SONAR. Civilian fisheries biologists are not immune. Finally, Kathleen Broome Williams delves into the history of women in the military with “From Civilian Planktologist to Navy Oceanographer: Mary Sears in World War II” (chapter eight). Even though Sears made valuable contributions both to basic and applied research in the Navy, post-war attitudes to women in the workplace ended her career.

The integrative approach continues with Gregory Cushman’s “Choosing Between Centers of Action: Instrument Buoys, el Nino, and Scientific Internationalism in the Pacific, 1957-1982” (chapter 5). Cushman demonstrates how Cold War politics between the northern and southern hemispheres, and fisheries access in the age of the 200-mile Exclusive Economic Zone, factor in to the deployment of scientific buoys in the equatorial Pacific. The deployment of sensors to the region where they were most needed was clearly not a decision based on science and logic alone. Geopolitics determined geophysics in the 1960s and 1970s. David van Keuren also studies human limitations and oceanographic projects in “Breaking New Ground: the Origins of Scientific Drilling” (chapter 6). The Mohole Project to tap into the earth’s mantle failed amidst changing objectives and charges of political interference, timely observations once

more. Likewise, Christine Keiner's "Modeling Neptune's Garden: the Chesapeake Bay Hydraulic Model, 1965- 1984" (chapter nine) might be the perfect case study of the glacial pace at which large institutions like the Army Corps of Engineers moves. By the time the 1960s vision is complete, the project has been rendered obsolete by the computer revolution of the late 1970s. The Bay model went the way of the dinosaur; the project was impressive but oversold.

Chapter ten incorporates two bold new directions: the history of scientific diving and the role of romantic imagination in oceanography. Helen Rozwadowski's "Engineering, Imagination, and Industry: Scripps Island and Dreams for Ocean Science in the 1960s" points out how the popular conceptions of human exploration gave way to the practicalities of remote sensing technology, partially in response to the economic and social changes of the 1970s. The plans for cities beneath the sea never materialized; the handful of research submersibles and habitats today compete for limited funds. This does not, however, mean that our romantic notions of the sea have disappeared altogether.

The eclectic nature of these essays proves to be a lasting contribution of this text. Progress does not often rely on logic alone. Understanding the history of marine science and technology involves many "unscientific" things, like human group behavior, institutional inertia, pride, wars both hot and cold, sexism, and wonderful irrational dreams of the future. Therefore, what some may mistake at the outset for a clearly defined discipline (oceanography) becomes, on close inspection, a multifaceted field, continually influenced by social, political, and economic realities, by the histories that make us ocean-going humans. *The Machine in Neptune's Garden* captures portions of this rich field.

Hans van Tilburg

NOAA National Marine Sanctuary Program

J. R. McNeill, ed. *Environmental History in the Pacific World*. Aldershot, Hampshire and Burlington, VT: Ashgate Publishing Company, 2001. Pp. 416. Cloth. US\$127.95 and ISBN 0754601544.

This collection is volume 2 of the series "The Pacific World: Lands, Peoples and History of the Pacific, 1500-1900," edited by Dennis O. Flynn and Arturo Giraldez, an admirable series whose purpose is to provide overviews of each of at least eighteen projected subjects. Other volumes in the

series will cover related areas, including trade and industrialization, as well as science, in ways that will complement this volume. It was bold to place environmental history near the top of the list, because as McNeill writes in his lucid introduction, that subject is still in gestation for the Pacific as a region. Indeed, his selection of eighteen articles includes many that have only peripheral bearing on the Pacific itself, concentrating instead on ecological change in lands around the fringe of the ocean. He writes, "As yet there is no field of Pacific environmental history. [This introduction and anthology] tries to show some of the common threads that bind together the fragmented environmental histories of places in and around the Pacific.... This, then, is a book that seeks to help establish a scholarly field" (p. xiii).

