

THE PACIFIC CIRCLE



Y 1998

BULLETIN No. 1

ISSN pending

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PACIFIC CIRCLE NEWS

As will be immediately evident to our long-time subscribers, the *Pacific Circle Newsletter* has undergone a transformation. With this inaugural issue, it becomes the *Bulletin of the Pacific Circle*—smaller but thicker in format, and containing, we hope, an increasing ratio of substantive-to-ephemeral material on the history and social studies of science in the Pacific domain.

Achieving this goal will depend in part upon our correspondents and members assisting us more actively in identifying suitable materials for publication. Your editors urge you to forward to the editorial office news of: publications, conferences, awards, promotions, new institutions and programs, new archival or other source materials, grant opportunities, and personal accomplishments. In particular, we seek book reviews, short research articles, reports of events and essays on the state of science studies in your country or region, opinion pieces, and “notes and queries.” As examples, we are pleased to include in this issue a country report by **Fernando Monge**, our correspondent for Spain; and a report on the recent international conference in Japan by our Japanese correspondent **Hideto Nakajima**. We cannot guarantee publication of all materials submitted, but we are certain that without such support the *Bulletin* will languish.

The diversity and vastness of the Pacific region requires a high level of cooperation for communication among its many communities to be successful, especially in a subject area as interdisciplinary as ours. Please help us to build a stronger knowledge network!



The decision to upgrade to the *Bulletin* format was one of several important items that dominated the Pacific Circle business meeting, held last July in Liège, Belgium, during the XXth International Congress of History of Science. Most members will have received—by mail last November—the printed minutes of that meeting. For those who did not or who need a refresher, the following is a summary of other actions taken:

- The annual membership fee was raised to US\$20.00 for individuals; and US\$30.00 for institutions. These rates took effect immediately in the case of new subscribers. Present subscribers will be billed at the new

rate upon the expiration of their existing subscriptions. Please note that this is the first increase in fees since they were instituted nine years ago. And we trust that members will find the new *Bulletin* well worth the additional cost.

- The Editor-Treasurer will explore means by which payment may be made by credit card, thus alleviating the problem of small but costly transactions in foreign currencies.

- A table of contents for the current issue will appear in the Pacific Circle's website, but it is not intended that the entire *Bulletin* be circulated electronically at this time.

- The incumbent slate of officers was reelected by unanimous vote to serve for another four years:

President:	D. R. Stoddart
Vice-President	R. M. MacLeod
Editor-Treasurer	P. F. Rehbock

- Vice President MacLeod (chairing the business meeting in the absence of President Stoddart) emphasized, however, the need to identify individuals during the next four years who might replace the present officers, all of whom will have served for 16 years (!) by the end of the next term and are desirous of "retirement." In particular, Editor Rehbock expressed his belief that the vigor and longevity of the *Newsletter/Bulletin* would benefit greatly from a change in the editorship, and his hope that willing talent might be identified before the next business meeting/election takes place. **Individuals willing to serve the Pacific Circle in any capacity (elective or appointive) are urged to make themselves known to any officer.**

- The officers of the Pacific Circle were granted authority to make such changes as they deem necessary to enhance the present efficiency of the *Bulletin* and its future transition to new editorship. Following the meeting, the officers met to discuss the allocation of officers' responsibilities. Dr. **Jane Samson** was appointed Interim Secretary, and Mrs. **Karen Rehbock** has agreed to continue as Associate Editor. Dr. Samson, who has accepted an appointment in the History Department, University of Alberta, beginning in September 1998, has recently offered to assume eventual editorship of the *Bulletin*. Bravo, Jane! Attentive readers of this issue's bibliography will note also that Dr. Samson's book, *Imperial Benevolence: Making British Authority in the Pacific Islands*, is about to be published by the University of Hawaii Press. Mrs. Rehbock, who has worked behind the scenes as proof-reader and editorial advisor of the *Newsletter* since issue No. 1, now looks forward to coming on stage in *Bulletin* production, and is currently managing the Circle's website as well.





XXth IUHPS speakers (l. to r.): Roy MacLeod, Marc Rothenberg, Rod Home, David Frodin, Conner Sorensen, Jane Samson, Alison Kay, Barry Butcher and Fritz Rehbock. (Photo by Karen Rehbock.)

LIÈGE SYMPOSIUM. The Pacific Circle symposium at the XXth International Congress of History of Science took place on July 25th, precisely as announced in *Newsletter 18*. The first session, "Exploration and Natural History of the North Pacific," featured papers by **W. Conner Sorensen** (independent scholar, Wuppertal), **E. Alison Kay** (University of Hawaii), **Jane Samson** (National Maritime Museum, Greenwich), and **Marc Rothenberg** (Smithsonian Institution).

For the second session, "Science in the Asia-Pacific Region," the speakers were **Rod Home** (University of Melbourne), **Roy MacLeod** (University of Sydney), **David Frodin** (Royal Botanic Gardens, Kew), **Song Sang-yong** (Seoul), and **Barry Butcher** (Deakin University). Abstracts of all papers, plus the full text of the papers by Frodin, Home, MacLeod, Rothenberg, and Samson, will be published in the October 1998 issue of the journal *Pacific Science*, through the generous assistance of its editor, **Alison Kay**.



LONDON WORKSHOP. On 22 November two dozen scholars gathered at the University of London for a one-day workshop entitled "Three Centuries of Science in the Pacific." Hosted by the Sir Robert Menzies Centre for Australian Studies, Institute of Commonwealth Studies, the workshop was organized by Dr. **Jane Samson** (Senior Research Fellow at the Institute). Professor **Carl Bridge**, head of the Menzies Centre, gave the welcoming address. Morning speakers, on the theme "Pacific Anthropology," included

Dr. Samson, Dr. **Elizabeth Edwards**, and Mr. **Ken Orchard**.

Following an excellent buffet luncheon, there were two afternoon sessions. The first, on "Sources and Overviews," included talks by Professor **Arthur Lucas**, Miss **Sara Joynes**, and Dr. **Andrew Lambert**. The final session, on "Pacific Explorers," featured papers by Professor **Glyndwr Williams** and Dr. **Patricia Fara**. Abstracts of their papers appear below on page 7, courtesy of Jane Samson. The Pacific Circle was pleased to co-sponsor this workshop, so far from the usual sites of Pacific science scholarship; and Fritz Rehbock was honored to be on hand to serve as chair of the morning session.



FUTURE MEETINGS. There are at present no Pacific Circle meetings or sessions planned for 1998. However, the XIXth Pacific Science Congress, to be held in Sydney, 6-9 July 1999, offers an excellent opportunity for our next symposium. **Anyone wishing to present a paper or organize a session relating to the history of Pacific science is urged to contact Roy MacLeod (roy.macleod@history.su.edu.au) or Fritz Rehbock (frehbock@hawaii.edu; Fax: 808-956-9600) as soon as possible.**



MEMBERS' NEWS. President **David Stoddart** continues his globetrotting, island-hopping habits, dividing his time among Berkeley, the United Kingdom, Tahiti and the Seychelles. Unfortunately he was just a little too eager to depart on one recent junket, as he fell over his suitcases on the way out the door and broke his leg. Your editor can attest to his continuing outlandish vigor, however, having partaken of a pint at a pub in Cambridge with him late last fall.

Vice President **Roy MacLeod** was a visiting professor at the Department of History of Science and Ideas at Umeå University in Sweden from March through May of this year.

Editor-Treasurer **Fritz Rehbock** is on sabbatical for this academic year to write a novel about the life of a Victorian naturalist. He spoke about the novel-writing process to curious audiences in Cambridge and Leeds last fall. Associate Editor **Karen Rehbock** meanwhile enjoyed very much working part-time at the Institute of Astronomy in Cambridge. In January she returned reluctantly to her regular position as Assistant to the Director and

coordinator of public relations at the University of Hawaii's Institute for Astronomy, where she deals increasingly with requests to film on the summit of Mauna Kea! Their daughter **Maile Rehbock**, who has often been prevailed upon to assist in newsletter layout, now gets paid for her efforts—at Microsoft Inc., in the western of the “two Washingtons.” We couldn't compete with Bill Gates.

Interim Secretary and UK Correspondent **Jane Samson**, currently a research fellow at the National Maritime Museum, Greenwich, will move to the University of Alberta in Edmonton in July. She was the principal instigator and lead-off speaker at the workshop “Three Centuries of Science in the Pacific,” held at the Sir Robert Menzies Centre for Australian Studies, University of London, in November.

Anthropologist and Guam Correspondent **Rebecca Stephenson** reports that efforts are proceeding to remedy the massive ruin left by Supertyphoon Paka, which struck Micronesia with 160 mph winds in mid December. Anderson Air Force Base reportedly clocked one gust of the typhoon at 236 mph—the fastest wind ever recorded on the Earth's surface! One month after the disaster, a quarter of the island was still without electric power. Rebecca's husband, Dr. **Hiro Kurashina**, is director of the Micronesian Area Research Center (MARC) at the University of Guam; he reports thankfully that typhoon damage to MARC was minimal.

Finally, as we say farewell to the *Newsletter* and greet the *Bulletin*, we also extend our thanks and best wishes to student editorial assistant **Ronalene Alboro** for four years of dedicated service to Pacific Circle tasks. And we welcome to the editorial staff **Kevin Fujitani**, who will begin a Ph.D. in the history of science in August. Continuing to assist periodically with office tasks is volunteer **Betsy Robertson**, who is researching the Pacific sandalwood trade in the 19th century for her dissertation in environmental history. And for supervising editorial office activities during the sabbatical absence of the editor we convey our deep gratitude to Professor **Peter Hoffenberg**.



“THREE CENTURIES OF SCIENCE IN THE PACIFIC”

A workshop hosted by the
Sir Robert Menzies Centre for Australian Studies,
Institute of Commonwealth Studies, University of London
22 November 1997



“Three Centuries” speakers (l. to r.): Sara Joynes, Patricia Fara, Elizabeth Edwards, Andrew Lambert, Glyn Williams, Arthur Lucas, Ken Orchard, and Jane Samson. (Photo by Fritz Rehbock.)

Abstracts

“Missionary Ethnographers in the South Pacific” by Dr. **Jane Samson** (Senior Research Fellow, Institute of Commonwealth Studies, London).

This paper outlined work in progress that, with support from the North Atlantic Missiology Project and the Pew Charitable Trusts, will be published as a book tentatively entitled “Race and Redemption: Missionaries as Ethnographers in the South Pacific.”

Newer approaches to the history of anthropology and empire have questioned traditional prejudice against missionary ethnography. Although some missionaries took little interest in the peoples they wanted to “convert,” others were motivated by an ethnographical curiosity shared by contemporary philosophers, ethnologists and (eventually) professional anthropologists. From the eighteenth to the twentieth centuries, many missionaries in the Pacific kept abreast of current scientific theories about race, migration, evolution and culture. Their own contributions fed directly into scientific debate in Britain in many cases. The historical connections between missionaries

and anthropology have tended to be obscured by the relatively recent professionalization of the social sciences, and by histories of anthropology which suggest that "real" ethnography was invented by the culture heroes of the discipline: Morgan, Malinowski, Evans-Pritchard, Boas and others.