Reflecting the chronological boundaries of the series, there is relatively little coverage of the pre-colonial period; archaeologists are not represented. Nor are the ecologists and biogeographers; their work has frequently traced the evolution of living communities with analytical tools rather different from those of archival historians. For the broader unities of ecological history, these are significant limitations. Fortunately, several authors briefly place their subjects in much longer time perspectives, and McNeill wisely includes the work of Patrick Kirch and others in his excellent four-page bibliography. McNeill's own essay, "Of Rats and Men: A Synoptic Environmental History of the Island Pacific," does encompass the early centuries of human spread throughout the Pacific before Europeans arrived, though it could hardly cover the major sources on, for example, the Lapita peoples. Mark Elvin similarly covers the entire range of human history in his bold essay, "Three Thousand Years of Unsustainable Growth: China's Environment from Archaic Times to the Present." Anthony Reid's fascinating "Humans and Forests in Pre-Colonial Southeast Asia," concentrating on the fifteenth and sixteenth centuries, adds the overseas influence of Chinese markets and the transition to Portuguese trade networks and the global reorientation of commerce in early modern times. Juxtaposing that account with Robert Marks's "Commercialization without Capitalism: Processes of Environmental Change in South China, 1550-1850" shows how complex were the interactions of the internal environmental history of south China with China's maritime trade under the Ming dynasty.

Coverage of the colonial period and after begins with Greg Bankoff's "Coming to Terms with Nature: State and Environment in Maritime Southeast Asia," which surveys the legal frameworks of colonial regimes'

resource extraction strategies. Bankoff describes these as representing a "resource frontier mentality," and suggests that this orientation is only no beginning to be left behind by new efforts to manage Southeast Asian ecosystems more sustainably. Albert Crosby's "Biotic Changes in Nineteenth Century New Zealand" adds a well-known example of the radical changes introduced into those ecosystems by European settlers and their homelands' markets in the early settler era, when European populations displaced indigenous cultures in Australasia. In this collection the demographic dimension of environmental history is addressed directly in only one paper, J. L. Rallu's historical survey of the French territories in the Pacific.

Several other chapters concentrate on lands on the Pacific periphery without intending to discuss their links to the ocean and its biotic, commercial and social transformations in modern times. Some are single essays that distill well-known authors' longer works. Yi-Fu Tuan distills his familiar work on the profound cognitive differences between European and Chinese perceptions of Nature. Donald Worster and Arthur McEvoy both consider California, addressing inland water resources and coastal fisheries respectively. Conrad Totman reviews how Tokugawa Japan avoided the deforestation that would have been an ecological catastrophe. That story is brought up to the present in the chapter on resource use and management in Japan since 1890, by A. Radha Krishnan and Malcolm Tull. On the opposite side of the Pacific, Eduardo R. Fuentes and Ernst R. Hajek similarly survey central Chile, in terms of the transformations resulting from agricultural expansion. All of these studies suggest possible links to wider, even global commodity export markets; none of them addresses that dimension in any detail. Joan Martinez-Alier provides an additional dimension, the role of socio-economic hierarchies and especially the role of mass poverty, in "Ecology and the Poor: A Neglected Dimension of Latin American History," which pays considerable attention to Peru. None of these, though, really lives up to the editor's hope that they will also probe the maritime connections of the rimlands.

Trans-Pacific transformations are the heart of three chapters. As the general editors of the series assert in the Preface, "by the mid-nineteenth century the Pacific Ocean had long ceased to be a barrier; rather, it was a freeway" (p. xi). Ian Tyrell provides an analysis of Australia and California—both the connections and the comparisons—in the years around 1900, especially regarding water resources. Tyrell's work provides one of the collection's most helpful and analytical approaches toward a full framework

for the interactions between the Pacific region as a whole and each of its peripheral regions: both parallels in two locations and interactions between them. His analysis is complemented by Kurk Dorsey's study of the 1909-1911 negotiations between Canada/Great Britain and the United States over north Pacific whaling, which opens the important subject of the environmental history of diplomacy. Finally, in an account of recent years, David Hyndman chronicles a sudden, profoundly disruptive incursion from the outside world into previously untouched tropical island interiors, in his study of the mining frontier of Papua New Guinea, and the disruptions of the Wopkaimin and Mountain Ok peoples by the Ok Tedi mining complex.

In McNeill's tentative approach toward integrating all these materials showing how they reveal broad gaps in our understanding, he writes that he sought "those rare articles that consider transpacific connections or involve multiple societies from the Pacific basin. I have tried to include as much of the Rim as possible, although I failed to find appropriate pieces on Korea or eastern-most Siberia" (p. xv). He might have added Canada, Mexico, Central America and Ecuador, as well. But that comment opens the door to an endless discussion of what else—published material or neglected issues—should have been included in this anthology. That is precisely what he and the general editors of the series intended.

Richard Tucker
University of Michigan

Aant Elzinga, Torgny Nordin, David Turner and Urban Wråkberg, eds. *Antarctic Challenges: Historical and Current Perspective on Otto Nordenskjöld's Antarctic Expedition, 1901-1903 (ACTA Regiae Societatis Scientiarum et Litterarum Gothoburgensis, Inter-disciplinaria 5)*. Göteborg: Royal Society of Arts and Sciences and Rundqvists Boktryckeri, 2004. Pp. 330. Illus. B/W & Color Plates. Cloth. ISBN 91-85252-64-6.

In May of 2001, the University of Göteborg and the Royal Society of Arts and Sciences in Göteborg hosted an international symposium to commemorate the centennial anniversary of Otto Nordenskjöld's Antarctic expedition of 1901-1903. This volume brings together the contributions to that event and organizes them in four parts. With a total of twenty-three entries, the contributions range from scientific treatises on meteorology and other dialectal topics, to historical essays and personal reflections of only a few pages in length.

Most exploration enthusiasts are familiar with the basic events of Nordenskjöld's expedition: the crushing of his ship, *Antarctic*, by a ravenous ice floe, the ensuing winter survival of the expedition on Pautlet and Snow Hill Islands, and the eventual rescue of all the expedition members by the Argentinean ship, *Uruguay*. For those who wish to broaden their knowledge of the Swedish expedition, or for those whose sole reference to Antarctic maritime mishap is the sinking of Ernest Shackleton's *Endurance*, this volume is essential reading. Unlike most recent works on Antarctic exploration, *Antarctic Challenges* goes beyond a retelling of the events of the expedition. Rather, the stated intent of this volume is to place the expedition in an historical context and to recognize its impact on the history of exploration and scientific development. To this end, the volume succeeds unequivocally.

Following a brief preface, the text opens with the symposium welcoming address delivered by Mattias Aurell. In his address, Aurell establishes the relationship between the Royal Society of Arts and Sciences in Göteborg and Otto Nordenskjöld's Antarctic expedition, tracing a brief history of the Society and introducing Nordenskjöld's role as a recipient of societal support, as well as his later contributions as Permanent Secretary.

The editors divide the remainder of the work into four parts. The first two parts, as well as a few later entries, focus on the historical context of the expedition and the individuals involved in its execution. The latter two parts address the scientific context and contribution of Nordenskjöld's expedition.

In part one, "Time Frames," Robert Keith Headland and Bjørn L. Basberg provide overviews of human activity in the Antarctic, with Basberg focusing on the development of the whaling industry. Part two, "Places and People," begins with a brief history of the city of Göteborg by Lennart Olausson, and is followed by several biographical sketches of Nordenskjöld's career. In the first contribution, Olausson introduces the unique character of Göteborg, arguing that the civic spirit of the city was reflected in Nordenskjöld's own career and in his ideology of enlightened paternalism. Martha Löwenhielm, Nordenskjöld's daughter, follows Olausson's introduction with a brief memoir, providing several vignettes from her father's personal life. Torgny Nordin's contribution presents Nordenskjöld as a counterpart to other explorers of his era. He argues that Nordenskjöld's scholarly background and his commitment to the Christian faith drove him to take strong moral positions expressed in his defense of native South Americans and in his

opposition to militarism and nationalism. Christer Lindberg builds on Nordin's paper, focusing on Nordenskjöld as a self-proclaimed holistic geographer, connecting culture, human life, and nature.