Using examples of connections between the work of nineteenth-century missionaries Lorimer Fison and Charles Edward Fox, and contemporary social scientists Max Muller, W.H.R. Rivers and others, this paper showed how complex were the entanglements between missionary expansion, scientific theory, and the development of modern anthropological fieldwork. The fact that this entanglement took place within the context of colonialism cannot be neglected either. There have been too many easy generalizations made about missionaries as agents of a ruthless, genocidal imperial project. Interest in "vanishing" or "doomed" races was both a product and a critique of imperial expansion and any study of missionary ethnography must acknowledge a wide range of similarly complex relationships.

"Photography and the 1989 Cambridge Torres Strait Expedition" by Dr. **Elizabeth Edwards** (Pitt Rivers Museum, University of Oxford).

The paper explored the field photography of this famous anthropological expedition whose members included A.C. Haddon and W.H.R. Rivers. Visuality was central to the agendas of the Expedition in theoretical and methodological terms, thus the focus of the paper was not what the photographs were "of" in terms of the evidential, but rather on the socially-embedded scientific act of photography itself and its reflection of scientific methods and intention reproduced in the field. This is expressed in the equipment which was taken: state-of-the-art cameras, color processes (which did not work) and ciné camera (with which they had limited success). The integrity of equipment implied integrity of data. The dominant paradigm was that of salvage ethnography. Torres Strait society had undergone radical change under the influence of missionaries since 1871 and within broader colonial agendas. Haddon and his colleagues felt strongly that they had to record "before it is too late." Using the photographic record and the acts of its making to examine the structuring of their science, a structure of feeling, an almost romantic notion of salvage, emerges.

The intensity of feeling mirrors the intensity of the scientific act. This is illustrated in the specific photographic choices made by the Expedition, for instance, to record places of ritual significance (and therefore perceived to be at the heart of Torres Strait society) in the normal quarter plate format

and a larger, slower and therefore more densely inscribed format. The Expedition also engineered reenactments, a reconstitution of actualities in a way which reflects emerging laboratory practice at the time. The photographic inscriptions of re-enactment, especially that of the death of Kwoiam, a mythical hero, plays precisely on the realist nature and temporal ambiguities which constitute photography as a medium. In relating the salvage agendas to the photographic act and to the nature of photography itself, one begins to have a deeper understanding of the science and ethnography produced by the Expedition, a position which, I would argue, can only be reached through asking photographically structured questions rather than ethnographic ones.

A full and much extended version of the paper will be published in A. Herle & S. J. Rouse (eds.) *The Torres Strait Expedition and the Making of Cambridge Anthropology* (Cambridge University Press, 1998).

"J.W. Lindt's 1870s Photographs of Australian Aborigines" by Mr. **Ken Orchard** (University of Wollongong and National Gallery of Australia).

Portfolios of a dozen studio tableaux photographs entitled *Australian Aborigines* taken by J.W. Lindt (1845-1926) in Grafton, New South Wales between 1873-74 were probably the most widely distributed images of Aboriginal subjects in the second half of the nineteenth century. They have subsequently become some of the most discussed images of Aborigines in the history of Australian photography, attracting more than twenty major citations since 1972.

There has been no systematic assessment of the worldwide distribution of these images, nor has a survey been undertaken into the range of Lindt's Aboriginal portraits. This year, research conducted under the auspices of the National Gallery of Australia has revealed the previously overlooked dimension of Lindt's ambitious project. Although at the beginning of his career, Lindt made at least 70 different Aboriginal portraits while in Grafton, many of them are now lodged in dozens of Museum and Art Gallery collections around the world.

The portfolios, *Australian Aborigines* and an earlier suite of outdoor photographs of Gumbainggir Aborigines by Lindt, commissioned by the Italian naturalist Luigi D'Albertis in 1873, form the basis for both a reappraisal of Lindt's early photographic enterprise and a critique of the genre of the primitivist tableaux within which these Aboriginal subjects are framed.

“The Mueller Project” by Professor **Arthur Lucas** (Principal, King’s College, London).

This presentation outlined the work to date on the “Life and Letters of Ferdinand von Mueller,” a project which will produce a biography and three volumes of selected correspondence of this noted German-Australian botanist. A CD-ROM carrying Mueller’s complete surviving correspondence will be produced as well in a fully searchable format.

Mueller, born in Mecklenburg in 1825, emigrated to Australia in 1847 where he became the Victoria government’s official botanist, a post he held for 43 years until his death in 1896. He was a dominant figure in the scientific and intellectual life of Australia, and generated perhaps more publications than any other scientist before or since. His importance, combined with the enormous extent of his works and correspondence, has produced many challenges for the international editorial team of which Prof. Lucas is a part. It has also produced a revisionist view of Mueller, whose reputation for stiff formality can now be compared with letters revealing his kindness, loneliness, and passion for knowledge.

Anyone interested in subscribing to the Mueller series, in whole or in part, should contact Peter Lang AG, Europaischer Verlag der Wissenschaften, Jupiterstrasse 15, CH-3000, Bern 15, Switzerland.

Web: <http://www.peterlang.ch>

Email: 101630.1473@compuserve.com

“The Australian Joint Copying Project and Sources for the Study of Science in the Pacific,” by Miss **Sara Joynes** (National Library of Australia and Queensland Heritage Retrieval Project).

The paper described the aims and achievements of the AJCP and detailed some of the scientific collections surveyed and microfilmed during its 45 year history.

The Australian Joint Copying Project was established in 1945 by the National Library of Australia and the Mitchell Library in Sydney to survey and copy original records in the United Kingdom relating to Australia, New Zealand and the Pacific. By 1993 when the Project ended over 10,000 reels of microfilm had been produced. Over 7000 reels had been produced of records at the Public Record Office, the greater proportion of which were documents generated by the Colonial Office and Dominions Office from 1788 to 1960s. Over 3000 reels had been produced in the Miscellaneous Series which covers material deposited in local record offices, museums,

university libraries, national libraries and specialist repositories. Over 100 collections of papers held by members of the public had been filmed.

Australia was sighted and explored by Captain Cook in 1770 as the result of the scientific expedition to observe the Transit of Venus. Scientific interest in Australia, New Zealand and the Pacific has been a major part of contact with Britain ever since and observations both by professional scientists and ordinary visitors are of importance. Therefore the AJCP has visited, surveyed and filmed at a number of scientific institutions and filmed scientific papers held by non scientific repositories and private individuals. Details of a number of these were given in the second half of the paper.

“The Problem Of Asia: Mahan, Mackinder and the Origins of Geostrategic Thought” by Dr. **Andrew Lambert** (King’s College, London).

The works of A.T. Mahan, the American naval and political strategist, and H.J. Mackinder, the British geographer, were discussed by Paul Kennedy in a famous chapter of *The Rise and Fall of British Naval Mastery* (1976). Kennedy argued that the two writers were diametrically opposed, with Mahan advocated seapower as the key to domination and Mackinder advocating landpower instead. This paper shows instead that both writers recognized the pivotal role of Asia in strategic planning, taking a common approach to the developing theory of geostrategy.

The geostrategic importance of Asia had already been emphasized in a number of earlier works, especially Charles Dilke and Spenser Wilkinson’s *Imperial Defence* (1891) with its focus on the international “great game” in central Asia and the need to protect British India. In the United States, naval officers had long been arguing that the Pacific was their ocean of destiny; thus, Mahan’s *The Influence of Seapower Upon History 1660-1783* (1890) had the importance of Chinese economic markets and other factors at its back; these themes were discussed more openly in his *The Problem of Asia* (1896).

Seen from the perspective of this preoccupation with Asia, Mackinder’s essay “The Geographical Pivot” had much in common with Mahan’s work. Like Mahan, he recognized the importance of controlling trade routes; in this case, the British imperial network of Chinese, southeast and south Asian trade. Also like Mahan, he was a racist who saw Asians as a threat to western interests in Asia-Pacific. Where the two men differed was in their desire to promote two different western countries—Britain vs. the United States—as the primary beneficiaries of Pacific domination.

"Science and the Exploration of the Pacific: The Case of Scurvy," by Professor **Glyndwr Williams** (Queen Mary and Westfield College, London).

Europe's exploration of the Pacific in the later eighteenth century was accompanied by wide-ranging advances in scientific knowledge. There was important progress in natural history, hydrography, astronomy, and anthropology, to take just the most obvious examples. The exception to this general trend concerns scurvy, that age-old scourge of long oceanic voyages. The argument put forward here is that the efforts of the Pacific explorers of this period to keep their crews healthy, retarded rather than helped the elimination of scurvy among mariners at large. The researches of James Lind in mid-century, which provided evidence of the anti-scorbutic properties of lemon juice, were given no special prominence. James Cook adopted "a blunderbuss approach" in which he personally enforced all suggested remedies; and this was followed, with greater or lesser success, by his successors in the Pacific such as La Perouse, Vancouver and Malaspina.

The problem with this approach was that it was more suitable on ships with small crews of hand-picked men, closely supervised by the captain. It was a highly personalized approach, and could not be easily transferred to the huge wartime navy. The important steps here came in the last years of the eighteenth century. From 1796 lemon juice was distributed on a regular basis, and some of Cook's panaceas such as sauerkraut disappear from view. But if lemon juice was the single most effective anti-scorbutic, its introduction should be seen in the context of a general shipboard regime which tried to enforce cleanliness, orderliness, and an approved diet under the supervision of the ships' surgeons. It was Cook's paternalism systematized, and played an important role in keeping the Nelsonian navy at sea.

"Disciplining Men: Science, Masculinity and Portraits of Joseph Banks," by Dr. **Patricia Fara** (Dept. of History and Philosophy of Science, University of Cambridge).

Concepts of masculinity are both culturally specific and flexible, and towards the end of the eighteenth century, visions of manhood were no longer formulated solely in classical ideals of heroism. British natural philosophers were founding scientific disciplines, and seeking public recognition as elite specialists contributing towards the nation's commercial and imperial expansion. This paper uses representations of Joseph Banks to explore how he and his contemporaries fashioned appropriate models of maleness and established men of science as prestigious authorities. Joshua Reynolds, for

example, portrayed him as a casually dressed romantic traveller who discarded military warfare in favor of mastery over nature; but at the same time, caricatures of Banks the Macaroni captured the ambiguities of his status as a member of polite society engaged in feminine botanic pursuits. Forty years later, Banks presented himself as a stately man of science, medals on his chest and surrounded by the paraphernalia of high office, the proud sponsor of innovative electrical research.

Through his portraits, Banks contributed to transforming the stereotype of the English male traveller from the foppish aristocrat degenerating on his Grand Tour to the masculine hero risking his life for the sake of England and of science. In the 1770s, he fashioned himself as an energetic yet learned voyager, the gentlemanly participant in a characteristically English male metropolitan culture. By the time he died, he had maneuvered the Royal Society into an influential position, and had restyled his own image as the authoritative organizer of English expeditions of scientific exploration. By representing himself first as a scientific traveller and then as a statesman organizing scientific exploration, Banks promoted English imperial possession of the world in the name of the new disciplinary sciences.

“FIELD SCIENCE ON THE PACIFIC RIM”

A session at the annual meeting of
the History of Science Society,
held in La Jolla, California, 7 November 1997

Abstracts

“From Harvard to Hollywood: Bradford Washburn, Interdisciplinary Research and the Exploration of Mount McKinley, 1946-1960,” by **Mike Sfraga** (University of Alaska – Fairbanks).

Bradford Washburn is primarily known for his Alaskan mountaineering accomplishments and captivating mountain photography. Less is known, however, about his role in orchestrating interdisciplinary research involving cosmic rays, glaciology, and cartography, which he accomplished by linking such disparate entities as RKO Pictures, the U.S. military, and prominent scientists, including Harvard College Observatory director Dr. Harlow Shapley. Using Washburn’s private papers, I show how Washburn utilized his training at Harvard’s Institute for Geographical Exploration, as well as

his relationship with the National Geographic Society and military patrons, to fashion a “laboratory” on Mount McKinley.

These developments are significant in two ways. First, they provide a window into our understanding of interdisciplinary earth sciences in the mid twentieth century. They also explain the often unappreciated link between environmental science and geography in the American context.

“Between the Devil and the Deep Sea: C.K. Tseng and the Development of Marine Science and Technology in Modern China,” by **Peter Neushul** (California Institute of Technology) and **Zuoyue Wang** (University of California, Santa Barbara).

At Amoy University and later the University of Michigan during the 1930s, C. K. Tseng, China’s first marine botanist, studied seaweeds in order to farm the ocean for food and chemicals. During the 1950s Tseng launched China as the world’s largest producer of marine algae and achieved his life-long goal of supplying a new source of food for his long-suffering people. He endured inhuman treatment during the turbulent decade of the Cultural Revolution (1966-1976)—sometimes at the hands of his graduate students-turned Red Guards—to return in the late 1970s to resurrect Chinese marine science. Tseng’s experience exemplifies that of a generation of Chinese scientists who persisted in their pursuit of “Saving China via Science” despite hardships under the Nationalist rule and persecutions under Maoist purges.

In telling Tseng’s story this paper explores two uncharted territories in the history of science: the history of marine botany and of modern science in China. Tseng’s career illustrates in many ways the growth of a close-knit international community of marine botanists. It also reflects the often debilitating tensions that plagued the development of Chinese science in the 20th century: tensions between scientific nationalism and internationalism, and between, on the one hand, scientists’ need for autonomy and resources, and on the other, the nation-state’s demand for political control and direction. Through all this turmoil C. K. Tseng emerged as the most successful applied marine botanist of this century.

“Science California Style: The Case of Earthquake Seismology, 1906-1933,” by **Carl-Henry Geschwind** (Johns Hopkins University)

The meeting of the History of Science Society in San Diego provides a perfect venue for considering the particular ways in which science has been pursued in California. Historian Michael Smith has argued that, in the

years before 1915, California earth and life scientists responded to the unique California environment by developing a distinct style of science that was directed toward arousing environmental awareness among the California public and that depended on local resources to do so. I will use the case of seismology to argue that this characteristic style of science persisted in California until at least the 1930s.

In the early twentieth century, academic seismology was commonly characterized by the use of sophisticated instruments to record waves from distant earthquakes in order to probe the earth's deep interior. After the 1906 San Francisco earthquake, though, a number of California earth scientists rejected this abstruse concern and instead concentrated on mapping dangerous faults in their State. Through the Seismological Society of America, a broad-based reform group founded in 1906 and headquartered in California, these scientists also urged Californians to recognize their state's susceptibility to earthquakes and to adapt building practices accordingly—a call for environmental awareness that was opposed by powerful business and real estate interests. Particularly under the leadership of Stanford geologists John Branner in the 1910s and Bailey Willis in the 1920s, Seismological Society members established contacts with local engineers, architects, and public officials, and they lobbied vigorously for earthquake awareness in newspapers and other public arenas. The Seismological Society's efforts finally bore fruit in 1933 when, after a destructive earthquake in southern California, the State legislature passed a building code requiring attention to earthquake provisions.

“‘Strictly for the Birds’: The Pacific Ocean Biological Survey, 1963-1971,” by **Roy MacLeod** (University of Sydney).

Between 1963 and 1970, in what became known as the Pacific Ocean Biological Survey (POBS), a group of naturalists working in the Smithsonian were given a grant by the Department of Defense to observe animal behavior in the Central Pacific, and to chart the migratory patterns of pelagic birds in the region. For over six years, a vast amount of data was collected from a quarter of the globe dotted with islands and atolls, and difficult of access. However, in 1969 the terms of the Survey, once seen as a matter of routine agency sponsorship, met with a hail of criticism. Journalists alleged that the Smithsonian, by accepting the military's coin, had violated unwritten rules of ethical conduct governing academic research, and in so doing had placed the Institution's integrity at risk. Further investigation suggested

a close relationship between the POBS and Army interests in the applications of chemical and biological warfare.

A widely-publicized controversy ensued, during which it was alleged that the Smithsonian's position—exemplified in its historic commitment “to increase and diffuse knowledge”—was rendered vulnerable by an agreement ostensibly made in “good faith.” In 1969, the Army contract ended. Then, and subsequently, the Institution declined to enter into new military contracts. The Survey continued (and continues, in its accumulated documentation of migration patterns) to serve the interests of science. At the same time, the controversy proved to be a watershed in Smithsonian-military relations. The story of its resolution, in the midst of the Vietnam War, reveals a rare moment in which the Smithsonian became vulnerable to charges of secrecy in science, and of collusion with agencies having very different reasons for its support.

SCIENCE AND THE PACIFIC WAR: 1939-1945

This volume of essays, collected and edited by Roy MacLeod, is scheduled for publication by Kluwer in 1999. Abstracts for each of the projected chapters are given below:

Introduction: Science, Technology and Military Operations in the Pacific War, by **Roy MacLeod**

The history of science and technology during the Second World War is dominated by references to the struggle in the Atlantic and in Europe. Much less has been written about the “scientific war” in the Pacific. What there is, has dealt principally with such spectacular subjects as the history of signals intelligence (notably, MacArthur's Ultra) and the atomic bomb. However, the Pacific provided many other challenges to science, technology and medicine. Unfamiliar environments and weather conditions required new forms of communication. Allied (and Japanese) forces had to adapt old technologies to island use, while designing new ones (including amphibious vehicles and long-range radar). Medical and botanical units invented ways to fight tropical diseases and parasitic pests, and anthropologists and geographers were called upon for studies of local peoples and topographies. In the end, whatever importance historians place on the role of the atomic bomb in ending the war, the conditions of 1945 raised a distinct possibility that, were the war to have continued into 1946, chemical and biological weapons would have been used—with consequences that haunt the imagination. This essay

discusses the development of wartime Allied and Japanese science and technology, with particular reference to the many disciplines—outside nuclear physics—that played a decisive role in military and naval operations.

1. *American "Combat Scientists": OSRD's Field Service in the Pacific*, by **Roy MacLeod**

World War II was the first war in history to be affected decisively by weapons unknown at the outbreak of hostilities. This is probably the most significant military fact of our decade: that upon the correct evolution of the instrumentalities of war, the strategy and tactics of warfare must now be conditioned. With all the conviction he had already shown in his *Science: The Endless Frontier*, Vannevar Bush welcomed Irvin Stewart's administrative history of the Office of Scientific Research and Development (OSRD). It was manifestly a work of special pleading. But in 1948 it was welcomed as contemporary history by a generation that wanted to read heroes' tales in wartime science. Among these tales was that of the OSRD's Office of Field Services (OFS), set up in 1943 to bring "combat science into field conditions." Praised for its contribution to Allied success in Europe, the OFS in the Pacific had a more mixed press. Although it is premature to attempt a full assessment of OSRD's Pacific enterprises, which involved many military, naval and inter-service agencies, it is useful to highlight the most salient characteristics of the OFS, and to suggest why, with its particular organization, mix of disciplines, and ways of doing science already well adapted to the circumstances of Europe, found itself hard pressed when transferred to the Pacific.

2. *The Smithsonian Goes to War*, by **Pamela M. Henson**

When hostilities with Japan began, U.S. war agencies possessed little information about the more remote regions of the Pacific, thus, the Smithsonian's expertise proved of value. Conversely, the occupation of the Pacific provided rich opportunities for anthropological and natural history collecting. Informal ties between the Institution and the military were formalized and led to such post-War projects as the Bikini Scientific Survey and Resurvey and the Arctic Institute. After the armistice, the Pacific region assumed new economic and strategic importance. New sources of funding for field work and research on the Pacific arose from the networks created during the war.

This essay documents how the Smithsonian organized its efforts to assist in the Pacific theatre—the types of information compiled, approaches

used to the organization of information, and institutions created to facilitate the flow of information. Also documented is the effect of the war on scientific research—opportunities lost and gained, focus on the area studies approach, new ties with the military, and increased support for research in the Pacific during and after the war.

3. *Malaria in the Southwest Pacific in World War II*, by **Mary-Ellen Condon-Rall**

During the first six months of 1942, Japan defeated American forces in the Pacific and nearly captured New Guinea. In both campaigns, malaria was a major threat. In the second half of 1942, Americans on Guadalcanal and Australians and Americans in the Buna-Gona campaign suffered badly from the disease. Enormous efforts were put into research and control. During 1943, the correct prophylactic dose of Atabrine was determined, and palmaquine was introduced to prevent vivax relapse. Malaria discipline was enforced, and vector control measures were expanded. By 1944, while malaria mortality rates in the allied forces markedly decreased, high morbidity and mortality remained among the Japanese, and undoubtedly contributed to their defeat.

4. *The Machine in the Garden: American Military Engineering in the Pacific*, by **Donald Fitzgerald**

This essay discusses the manner in which Pacific Islanders' relationship with technology has affected their cultures by examining the history of two engineering technological projects; the construction of a chain of airfields from Hawaii to Australia during World War II and the encryptment of nuclear wastes on Eniwetok in the late 1970s. The wartime expansion of aviation facilities into the Pacific Ocean area, while of tremendous scale, had been preceded by the activities of individuals in the 1920s and the establishment of commercial trans-oceanic flying boat service since the mid 1930s. The encryptment of nuclear wastes on Eniwetok, however, was an unprecedented engineering feat whose success can only be measured with the passage of time. While both technologies affected islander's culture, the changes accompanying airfield construction have been partially absorbed into contemporary life and traditional story telling. The burying of nuclear wastes, however, has irrevocably impacted islander life, homes, and health, and may be a portent of future political and social decisions which will affect Pacific Islanders for generations.