In addition to biographical accounts of Otto Nordenskjöld, this section includes two contributions that pertain to the expedition's botanist, Carl Skottsberg. The first is a brief memoir from Skottsberg's daughter, Adi. Like Löwenhielm's contribution, Adi Skottsberg's essay is a medley of personal reflections, focusing in particular on her father's post-expedition career and his unwavering commitment to science. Gunnar Weimarck's contribution (not presented at the Symposium) details Skottsberg's scientific interests, connecting his Antarctic expedition to his later career as an academic and civic leader.

The final essay of the "Places and People" segment is Lisbeth Lewander's singular study of identity theory as applied to Nordenskjöld's expedition. Lewander examines the role of gender identity and social relations among the expedition, placing particular emphasis on the dynamics between the Swedish scientific team and the predominantly Norwegian ship crew.

Part three, "Scientific Core," deviates from the narrative histories to present the scientific contributions of the expedition. Urban Wrakberg begins by addressing scientific, technical, and ideological problems of Antarctic cartography during the Classical age of polar exploration. Artur Svansson then reveals how the Swedish expedition, namely Nordenskjöld, conducted hydrographical observations despite the absence of a trained oceanographer. Ingibjörg Jónsdóttir and Jon Moen follow with a collaborative discussion of the botanical achievements of the expedition. Kent Larsson subsequently argues that the Swedish expedition was scientifically one of the most significant in the history of Antarctic exploration. In particular, he commends Nordenskjöld's fossil discoveries, and his prophetic inference of their proving the existence of a giant southern continent. Other contributors include Christian Hjort, Ólafur Ingólfsson, Per Holmlund, Deliang Chen, Klaus Wyser, Steven Emslie, Craig Franklin, Michael Axelsson, Lena Sundin, and William Davison. With no significant overlap, they present Nordenskjöld's contribution to our knowledge of meteorology, climatology, biology, and glaciation history.

The fourth and final section, "Scientific Internationalism, Nation States and Geopolitics," opens with Cornelia Lüdecke's study of international cooperation in the Antarctic from 1901- 1904. She places the Nordenskjöld's

expedition in the context of the cooperative effort between Sweden, England, Germany, and Scotland to acquire magnetic and meteorological knowledge of the Antarctic. She concludes that in spite of the narrow scientific conclusions of their combined efforts, the Antarctic rivalries of the following decade made this early cooperative effort a significant event in polar exploration. Aant Elzinga builds on the international context of Antarctic exploration by introducing Nordenskjöld's involvement in the International Polar Commission. Juxtaposing him against the self-aggrandizing explorers that typified his era, Elzinga convincingly shows Nordenskjöld's commitment to relevant scientific gains that would serve a broader interest. The final two contributions, by Raul Vinuesa and Marie Jacobsson, introduce territorial laws from, respectively, Argentinean and Swedish viewpoints.

In a time when both scholars and the general public are hungry for exploration literature, this volume helps fill a relative dearth of English-language material on Nordenskjöld's expedition. As such, it is a significant step towards placing Nordenskjöld in his rightful position alongside his better-known contemporaries, Roald Amundson, Robert Scott, and Ernest Shackelton.

The format of *Antarctic Challenges* allows for either a straightforward reading, or a selective combing for essays of personal interest. The wealth of contributors and the diversity of their approaches make the volume a virtual encyclopedia of Nordenskjöld's Antarctic expedition. The lack of an index impedes selective reading, but the tight organization of the work does not inhibit the approach. Readers might have also benefited from biographical sketches of the contributing authors. Printed on high quality paper and furnished with numerous color charts and photographic images, the volume is a pleasure to read and behold.