5. *Allied Military Botany in the Pacific*, by **Richard Howard**

American botanists performed many important duties during World War II. While many stayed home to carry heavy classes in their universities, many others worked in laboratories diverted to problems of military significance. Still others worked in such units as the Arctic, Desert, Tropic Information Center (ADTIC), and in specialized organizations dealing with biological warfare, camouflage, defoliation, strategic materials, and survival training. This essay canvasses the wide spectrum of these activities, as seen from the perspective of a "serving scientist."

6. *Australian Universities at War: The Mobilisation of the Universities in the Battle for the Pacific*, by **Michelle Freeman**

From the onset of the war in Europe, Australian university scientists contributed significantly to the Allied war effort. With the beginning of the war in the Pacific, research focussed increasingly upon problems of local adaptation and integration into the war effort, notably in optical munitions, agriculture, chemicals, aeronautical engineering, and radar. This essay charts the transformation in government-university relations in these fields, and discusses the significance of wartime developments for post-war changes within the university system.

7. *Australia's Mustard Gas Guinea Pigs*, by **Bridget Goodwin**

During the Pacific War, Australia was on occasion used as a "place of science" for the extension of British military knowledge. This essay discusses the large-scale chemical warfare field trials held in tropical north Queensland during the War, and their extensive and unprecedented use of human subjects. The research was so far-reaching that it is not surprising that the agencies that sponsored the experiments went to great lengths to suppress knowledge of them. Even today, much of documentation detailing these experiments remains classified in government archives in Britain, Australia and the United States. This essay will discuss their origins and significance.

8. *Technological Transfer and the War in the Pacific*, by **Ian Rae**

The second World War, and especially the war in the Pacific, was a significant time of transition for Australia. In the early months of 1940, Australia's major commitments were in Europe, but the Japanese advance in 1941, and the stationing of US troops in Australia from 1942, fostered and strengthened new relationships. In industrial terms, the period saw a

greater degree of independence of Australia as a nation, with some weakening of technical links with Britain, and increasing technological and economic interactions with the United States. As with most historical changes, there were few abrupt turning points. Rather, we now see those changes as the sum of many small events, which appear dramatic in retrospect. This essay examines this general development, in the context of a particular case of technology transfer in the aircraft industry, and discusses its implications for post-war American and Australian technological partnerships.

9. *Managing the Impact of War: Australian Anthropology and the South West Pacific*, by **Geoffrey G. Gray**

The Pacific War created an unprecedented opportunity for Australia's anthropologists. From 1943 onwards, war-born organisations including the Australian New Guinea Administrative Unit (ANGAU) and the army's Directorate of Research and Civil Affairs (including the School of Civil Affairs), began to recruit anthropologists who challenged prewar university monopolies on research and training. The war created openings for a younger generation, ultimately led by such distinguished scholars as H. Ian Hogbin and Camilla Wedgwood.

This essay attempts three tasks. First, it examines the way in which anthropological knowledge was used during the Pacific War by both government and military authorities, especially in the Australian-administered territories of Papua and New Guinea. Second, it describes the way in which the war enlarged anthropology's role as an informing discipline. Finally, it considers several consequences of this experience for the discipline. Sydney's dominance over research and training was broken by the creation of the Australian School of Pacific Administration (ASOPA) and by the Australian National University (ANU). Secondly, a distinction developed between research focussed upon Australia (Aborigines) and upon the Pacific (especially Papua and New Guinea). Thirdly, a growing distance emerged between research and the application of knowledge in government policy, which was to become a key feature in the application of anthropology in post-war colonial administration.

10. *New Zealand Scientists in Action: The Radio Development Laboratory and the Pacific War*, by **Ross Galbreath**

Like other British Dominions during World War II, New Zealand established a radar development laboratory—the Radio Development Laboratory (RDL) within the Department of Scientific and Industrial Research. In 1943,

as the war in the Pacific turned to the offensive and local needs for radar had largely been met, the head of DSIR and peripatetic wartime "Director of Scientific Developments," Ernest Marsden, made contacts directly with the US command in the Pacific—to the annoyance of local NZ Service chiefs—and offered systems specially engineered for the Pacific, particularly mobile truck-mounted systems for rapid deployment on beachheads during the island-hopping campaign. At a time when American equipment was still in short supply the offer was accepted and several types of mobile radar systems were quickly constructed by RDL. A number of RDL scientists were given temporary commissions and sent with them to give technical support under operational conditions. By 1944, this role had ended but other RDL scientists were attached to US radar countermeasures units operating in the South and South-West Pacific. By comparison with the British or US radar establishments, RDL was very small; its contribution to the Pacific War thus made a virtue of its versatility and adaptability.

11. *Canada's Role in Chemical and Biological Warfare Research*, by Donald Avery

Canadian scientists made major contributions in the fields of explosives and propellants, radar and sonar, aviation medicine and disease control, the proximity fuse and nuclear energy, and in chemical and biological warfare. The administrators most responsible for the coordination of these varied and complex research endeavors were C.J. Mackenzie, Acting President of the NRC, and his able lieutenant, Dr. Otto Maass, professor of chemistry at McGill University and wartime head of the Directorate of Chemical Warfare. Their job was to mobilize and coordinate Canada's scientific resources in the development of innovative weapon within the larger framework of Anglo-American scientific and military planning. This essay will focus on the role which these and other Canadian scientific mandarins played in the murky world of chemical and biological warfare.

12. *The American Cover-up of Japanese Biological Warfare Experiments, 1945-1948*, by Sheldon Harris

The United States became aware of extensive Japanese biological warfare activity no later than the spring of 1943. Sometime later that year, the United States learned that Japanese scientists had engaged in large scale human experiments. A team of American scientists entered Tokyo scarcely days after Japan's surrender, and began investigating the possibility of securing human experimental data from Japan. Over the next three years,

scores of American scientists journeyed to Japan, engaged in intense negotiations with the Japanese experts who were, by any definition, war criminals, and ultimately received some data from them. The United States paid a heavy price for this information: the scientists convinced the American government to grant Japanese war criminals immunity from prosecution for their crimes. The Americans' desire to obtain forbidden fruit—access to information on human experiments—overcame any sense of morality or ethics. Moreover, the acquisition of this data opened the door to future involuntary human experiments by American scientists for the next thirty years.

13. *Australian Science and the Intelligence War against Japan*, by **Frank Cain**

Australia was slow in perceiving the advantages of electronic interception before the Pacific War and seemed to be unaware of the progress made in this field in the other Allied campaigns. Indeed, in spite of the expansionist militarism of Japan from the early 1930s, Australia had made few preparations for a Japanese attack on Australia until after the middle of 1941, by which time the signs of a Japanese thrust southwards had become evident. The technology of intelligence gathering was acquired slowly by Australia until early 1942, when the greater assets and facilities of the US became available. But the Americans were reluctant to share too widely their advantages in this field, and Australia had to continue to develop its resources in this area on its own.

This essay discusses how the Australian defence forces and scientists set about introducing electronic surveillance of Japanese forces, and discusses the successes and failures of the application of scientific expertise to this new and important branch in the conduct of the Pacific War.

14. *The Useful War: Radar and the Mobilization of Science and Industry in Japan*, by **Morris F. Low**

Japanese efforts to organize for scientific war research extended to many fields, including aeronautics, biological and chemical warfare, and balloon bombs. This chapter outlines Japanese efforts to develop radar and the "death ray." It traces the history of their development and identifies factors which constrained their success. Army-Navy rivalry resulted in separately-funded projects, wasteful duplication of research, and fragmentation of a small pool of scientists and engineers whom the military were reluctant to trust. Given the lack of specialist personnel, the military had to turn to pri-

vate industry, not only for the manufacture of equipment but also for much R&D. Competition between the Army and Navy engendered secrecy between companies and differing magnetron designs. The Germans were not eager to assist. Even when radar sets were completed and in use, military personnel lacked adequate training to operate them. The Japanese attempt to mobilize science was a case of too little too late, and represented a desperate attempt to turn the tide of war. Japan nevertheless considered the Pacific War a "useful" war which stimulated science and technology and taught how science might better assist the economy in peacetime.

IUHPS/DHS NEWS

At the July 25th meeting of the General Assembly of the International Union for History and Philosophy of Science/Division of History of Science in Liege, the following scholars were elected to four-year terms of office:

President	B.V. Subbarayappa (India)
First Vice Pres.	M.D. Grmek (France)
Second Vice Pres.	E. Ihsanoglu (Turkey)
Secretary General	R. Halleux (Belgium)
Treasurer	L. Taub (UK)
Asst. Secretary	F. Bevilacqua (Italy)

At the same meeting, the applications of three countries—Croatia, Ukraine and Kyrgyzstan—for DHS membership were unanimously approved. Also approved were the applications of the following four new commissions: East Asia, Science and Empire, History of Soil Science, and History of Chemistry. The Commission status of the Pacific Circle was renewed for another four years.

Enthusiastic proposals to host the next (XXIst) Congress in 2001 were submitted by Beijing, Mexico, and New York, with the vote going in favor of Mexico. Coordinating the Mexico proposal was Pacific Circle Council member, **Juan José Saldaña**.

COUNTRY REPORT: SPAIN & THE PACIFIC

News from the Centro de Estudios Históricos
[Center for Historical Research], C.S.I.C.
by **Fernando Monge**

The Pacific Ocean has been approached differently from the Spanish perspective, not only because of the historical relationship, but also because of the scarcity of history of science literature in Spain. Since discovery by Westerners in 1513, the South Seas and the Pacific have been dealt with by Spaniards as formidable barriers to the East Indies and their riches. Once this ocean was transformed by Spanish and Portuguese agreement, with the Popes assent, into the "Spanish Lake," and a regular maritime connection established between the eastern "limit" of Spain's kingdoms (i.e., the Philippines) and the Viceroyalty of New Spain, which was to become Mexico, the Pacific's main areas of interest became located on its rim. This is not to say that the Spaniards did not explore and study the Ocean, but to suggest the explicitly continental stance towards the Pacific. Such approaches strikingly contrast with those promoted by other kingdoms which regularly entered this Ocean one or two centuries later. For more discussion of these issues, please see the official catalogue for the Spanish Pavilion at the 1988 Brisbane (Australia) World Exposition, entitled "El Pacífico español de Magallanes a Malaspina" [The Spanish Pacific from Magellan to Malaspina], published by Madrid's Ministerio de Asuntos Exteriores.

The following list of recent books and articles reflects the history of Spain's interest in the Pacific, as well as the growing attempt to integrate the Spanish Pacific into the studies of the Pacific Ocean undertaken by colleagues elsewhere. In this way, the Spanish and international perspectives on the Pacific can be compared and integrated where appropriate. The Centro de Estudios Históricos (Consejo Superior de Investigaciones Históricas, Spain) is one of the Spanish institutions devoted to transforming our research focus in the Pacific.

The areas and topics are not the "traditional" ones of the Philippines or its political history, art or church activity, but international relations, history of science or Australia and the Caroline Islands (once under Spanish sovereignty). The recent works include:

España en el Pacífico. La colonia de las islas Carolinas (1885-1889), [Spain in the Pacific. The Caroline Islands Colony (1885-89)] by **María Elizalde Pérez-Grueso** (Madrid: CSIC, 1992), 2500 ptas. (approx. US\$17).

En el Panóptico del Mar del Sur. Orígenes y desarrollo de la visita australiana de la expedición Malaspina (1793) [In the South Seas Panípticon. Malaspina's visit to Australia (1793)], by **Juan Pimentel** (Madrid: CSIC, 1992), 2650 ptas. (approx. US\$18).

Espanoles en Siam (1540-1939). [Spaniards in Siam (1540-1939) A Hispanic Presence Research Contribution] Una aportación al estudio de la presencia hispana en Asia, by **Florentino Rodao** (Madrid: CSIC, 1997), 3366 ptas. (approx. US\$23).

Instrumentos de navegación del mediterráneo al Pacífico [Navigation Instruments. From the Mediterrean to the Pacific], by **Manuel Sellés** (Barcelona: CSIC, 1994), 9471 ptas. (approx. US\$65).

Crónica de una expedición romántica al Nuevo Mundo. La Comisión Científica del Pacífico [Chronicle of a Romantic Expedition to the New World. The Pacific Scientific Commission], by **Miguel Angel Puig-Samper** (Madrid: CSIC, 1988), 3000 ptas. (approx. US\$20).

Sínodo de Manila (1582) [Manila's Catholic Synod (1582)], by **Domingo de Salazar**, introduction, notes by **J. L. Porras** (Madrid: CSIC, 1988), 2500 ptas. (approx. US\$17).

La armada del Mar del Sur [South Seas Armada] by **Pablo E. Pérez-Mallaina** and **Bibiano Torres Ramirez** (Sevilla: Escuela de Estudios Hispano-Americanos, CSIC, 1987), 2500 ptas. (approx. US\$17).

Filipinas durante el gobierno de Manrique de Lara (1653-1663) [The Philippines during the Manrique de Lara Government (1653-1663)] by **Ana María Prieto Lucena** (Sevilla: Escuela de Estudios Hispano-Americanos, CSIC, 1984), 900 ptas. (approx. US\$6).

Conquista de las Islas Filipinas (1565-1615) [The Philippines Islands Conquest (1565-1615)], by **Gaspar de San Agustín** (Madrid: CSIC, 1975), 2000 ptas. (approx. US\$13).

El Marques de Ovando, Gobernador de Filipinas [The Marquis of Ovando, Philippines Governor], by **Javier Ortiz de la Tabla** (Sevilla: Escuela de Estudios Hispano-Americanos, CSIC, 1974), 500 ptas. (approx. US\$3.50).

Arquitectura Española en Filipinas (1565-1800) [Spanish Architecture in the Philippines (1565-1800)] by **María Lourdes Díaz Trechuelo Spinola** (Sevilla: Escuela de Estudios Hispano-Americanos, 1959), 3200 ptas. (approx. US\$22).

Those interested in these publications please write or fax to:

Departamento de Publicaciones, CSIC

c/Vitrubio, 8

28006 Madrid

Spain

Fax: 34-1 562-96 34

Reference Center, Fundación Histórica Tavera

Established as a branch of the Fundación Mapfre America, which published the *Colecciones Mapfre 1492* series, the Fundación Histórica Tavera's main interests are Iberian-American, Portuguese and Spanish histories.

This private cultural foundation's concerns in providing historians access to "reference guides" and other descriptive sources have led it to issue a joint edition of the *Handbook of Latin American Studies*, HLAS/CD (1963-94) in CD-ROM format as well as other catalogues and periodicals.

The Reference Center is at the core of the Tavera Historical Foundation. Its main goal is to carry out projects devoted to locate, organize and spread Iberian American history reference information. Since its beginning five years ago, the Center's only activity is focused on all kinds of descriptive instruments of manuscripts' sources of Iberian-American interests (i.e., guías, catálogos, guides, catalogues, roteiros, calendars, checklists, etc.). The following describes two areas of interest:

The edition of: *Fuentes manuscritas para la historia de Iberoamérica. Guía de Instrumentos de Investigación* (1995) [Iberian-American History Manuscript Sources. A Research Instruments Guide]. The book contains over 3700 references collected around the world (Australia and the Philippines are included). In 1997, a *Suplemento* [Supplement] was published which adds 1300 new references.

A Reference Library whose primary aim is to obtain and store all the material located and referred to in the published book and supplement. The Library contains 3000 titles and is open to researchers. Some material is unpublished and has been generously provided by the institutions they describe.

In 1996 a similar program was begun in Portugal. Its goal is to collect information and any material related with descriptive instruments to research on Portuguese history and its overseas expansion. 700 references have already been processed and 200 have been collected and are in our Central Library. Additional information may be obtained from:

Ignacio González Casasnovas

Director

Centro de Referencias – Fundación Histórica Tavera

c/ Duque de Medinaceli, 12. 1 Dcha.

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COUNTRY REPORT: PAPUA NEW GUINEA

by **Vassiliki Betty Smocovitis**

Dept. of History, University of Florida,
Gainesville, FL 32611

One of the most popular tropical field stations in the world abruptly closed its doors to researchers last December. Located near the city of Madang in Papua New Guinea, the Christiansen Research Center (CRI) was uniquely situated near a superb coral reef formation and Kau, a unique lowland rainforest actively protected by PNG locals. Since the 1980s when it was founded through the efforts of **Diane Christiansen**, a PNG art specialist, and the Christiansen Foundation, CRI offered laboratories and comfortable housing for scores of biologists studying some of the most species-rich marine and terrestrial environments in the world.

With little notice, CRI shut down its operations in December 1997 in what is being described as a "management dispute" between the Palo Alto-based Christiansen Foundation and the PNG-based management of CRI. Although the exact nature of the dispute remains far from clear, it appears to involve a serious disagreement on the extent to which CRI would continue to serve as an international scientific research facility and the extent to which it would also serve as the locus for PNG conservation and education efforts. The conflict has led to a questioning of the tax-exempt status of CRI and the managerial style of U.S.-trained entomologist, **Larry Orsack**, a former director of CRI, who favored involving PNG workers in future management operations.

The closure of the field station stunned tropical biologists, many of whose research projects are seriously jeopardized by the decision. Tragically, the shutdown also meant the end of the major field site in PNG. News of the event even made it to *Science*, which featured a prominent article on the shutdown (see Jeffrey Mervis, "Management Dispute Shuttters Tropical Research Institute," "News" article, *Science*, January 9, 1998, pages 172-174).



CONFERENCE REPORTS

Japan: "Science and Society—Technological Turn"

by **Hideto Nakajima**

The conference, "Science, Technology and Society: Science and Society—Technological Turn" was the first international conference on STS in East Asia. It was held in Tokyo (Makuhari Messe, 16-18 March), Hiroshima (International Conference Center, 20 March) and Kyoto (Keihanna Plaza, 21-22 March 1998).

The conference was aimed at promoting international collaborations in STS, and also at showing the presence of the Japanese STS community to the world. In Japan, STS research and education became visible from around 1990. This resulted in the inauguration of an STS International Conference Organizing Committee chaired by Prof. **Yoichiro P. Murakami**, Deputy Chair of the Committee of Science and Technology Policy, OECD. The Organizing Committee consisted of about 40 leading Japanese STS researchers. Official support and assistance were given by the Japan Federation of Engineering Societies, Science and Technology Agency of the Japanese Government, Japan Society for the Promotion of Science, STS Network Japan, Japan Association for Science, Technology and Society, and others.

In total, 372 colleagues attended the conference including 127 from overseas. There were some 230 presentations. To our amazement, 130 of them were delivered by non-Japanese researchers. They came from 32 countries, including the USA (32 delegates), Sweden (13), UK (10), Germany (8), etc. The scope of topics was very wide, and almost all subjects of STS were discussed: history, philosophy and sociology of science and technology, science and technology policy and management, STS education, social construction of science and technology, the Government-University-Industry complex, science and technology in former socialist countries, and so on.

The Organizing Committee hosted three official symposia. In Tokyo, the topic of the main symposium was STS in the 21st century. In Hiroshima, we held a public symposium titled "Mode Shift from Cold War to Post-Cold War Sciences: Messages toward the 21st Century from Hiroshima." This symposium took place in the Peace Memorial Park where the A-Bomb exploded in 1945, and focused on the analysis of cold war science. The results of the consensus conference on gene therapy were reported at a Kyoto sym-

posium. This was the first consensus conference in Japan, and it attracted wide attention from Japanese press.

The conference ended with a fruitful technical visit to leading Japanese research institutes and small firms. The level of discussion of symposia and academic sessions was very high, partly because of the enthusiasm of our attendants, and partly because of the active work of invited speakers. This reporter would like to close this article citing their names to show our special thanks to them: **Michel Callon** (CSI, Paris), **Sheila Jasanoff** (Cornell University), **Deepak Kumar** (NISTAD, India), **Morris Low** (ANU, Canberra), **Brian Martin** (University of Wollongong), **Arie Rip** (University of Twente), **Rustum Roy** (Penn. State University), **Song Sang-Yong** (Hallym University, Korea), **Robert Yager** (University of Iowa), **Loet Leydesdorff** (University of Amsterdam), **Steve Fuller** (University of Durham), and **Londa Shiebinger** (Penn. State University).

A book of abstracts is available at 5000¥ including postal charge. Please send your email order to:

nakajima@hss.titech.ac.jp or sts@kob.is.uec.ac.jp

(Prof. Hideto Nakajima, Tokyo Institute of Technology, The Program Chair of the International Conference)

London: "Science & Exploration" by Fritz Rehbock

"Science and Exploration: European Voyages to the Southern Oceans in the 18th Century," was the topic of a two-day conference (17-18 September 1997) held at the Royal Society. The cast of speakers was truly international and represented many disciplines: anthropology, astronomy and botany, as well as history. Welcoming remarks were delivered by **Stephen Cox**, executive secretary of the Royal Society, to an audience of nearly 200 registered delegates.

Glyndwr Williams (University of London) opened the conference with a paper entitled "The *Endeavour* Voyage: A Coincidence of Motives." Too little is known about the origins of Cook's first voyage, he argued—its motives, destinations, the selection of personnel and ship—all of which were settled upon quite late in the planning.

Alan Frost (LaTrobe University) followed with "Lifting the Spanish Yoke: British Schemes to Liberate Spain's American Colonies, 1740-1808." Schemes, by Dalrymple and others, to establish a British trading system in

the Pacific after Cook were discussed, and connections were made to the free-trade ideology of Adam Smith's *Wealth of Nations*. All such plans failed, however, until the 19th century.