As a note, University of Nebraska Press has provided *The Pacific Circle* with two volumes on Antarctic Exploration. Both works are by T.H. Baughman. The first, *Before the Heroes Came* (1994), presents the Antarctic of the 1890s. The second, *Pilgrims on the Ice* (1999), is a detailed account the 1901-1904 British Antarctic Expedition under Robert Scott, which operated concurrently with Otto Nordenskjöld's 1901-1903 Swedish Antarctic Expedition.

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Tony Ballantyne, ed. *Science, Empire and the European Exploration of the*

Pacific (The Pacific World: Lands, Peoples and History of the Pacific, 1500-1900, Volume 6). Aldershot, Hampshire and Burlington, Vermont: Ashgate/Variorum Publishing Company, 2004. Pp. xiii + 367. Illus. Cloth: US\$ 137.95 and ISBN 0-7546-3562-7.

Recent years have seen growing interest in the relations of science, technology and the expansion of Europe. Indeed, beyond a growing number of monographs—including the important work of Richard Drayton (*Nature's Government: Science, Imperial Britain and the Modern World*, New Haven, CT: Yale University Press, 2000) and Londa Schiebinger (*Plants and Empire: Colonial Bioprospecting in the Atlantic World*, Cambridge, MA: Harvard University Press, 2004), we have several valuable collections, including William K. Storey, ed. *Scientific Aspects of European Expansion* (Aldershot: Variorum, 1996) and Roy M. MacLeod, ed., *Nature and Empire: Science in the Colonial Enterprise*, Special Issue of *Osiris*, Volume 15 (Chicago, IL: University of Chicago Press, 2001). Many of those, however, have taken an Atlantic view of the world and its diversities. In many ways, this, more familiar world is ripe for consolidation. In the Pacific, however, we are still finding our way—still discovering traditions, and exploring new perspectives. For this reason, it is a special pleasure to welcome this *catalogue raisonnee* of research published since the late 1960s, and here assembled under the umbrella of Ashgate's series in Pacific History. Regular readers of the *Bulletin of the Pacific Circle* will have followed the growing stream of new work on the relations of science and empire, to which the publications of the Pacific Circle have themselves contributed. It is especially pleasing to see this interest, stimulated by new tendencies in the history of science, now shared by historians of exploration and discovery.

Such work of convergence Tony Ballantyne neatly summarizes in the three parts of this valuable collection—dealing, respectively, with “Visions of the Pacific,” the “Imperial Sciences of Exploration,” and the associations of “Cultural Contact, Comparison and Classification.” In the first, we range from Oskar Spate's documentation of the region and its early European visitors, to Denis Reinhart's vision of Herman Moll, via the cartographical work of Mercator by W. A. R. Richardson. In the second part, we trace the progress of the Spanish, French, British, Russians and even Americans through the Pacific, with science as a sub-text of discovery, by authors as varied and as distinguished as Harry Kelsey, J. C. Beaglehole, William Stearn, David Mackay, Barbara Beddall, Iris Engstrand, and Alexei Postnikov. Many of these

papers first appeared in out-of-the-way journals, and it is good to have them between two covers. It is also good to see Richard Sorrenson's much cited *Osiris* paper on "The Ship as a Scientific Instrument" in the good company of geographers and historians of exploration. The third section juxtaposing the stimulating work of David Turnbull, Tom Ryan, Glyn Williams, Nick Thomas and Jonathan Lamb, raises less familiar, but no less important associations between the cultural history of science, anthropology, and the newer sociology of scientific knowledge.