John Gascoigne (University of New South Wales), in "Banks and the Expansion of Empire," stressed that private individuals could be more influential than the government in setting 18th-century Pacific strategy. Working through the London Missionary Society and the African Society, Banks wielded power widely while the Colonial Office sought to avoid expansion of its role.

Wayne Orchiston (Carter Observatory, Wellington) directed attention to the astronomical impetus in "From the South Seas to the Sun: The Astronomy of Cook's Voyages." He outlined the goals and accomplishments of the astronomers on each of Cook's voyages: Charles Green, William Wales, William Bailey and James King.

Donald Cutter (University of New Mexico) narrated the origins and course of the Malaspina expedition (1789-1794), in "Malaspina and the Shrinking Spanish Lake." Malaspina hoped to re-establish Spanish domination of the Pacific, but the expedition convinced him of the impossibility of dislodging non-Spaniards from the region.

Nigel Rigby (National Maritime Museum) addressed the problems of botanical empire-building in "The Politics and Pragmatics of Shipboard Transportation of Botanical Specimens." For its goal of planting British seeds in Tahiti, the *Endeavour* was viewed as a floating garden, a botanical Noah's Ark. But seeds often did not survive their voyages; this was found to depend on the length of the voyage and the latitudes encountered, as well as the care given them on board.

Martin Sands (Royal Botanic Gardens, Kew) brought the botanical theme up to date in "A Modern Perspective on the Botanical Collections of the Cook Voyages." Recent collecting efforts in Irian Jaya, Borneo and Brunei were described, with species numbers being increased substantially through the use of native collectors.

On the second day, discussions turned to anthropological themes. Leading off, **Peter Gathercole** (Cambridge University) spoke on "The Significance of the Earl of Sandwich's Collection of Polynesian and Other Artifacts from the *Endeavour's* Voyage." In describing how artifacts of Pacific cultures came to belong to the cataloging culture of Cambridge, he emphasized how "history" differs from "heritage"—what happened vs. what we would like to have happened, what it is convenient or comfortable to imagine having happened.

David Turnbull (Deakin University) compared European and Polynesian mapping skills in "Indigenous Maps in the Encounter between Knowledge Traditions: Understanding What Happened When Cook Met Tupaia." Cook was puzzled about how Polynesians had managed to spread throughout the Pacific, but he never asked Tupaia how he navigated nor did he ever sail in canoes to see how natives navigated.

Neil Rennie (University College London) next examined "The Point Venus 'Scene'"—the occurrence of a Tahitian sexual act during a divine service—comparing Cook's account with the edited version published by Hawksworth. The latter aroused outrage among the English (though not among the French) over the "unnatural" absence of shame among Tahitians.

Rod Edmond (University of Kent at Canterbury) explored "The Missionary as Ethnographer: William Ellis and *Polynesian Researches* (1829)." In his two-volume study of Huahine, Ellis found much to applaud among the natives who were more religious than their British countrymen at times. When missionaries learned Polynesian languages, they discovered the Polynesians had a *culture* of their own, one that should be distinguished from native cultures elsewhere in the world.

Jocelyn Linnekin (University of Connecticut) looked at the overused but unavoidable "status of women" concept in "Encounters on the Beach: Island Women and Foreign Men in the Age of Exploration." She compared Cook's experience in Hawaii with that of La Perouse in Samoa. In Hawaii, more important than the question of female autonomy was position in a social hierarchy based on closeness to the divine.

Jackie Huggins (freelance historian, Brisbane) discussed the 18th-century European sense of a "scale of humanity" and its influence upon perceptions of the Aborigines, in her talk "Cook and the New Anthropology." Because the Aboriginal population was so sparse and seemed to lack social structure and organization, Banks and others felt there was no need to negotiate with them over lands. This is the origin of the current ideology of the "stolen generations."

Ngahuai Te Awebotuku (Victoria University of Wellington) completed the presentations with "Maori Material Overseas: Who Gave What to Whom, and Who Simply Took Them? Notions of Selectivity and Transformation in Pre-Treaty Collections." She described the feelings—sadness, anger, curiosity—aroused in native curators by the examination of Maori collections in European and American museums, and she outlined a strategy for dealing with the multitude of questions raised by these collections.

Glyndwr Williams provided the closing remarks for this illuminating conference. He applauded the increase of interdisciplinarity and expansion of themes in the numerous Pacific conferences of the past two decades. But for all the attention given to the region by scholars there remains a dearth of material for the general reader.

California: West Coast History of Science Society
by **Anita Guerinni**

The West Coast History of Science Society met on May 2-3, 1998 at Morro Bay, California where, amazingly, it did not rain for two days straight. Papers ran the gamut of the theme "The Environment," ranging from the architecture of seventeenth-century gardens to the Gaia hypothesis. Key-note speaker was **Carolyn Merchant** (UC-Berkeley), whose topic was "Green Versus Gold: The Environment and the Sesquicentennial of the California Gold Rush." The prize for best graduate student paper was won by **Margaret Garber** (UC-San Diego), for her paper "Reproducing Nature: The Prismatic Color Trials of Marcus Marci von Kronland."

The next meeting will be held in Santa Barbara in April 1999. For further information about the meeting, contact the program chair, Anita Guerrini (UC-Santa Barbara):

Email: guerrini@humanitas.ucsb.edu

For membership information, contact Mark Hinline (UC-San Diego):

Email: hinline@helix.ucsd.edu

OTHER RECENT CONFERENCES

8-12 April 1998. The **North American Society for Oceanic Study** held its annual meeting at the San Diego Maritime Museum, San Diego, California. Topics were to include: the History of Pacific Ocean Trade; Deep Sea and Coastal Fisheries; Voyages of Exploration, Demographic Migration, and Naval Warfare, particularly the Spanish-American War; the History of Polynesian seafaring relating to the Hawaiian Islands; the Development of the Science of Oceanography; Literature of the Sea; and Underwater Archaeology. Inquiries:

Dr. William S. Dudley, NASOH Program Chair
Naval Historical Center
901 M Street SE

Washington Navy Yard
Washington, D.C. 20374-5060 USA
Fax: (202) 433-3593

16-18 April 1998. The **Centre for Asia-Pacific Initiatives** hosted a conference on Asian Pop Culture at the University of Victoria, Victoria, British Columbia. Topics to be covered include: Shanghai between the Wars; Malaysian "Modernity;" Wartime Images; Creating Popular Culture in Hong Kong; Posthumous Chinese Communist Icons; Internationalizing Taiwan; Pop Culture and Government Control; East Meets West; Sumo, by Mina Hall; Martial Arts for a New Age; Popular Religion; Popular Music; Traditional and Modern Japan; Chinese Popular Culture; Traditional Forms in Modern Settings; Cross-Border Influence/Cultural Invasions; Writing from the Asian Diaspora; New Perspectives on Visual Arts; Comics and Animation; and New Asian Literature. Inquiries:

Centre for Asia-Pacific Initiatives
Attention: Pop Culture
Begbie Building, University of Victoria
Box 1700 STN CSC
Victoria, BC V8W 2Y2 Canada
Tel.: (250) 721-7022
Fax: (205) 721-3107
Email: rmm@uvic.ca
Web: <http://web.uvic.ca/hrd/capipopcult>

24-26 April 1998. The **John Muir Center for Regional Studies** sponsored a "Pacific Centuries" conference at the University of the Pacific in Stockton, California. This multidisciplinary event focused on human and environmental relationships across and within the Pacific Ocean over the last five centuries. The organizers encouraged academics of all disciplines to gain a better understanding of the evolution of both trans-Pacific and intra-Pacific relationships, with trade and commerce only one component of a long-term international exchange involving continents and islands touched by the Pacific Ocean. Inquiries:

Pacific Centuries Program Committee
c/o Professor Dennis O. Flynn, Chair
Department of Economics
University of the Pacific
Stockton, CA 95211 USA
Phone/Fax: (209) 946-2913
Email: doflynn@uop.edu

FUTURE CONFERENCES & CALLS FOR PAPERS

11-14 June 1998. For its meeting at Rietaku University, Kashiwa City, Chiba Prefecture, Japan, the **International Society for the Comparative Study of Civilizations** invites papers, panels, roundtables, and workshops on the processes, structures, and texts of past and present civilizations; and on the theories and methods conducive to civilizational studies; as well as on its 1998 special theme: The Emergence of the Pacific Rim Civilizations?

The ISCSC seeks to provide a forum for scholarly inquiry and exchange of ideas along a number of lines: the comparison of whole civilizations; the development of theories or methods especially useful in comparative civilizational studies; significant issues in the humanities or the social sciences studied from a comparative civilizational perspective; specific comparisons across cultural axes; interdisciplinary and other approaches to issues in civilizational studies. The "Comparative Civilizational Perspective" which the Society advocates is designed to shed new light either on the processes, structures and texts of single civilizations or on the problems of interpreting and comparing civilizations with methods from both the humanities and the social sciences. Inquiries:

Dr. Midori Yamanouchi Rynn

ISCSC 1998 Program Chair

Department of Sociology

University of Scranton

Scranton, PA 18510-4605 USA

Phone: (717) 941-6137

Fax: (717) 941-6367

Home phone & fax: (717) 689-4401

Email: (c/o Dept. secretary) lestanskyj1@lion.uofs.edu

19-22 June 1998. The World History Teaching Network will be holding a conference entitled "**World History: Teaching for the 21st Century**" at Colorado State University in Fort Collins. Those interested may also register for a two-day program entitled "Writing and Implementing a Course of Study in World History" on June 21 and 22, upon completion of which, participants will be eligible to receive 3 graduate credits. For conference registration:

Office of Conference Services

Colorado State University

Fort Collins, CO 80523 USA

Tel.: (970) 491-7501

Fax: (970) 491-3568

For the class:

Marilynn Hitchens

720 Josephine

Denver, CO 80206 USA

or

Email: Heidi Roupp,

roupp@csn.net

22-24 June 1998. The **National Endowment for the Humanities Summer Institute** is holding a seminar for historians who wish to develop a deeper understanding of world history and environmental history from 1500 to the present. Inquiries:

Edmund Burke, III

Merrill College

University of California, Santa Cruz

1156 High Street

Santa Cruz, CA 95064 USA

Tel.: (408) 459-2287

Fax: (408) 459-3125

Email: wldhist@hum.ucsc.edu

7-10 July 1998. The **12th Pacific History Association Conference** will be held in Honiara, Solomon Islands. Panel topics will cover: Participatory Approaches to Island Planning, the Pacific War, 19th Century New Caledonia, the Forest History of Melanesia, Women's Social Movements and the State in the SW Pacific, Pacific Histories, Administrative History in Melanesia and the Solomon Islands, Photography and Imaging in Oceania, Racialized Genealogies in Decolonizing Nations and Postcolonial States, Intellectual and Cultural Property Rights for Indigenous/Native Peoples, and Transnationalism in Oceania. Inquiries:

Max Quanchi

Queensland University of Technology

Beams Road

Carseldine, Queensland, Australia 4034

Fax: 61-7-38644719

Email: m.quanchi@qut.edu.au

19-23 August 1998. The Second International Conference on **"Problems in the Historiography of Recent Science, Technology and Medicine"** at

Roskilde University (Denmark). The history of recent science, technology and medicine (STM) is a rapidly expanding and highly cross-disciplinary area that engages scholars in fields such as philosophy of science, sociology of STM, social studies of scientific knowledge (SSK), and general history of science, technology and medicine itself. The area also attracts a growing number of science journalists, and has the attention of practicing scientists.

The first international conference devoted to problems in the historiography of recent STM was organized in Gothenburg, Sweden in 1994 (see *The Historiography of Contemporary Science and Technology*, T. Soderqvist, ed., Amsterdam: Harwood, 1997). In the interim a number of new and important works in the history of recent STM have appeared, and new (sometimes fierce) discussions have taken place.

The aim of this three-day second international conference is to address problems such as: How do different theoretical perspectives (sociological, philosophical, biographical, ethnographic, historical, economic, etc.) contribute to the historiography of STM? How do the new information and communication technologies affect the research and writing of the history of STM? How does the growing complexity of recent technoscience place demands on our historiographical tools? And, conversely, how can we engage scientists, engineers and medics to participate positively in writing the history of recent and contemporary STM, given the increasing complexity of the historiographical tools we use? Given the tremendous amount of recent archival information (paper and electronic), how can one secure what is historically relevant and make it available to historians? What issues arise from the differences in perspective of all those with interests in the history of recent and contemporary STM (scientists, historians, sociologists, journalists, policy-analysts, policy-makers, the public), and how can we deal with them? Do the similarities between recent science, technology and biomedicine warrant a unified approach signaled by the term "technoscience"? What can/should science journalism and the development of oral history contribute to the history of recent STM? What consequences do historical studies of contemporary and recent STM have for researchers' practice and for the public perception of science, technology and biomedicine? Can the study of recent history of STM be used to give qualified predictions for future scientific and technological developments?

This being a working conference, the number of participants is limited to around 35. Inquiries:

Thomas Soderqvist

Division of Philosophy and Theory of Science

Department of Communication
Roskilde University
P.O.Box 260
DK-4000 Roskilde, Denmark
Email: thomass@ruc.dk

23-28 August 1998. The 8th International Conference on the History of Science in China: China and the West will take place at the Berlin University of Technology. Symposium sessions will include: transmission and diffusion of technology between China and the West, cross-cultural comparisons in technology, science and bureaucracy, new research areas in the history of Chinese science, technology and medicine, and the 2nd International Symposium on Ancient Chinese Books and Records on Science and Technology. Inquiries:

Welf H. Schnell
Technische Universität Berlin
Institut für Philosophie, Sekr 14-7
Ernst-Reuter-Platz 7
10587 Berlin, Germany
Tel.: +49 30 314 23786
Fax: +49 30 314 23296 or 25962
Email: 8thichsc@server.kgw.tu-berlin.de

15-16 September 1998. A conference on “Plural Medicine—Orthodox and Heterodox Medicine in Western and Colonial Countries during the 19th and 20th Centuries” will be held at the University of Southampton. This conference is organized by the Society for the Social History of Medicine and is partly funded by the Wellcome Trust. It aims at bringing together medical historians working on colonial medicine and heterodox medicine in Britain. It is intended to facilitate discussion and exchange of ideas on themes such as the marginalization of heterodoxies/indigenous ways of healing; on how certain medical practices (such as homeopathy, or mesmerism, for example) developed as heterodoxies in Britain, yet as (one) part of “mainstream colonial medicine” in the colonies; and on whether it is appropriate to talk of global biomedical expansion solely in terms of biomedical “dominance” and “power.”

The conference is also intended to bridge the gap between historians of medicine and social scientists. It is assumed that medical anthropologists and sociologists will benefit from detailed historical analyses, whilst medi-

cal historians may derive new insights and theoretical challenges from the major conceptual concerns of contemporary social scientists.

The discussion will focus on the nineteenth and twentieth centuries. This will enable consideration of "indigenous" and "alternative" medicine to be carried well into recent times. The conference will take Britain and her former colonies (especially in South Asia and the Pacific) as the main areas for analysis. Research into "colonial" or "imperial" medicine has made considerable progress in recent years, while the study of what is usually referred to as "indigenous" or "folk" medicine in colonized societies has received much less thorough attention. At best "indigenous" medicine is looked at as the "other" or the opposite of Western medicine, in terms of its traditional values (vs. modern science), its naivete and barbarism (vs. sophistication and progress) and its holistic basis (vs bio-medical individualism). Yet such categorization may be derogatory, and does not do justice to the complex and problematic nature of both "indigenous" and "Western" medicine, for a number of reasons:

First, "indigenous" medicine is presented as monolithic, traditional and never-changing, and its historical dynamics and cultural diversity are ignored. It is necessary to investigate to what extent "indigenous" medicine in any one place and colonial period is more adequately described as a multitude of beliefs and practices which may be based on a variety of written or oral traditions, subject to continual change and adaptation.

Second, although "Western" medicine within colonial settings has received much critical attention from historians due to its role in legitimating colonial rule, and its highly dynamic, progressive, if not aggressive, character, it is also constructed as a homogenous entity. Yet, Western medicine, too, even if "medical" is habitually coupled with "system" in most historical writing, was (is) far from monolithic. "Orthodox" Western medicine emerged as only one of various strands of medical practice, with continuous shifts and fluctuations occurring between various "orthodox" and "heterodox" practices.

Third, unlike the global dispersal of Western biomedicine, "indigenous" medicine is seen as culturally and spatially specific, and thus as devoid of any global dimension. Yet a focus on the parallels and overlaps between various strands of "indigenous" medicine in different colonial settings highlights not only the global spread and similarity of some elements of "indigenous" medicine, but also makes it more appropriate to think of Western biomedicine as only one among a variety of medical practices.

Fourth, the contrasting of “indigenous” / “heterodox” with “Western” / “orthodox” medicine does not elucidate the underlying dynamics which lead to the perceived marginalization of “indigenous” medicine in recent colonial countries and of “heterodox” or “alternative” medicine in Britain itself. The perceived “rise in alternative medicine” in Britain and the flourishing of various “indigenous” healing practices in former colonies attest to their strength, if not power, alongside (rather than only in opposition to) Western biomedicine. We need to investigate further the complex factors involved in these phenomena—not only in terms of biomedical dominance and colonial power relationships but in regard to processes of resistance, adaptation, integration and cross-fertilization between different modes of medicine.

Speakers will include: **Charles Leslie** (USA): “The Limits of Hegemony: Medical Pluralism in Historical Perspective”; **Gunnar Stollberg** (Bielefeld): “Globalisation as Hybridisation of Knowledge Systems: Heterodox Medicine in Germany as a Signature of the Development of World Society”; **Kate Reed** (Southampton): “Syncretic Beliefs, Symbolic Behaviours: The Health Beliefs and Behaviours of Asian Women Born to Two Host Societies (UK and USA)”; **Volker Scheid** (Cambridge): “The Many Faces of Teaching Chinese Medicine: A Case Study from Contemporary China”; **Rey Tiquia** (Melbourne): “Connecting Traditional Chinese Medicine and Western Scientific Medicine in Australia”; **Volker Roelcke** (Bonn): “Between Archives and Possession States: on the History and Sociology of Medical Pluralism in Southern Tanzania”; **Tricia Laing** (Wellington): “Spirituality in Aotearoa/New Zealand: Representations at the Intersection of the History Of Colonial Medicine and the Anthropology of Indigenous Healing”; **Harriet Deacon** (Cape Town): “Traditional Indigenous Healers, Settler Folk Medicine and Biomedicine in the Western Cape”; **Waltraud Ernst** (Southampton): “Mesmerism in British India—Orthodox, Heterodox or Indigenous?”; **Sumit Sarkar** (Delhi) and **David Arnold** (SOAS): “Homeopathy in Bengal”; **Poornima Sardesai** (Tirupathi): “Indigenous Medicine in India”; **Robert Johnston** (Yale): “Who is the Other? Anti-vaccinationism, North-American Populism, and Anti-Colonial Resistance”; **James Bradley** (Glasgow): “Medicine on The Margins: Hydropathy in Britain, 1840-1860”; **Darshan Shankar** (Bangalore): “The Revitalization of Indigenous Health Cultures in India.”

Conference bookings should arrive no later than 30 June. However, you are advised to register early, as the conference venue can only accommodate a maximum of 75 participants. Inquiries:

Waltraud Ernst
 Department of Sociology and Social Policy
 University of Southampton
 Southampton SO17 1BJ UK
 Tel: 01703-594857
 Fax: 01703-592558
 Email: WER@soton.ac.uk

17-19 September 1998. The **5th International Conference on Public Communication of Science & Technology**, on the theme "Science Without Frontiers: Wissenschaft—Medien—Oeffentlichkeit," will be held in Berlin, Germany. Languages will be English and German.

Program Topics. The following themes will be filled in with papers and/or workshops.

- The image of science and scientists
 - From Einstein to Frankenstein
 - Changing images of scientists
 - Science and cinema
 - Science and fiction
- The future of science communication
 - Trends in science communication—Where do we go from here?
 - Science in the public eye—Visions for the 21st century
 - Trends in the research of science communication
- Science communication on a regional basis
 - Science communication in Eastern Europe
 - Science communication on the European scale
 - Focus on Asia-Pacific
 - Focus on Latin America (ibero-america)
 - Focus on South Africa
- Training in science communication
 - The teaching of science communication
 - Communication skills training for scientists
- Science in the media
 - Out of the ghetto
 - From the screen to the street
 - Science in the media (ISME-Workshop)
 - Online-journalism
 - Knowledge on Line
- The promotion of science

Selling science

How to reach the audience?

From science communication to public understanding of science

Promotion versus critique of science

- Public responsibility in science communication

Public health and public science communication

Communication of science and development

Environment, risk and economic development

- Science promotion

Science centers

Science museums

Science PR by industries

Science PR by research institutes

The conference will include a meeting of the PCST scientific committee, of the International Science Writers Association and other international and national groups.