Inevitably, a collected work reflects the preferences of its editor, and Tony Ballantyne is at pains to explain his particular sense of the European endeavor in the Pacific. This he contrasts with European visions of the "other" as documented elsewhere, and describes through what he sees as successive "transitions" of contact. He is surely right to include the study of Pacific peoples and their "responses" to Western contact, and an appreciation of repeated Western attempts to come to terms with the diversity of indigenous cultures. In an introductory section devoted to "The Shape of the Field and Ways Ahead," he shows particular concern for the interdisciplinary scholarship this study requires and instances three themes meriting, in his view, greater attention. The first is the international nature of science in the Pacific. The second concerns the dissemination of "Pacific science" within Europe. The third—vital, if elusive—is the polyvalent relationship between the contrasting knowledge systems of Europe and the Pacific.

As to the significance of these three themes to the history of science, there can be little doubt. Still, one wished that the editor had gone even further. Within the existing literature, there are many points of "contact" already well established, notably in the field of museum history—in with the Pacific Circle (through two issues of *Pacific Science*) has already played a part. Moreover, the conceptualization of the geographical region as a conceptual space has been well documented in our work, dealing with the use of the Pacific and its peoples, fauna and flora as a laboratory for the West. The concept of "transition zones" made universal by James Clifford surely merits mention, and his work, inclusion. Finally, the story does not end in 1900; and even if the Ashgate series does, the "Introduction" might have reminded the reader that these tendencies continue well through the Asia-Pacific War, and through the Cold War period of nuclear, chemical and biological weapons testing. The military implications of Europe in the Pacific—and the strategic rationale for science in the region—is greatly understated. The "commercialization" and

“commodification” of the Pacific—possibly less welcome byproducts of the scientific impulse—are equally neglected. In short, there is room to put more hands at work, and certainly for a cumulative work on more recent times.

It is interesting, perhaps instructive, certainly chastening, to see that the Pacific Circle and its publications are nowhere evident in the editor’s useful, but incomplete bibliography. Whether or not we are still living in the “Pacific Century,” it will be worth contemplating the implications of this, as we prepare strategies for the future.

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Nathaniel Philbrick. *Sea of Glory: America’s Voyage of Discovery, the U.S. Exploring Expedition, 1838-1842*. New York: Viking, 2003. Pp. xxv, 452; 24 pp. of b&w plates; index. Cloth: US\$27.95 and ISBN 0-670-03231-X.

Barry M. Gough. *Britain, Canada, and the North Pacific: Maritime Enterprise and Dominion, 1778-1914*. Variorum Collected Studies Series CS786. Aldershot, Hampshire / Burlington, Vermont: Ashgate-Variorum, 2004. Pp. xvii, 308 [total of original paginations]; index. Cloth: US\$ 105.95 and ISBN 0-86078-939-X.

The once all-but-forgotten United States Exploring Expedition, by which the young republic sought to assert itself on the international stage of scientific exploration, as well as to promote its national trade and commerce, was larger than any of its European predecessors. Its 6 ships, manned by 82 officers, 9 scientists, and 342 sailors, logged more than 87,000 miles during the course of 46 adventure-filled months, during which they surveyed 280 islands and produced 180 maps and charts, including those of the coasts of Washington and Oregon, as well as 1500 miles of Antarctic coastline, thus confirming its continental status. Other fruits of the “Ex Ex” included many thousands of specimens, artifacts, and volumes of official reports (only five of which would a parsimonious Congress initially agree to publish). Indeed, so extensive were these ethnographic and natural history collections that, upon their transfer in 1858 from storage in the U.S. Patent Office, they provided the catalyst for converting the recently-endowed Smithsonian Institution into a national museum.

Although William Stanton’s definitive history of the Expedition appeared

in 1975, wider awareness of its scope and significance was primarily the result of an exhibition that the Smithsonian mounted in 1985 to celebrate the 75th anniversary of the Museum's Natural History Building. That exhibition — "Magnificent Voyagers: The U.S. Exploring Expedition" — and its handsome, accompanying catalogue took as many years to prepare as the "Ex Ex" itself had lasted, and was an overwhelming, popular success. The curatorial research not only uncovered many of the expedition's artifacts still in private hands, but also many documents owned by descendants of the original voyagers. Preeminent among the latter were the private diary and letters to his family of William Reynolds (1815- 79). More than a score of these letters were subsequently published as *Voyage to the Southern Ocean: The Letters of William Reynolds from the U.S. Exploring Expedition* (Annapolis, 1988).

Award-winning author and historian Nathaniel Philbrick was thus enabled to bring fresh sources to the retelling of the saga of the "Ex Ex," including the tortuous tale of bureaucratic and congressional wrangling that began years before any of the expedition's ships weighed anchor. And the voyage proved a gripping tale too, with many elements of melodrama, including an arrogant and overbearing commander, added to the obvious hazards of oceanic exploration in the age of sailing ships.

Lieutenant Charles Wilkes (1798-1877), the expedition's leader, required all officers to keep journals of the voyage and submit them to him upon its conclusion. Philbrick has made judicious use of these as well as copious other documentary sources. But by lacing his narrative of the voyage with countless examples of the deteriorating relationship between Wilkes and Reynolds, it is perhaps inevitable that the reader can scarcely avoid seeing the obvious parallels with other voyages whose officers and crews grew disaffected under harsh commanders, and which ended in courts martial. Like the Hollywood versions of *Mutiny on the Bounty* (albeit without an actual mutiny), this makes for an interesting character study, and assures this book a wide audience, even while it fails to supersede Stanton's book. Wilkes was obviously not a leader of the caliber of James Cook, but he distinguished himself as a hydrographer and advocate for scientific research, then a rarity among naval officers. Regrettably, his flaws of character and the controversies they engendered helped render the "Ex Ex" and its very real accomplishments more a source of embarrassment and amnesia than of national pride.

Barry Gough's *Britain, Canada, and the North Pacific* caps a distinguished

career that has focused upon the naval and mercantile history of Canada's Pacific shores. Instead of essays on diffuse subjects offered in tribute to an honoree, this volume collects the honoree's own articles, in offprint fashion, between a single set of covers. Another in that genre that Variorum's founding publisher labeled the "anti*Festschrift*," it is a prestigious mark of scholarly eminence.

Gough's essays range widely in subject, but are organized under two thematic headings: "James Cook and British enterprise in the North Pacific" and "*Pax Britannica*: South America, Canada, and the Pacific." The twelve articles collected in the first division illustrate how the discoveries of explorers in the Pacific, such as Cook, Vancouver, and Malespina, and of fur trading explorers from the Canadas, such as Peter Pond and Alexander Mackenzie, engendered a maritime trade in sea otter pelts and, later, in timber which led, in turn, to commercial and imperial rivalries between Britain, Russia, Spain, and the United States. Like Vincent Harlow before him, Gough seeks to reveal the reciprocal influences of "profit and power" in British imperial history by studying "the interrelatedness of peoples and lands — and their links to the sea" [ix]. To the old conundrum about whether the flag or trade necessarily preceded the other, Gough's studies leave no doubt that in the case of the Pacific Northwest, commercial interests influenced British policy, and the flag followed trade: "profit lay at the root of imperial expansion — and was far more important in these lands and seas than colonization and settlement" [xv].

In the seven further articles that constitute the book's second division, Gough traces the growth of British trade and dominion beyond the Pacific Northwest as far as South America and Britain's eastern North American colonies, and illustrates "how commerce backed by statecraft and its instrument of naval power forged underpinnings of the Canadian state and gave protection to Canadian commercial endeavours that were based on the empire of the St Lawrence and on Hudson Bay" [xvii]. In the competition to establish control over the Pacific Ocean's eastern shores, the explorers, the merchants, and the diplomats all played important parts. But in the end the role played by the British Navy proved crucial to the formation of the modern Canadian state.

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