The deadline for applications for papers and abstracts: 15 March 1998. In May a preliminary schedule will be circulated. Complete texts of papers are due in July. Further information is available by subscribing to the PCST-List at Cornell University. To subscribe, send the following command via electronic mail to *listproc@cornell.edu*:

subscribe PCST-L firstname lastname

where "firstname" is your firstname and so on. You will also find all our latest news at our website: *www.kommwiss.fu-berlin.de/pcst98*

Conference Office:

c/o Prof. Winfried Goepfert

Freie Universität Berlin

Institut f. Publizistik/Wissenschaftsjournalismus

Malteserstr. 74-100

D-12249 Berlin, Germany

Phone: +49 30 7792-300

Fax: +49 30 776-2149

Email: *wissjour@zedat.fu-berlin.de*

21-25 October 1998. The annual meeting of the **History of Science Society** will take place this year in Kansas City, concurrently with the Philosophy of Science Association. Program co-chairs are Mordechai Feingold (VPI&SU) and Diana Barkan (Caltech). Paper and session proposals were due by 1 April. Travel grants for graduate students and independent schol-

ars are available. Applications for grants must be submitted by 5 June. Registration may be done electronically through the HSS website:

<http://weber.u.washington.edu/~hssexec/>

23-25 October 1998. The University of Victoria will host a multidisciplinary conference on **"Making History, Constructing 'Race': Situating 'Race' in Time, Space and Theory."** The organizers invited proposals for papers, panels, roundtables, and workshops on the following themes:

- Artist(ic)s of "Race"
- "Race," Text, History
- Racialised Sexualities, Sexualized Racialisms
- In Theory: "Race" in Thought and Criticism
- Constructing Identities: "Race," Nation, Class
- Continuing Colonialisms: "Race" and Indigenous Peoples in the "Post-Colonial" World
- Strange Fruit: "Race" and Violence, Past and Present
- "Race," Policy and the State
- Strangers at Our Gates: Racism, Citizenship and Immigration
- Saving the Earth? "Race" and Environment—Racialisms and Environmentalisms
- A Global Village? Globalisation and New Racialisms
- Beyond Words: Strategizing Activism in Anti-Racism
- Administering Tolerance?: Racialisms, Multiculturalism, Tolerance and Anti-Racism
- Breaking Barriers: Overcoming Racialisms in the Past, Present and Future
- Tolerating the Intolerant: White Supremacy in "Multicultural" Societies

Both creative interpretation of the themes and innovative approaches to their presentation are encouraged. Presenters are invited to approach the themes from theoretical, critical, and/or empirical perspectives and with special attention to intersections and ambiguities between race and other markers, such as gender, class and sexuality. We particularly hope to foster comparative discussions which take into account the diverse experiences of countries around the world. The intention is to provide a less formal setting for a creative and reflexive exchange of ideas, opinions, and experiences among the participants. Inquiries:

Making History, Constructing Race Conference
Department of History

University of Victoria

P.O. Box 3045

Victoria, B.C., Canada V8W 3P4

Fax: +1 (250) 721-8772

Email: pahonen@uvic.ca (<mailto:pahonen@uvic.ca>)

Web: <http://web.uvic.ca/~pahonen/MRCH.html>

14-16 April 1999. "Drawing from Nature: Art and Illustration in the Natural History Sciences" will be the theme of the **12th International Conference of the Society for the History of Natural History**, to be held at The Natural History Museum, London. Topics to be addressed:

- "Why Illustrate?"—examining the role of illustration, how it has been integrated with text and "non-illustration"
- "Authors and Illustrators"—the relationship between authors, artist/illustrators and engravers, including the relevance of techniques of illustration
- "From Picture to Diagram"—the form illustration has taken, ranging from realism to the representational to the diagrammatic
- "Museums on Paper"—the background and function of paper museums.

The Natural History Museum Library is planning several exhibitions to complement the conference. Excursions to view the collections of other institutions will be arranged for 17 April. The Ramsbottom Lecture will be delivered by Professor Martin Kemp, University of Oxford. Inquiries to the Conference Secretary:

Paul Cooper

Zoology Library

The Natural History Museum

Cromwell Road

London SW7 5BD UK

Phone: 0171-938-9367

Fax: 0171 938-9290

Email: p.cooper@nhm.ac.uk

4-9 July 1999. The **XIX Pacific Science Congress** will be held on the campus of the University of New South Wales, Sydney, by the Pacific Science Association. Themes being developed for the conference include:

- Public Health in the Asia Pacific Region
- Communications in the 21st Century

- Natural Disaster Mitigation
- Environmental Impact of Urban Development
- Interface between Indigenous Peoples and Science
- Asia Pacific Ecosystems, and
- Biodiversity in the Pacific Region.

Other topics under consideration are: Women in Science and Development, Energy, Coral Reefs, Water Resources, and Fisheries Management.

Inquiries:

XIX Pacific Science Congress Secretariat
GPO Box 2609
Sydney NSW 2001 Australia

1-7 August 1999. The **XVI International Botanical Congress** will meet in Saint Louis, Missouri to discuss new research in the plant sciences. This interdisciplinary gathering only occurs every six years. The XVI IBC is held under the auspices of the International Union of Biological Sciences (IUBS), most recently through the International Association of Botanical and Mycological Societies (IAMBMS) of the IUBS. The increasing knowledge about plants—their history, growth, uses, interactions with other organisms, and roles in the ecosystem—is becoming progressively more important to the stability and sustainability of the human endeavor and, indeed, of all life on Earth. More information, including a call for symposia, is available on the Web:

<http://www.ibc99.org/>

9-12 August 1999. ECLIPSE 99: Navigational Stimulus to the History of Science will be held at the University of Plymouth. This conference, which will coincide with the next total eclipse of the sun to be visible from England, will explore the impact of navigation on the history of science.

Inquiries:

P.A.H. Seymour
Institute of Marine Studies
University of Plymouth
Drake Circus
Plymouth, Devon PL4 8AA UK

16-19 September 1999. "On Time: History, Science, Commemoration," a conference marking the approach of the new millenium, will be held at the National Museums and Galleries on Merseyside, Liverpool. Cosponsors

are the British Society for the History of Science (BSHS), and the Royal Historical Society (RHS). Papers with a wide interest and historiographical scope are invited. Possible sessions include: Beginnings and Origins Stories, Commemoration, Maritime Time, Timetables and Technology, Workplaces and Time, Lifetimes and Servitude, Units of Time, Calendars, Time and Political Economies, Scientific Instruments and Time, Cultures of Time and Space, Religion and Time, Nostalgia, Rhythms and Cycles in the Natural Sciences, Evolution, Relativity, Anthropology and Time, Past-Futures, Ends of Time, and Immortality.

Roughly 30 minutes will be allowed for each paper chosen. Abstracts of 50-100 words should be sent before 1 September 1998 to either

Dr. William J. Ashworth (BSHS)

Dept. of Economic and Social History

University of Liverpool

11 Abercromby Square

Liverpool L69 3BX UK

or

Dr. Roland Quinault (RHS)

School of Historical, Philosophical and Contemporary Studies

Faculty of HTE

University of North London

166-220 Holloway Road

London N7 8DB UK

9-14 July 2001. The **XXI International Congress of History of Science** will be held in Mexico City, sponsored by the Mexican Society for the History of Science and Technology. Still in the planning stages, additional information will be relayed as it becomes available.

NEW PROGRAMS

SOAS Centre for the History and Culture of Medicine

A Centre for the History and Culture of Medicine is being established at the School of Oriental and African Studies, London. It seeks to promote the study of disease, medicine and related fields of science and technology in the context of Africa, Asia and other parts of the extra-European world through workshops, seminars, publications and as a base for relevant re-

search projects. The SOAS History Department has a longstanding interest in the history of disease and healing and has been the recipient of a number of Wellcome awards in recent years. Although based in the History Department, the Centre will also draw upon the area expertise of scholars in other SOAS fields, notably anthropology, religious studies, development studies, geography and languages.

The Centre will be chaired by Professor **David Arnold** and Professor **Shula Marks** with Dr. **Christopher Cullen** as Director of Research. Among others currently engaged on medical history research at SOAS are Dr. **Frank Dikotter**, Dr. **Bridie Andrews** and Dr. **Vijaya Deshpande**.

To inaugurate the new Centre, a mini-symposium on "Disease, Medicine and the Tropics" was held at SOAS on 5 November 1997. The speakers were:

Nancy Stepan (Oxford), "The Politics of Disease: Some Conceptual Issues in the Tropical Medicine of Latin America"

David Arnold (SOAS), "Environment, Disease and Gender: India's Place in the Tropical World"

Discussant: **Michael Worboys** (Sheffield Hallam University)

Chair: **Shula Marks** (SOAS)

For more information about the Centre, or to be included on its mailing list, please contact Christopher Cullen at: cc3@soas.ac.uk

Dr. Christopher Cullen

Senior Lecturer in the History of Chinese Science and Medicine

Department of History

School of Oriental and African Studies

Thornhaugh Street, Russell Square

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Phone: +44 (0)171 637 2388

Fax: +44 (0)171 436 3844

Web: <http://www.soas.ac.uk/Home/cc3/>

Hawaii Program in Marine Archeology and History

The University of Hawaii of Hawaii has recently instituted a graduate certificate program in Marine Archeology and History, the first such program in the U.S. to focus on the Pacific Ocean. Completion of the certificate requires a minimum of 20 credits, including 3 credits of World Maritime History. Field research and classroom exploration encompass such subjects as Polynesian voyaging, the Spanish galleon trade, whaling, maritime com-

merce, naval history, lighthouses, fisheries and seafood processing facilities, lifesaving stations, water-front preservation, traditional fishponds, cultural resources management, and Pacific, Asian and European explorers, as well as museums and public education programs. Inquiries:

University of Hawaii at Manoa

Marine Option Program

School of Ocean and Earth Science and Technology

1000 Pope Road, MSB 229

Honolulu, HI 96822 USA

Phone: (808) 956-8433

Fax: (808) 956-2417

Email: mop@hawaii.edu

Web: <http://www2.hawaii.edu/mop/>

Oregon Lecture Series

"The Arts and the Sciences: Interactions and Influences" is the theme of the 1997-1998 lecture series sponsored by the Thomas Hart and Mary Jones Horning Endowment in the Humanities at Oregon State University.

In 1959 the physicist and novelist C. P. Snow launched the phrase "the two cultures" in a lecture at Cambridge University. Since then, there has been much discussion of the notion that literary intellectuals and natural scientists face each other across a chasm of mutual incomprehension and distrust in the modern era. Yet, for all the fact that the arts and the sciences often are taught and practiced in separate facilities and institutions in the twentieth century, it was not always so. And there is much of art in the sciences and a great deal of science in art. This paradox is one of the key themes of the lecture series.

The series opened on October 17 with a lecture entitled "Doing Things," by **Jonathan Miller**, one of Great Britain's most acclaimed Renaissance men, a neuropsychologist, theatre and opera director, art historian, author and lecturer. Other speakers in the 1997-1998 series were **George Levine** (Rutgers University) on "The Science and the Art of Solipsism: Karl Pearson and Walter Pater" (5 February); **Elfrieda Hiebert** (Harvard University) on "Reflections on Helmholtz and the Practice of Music" (26 February); **Erwin N. Hiebert** (Harvard University) on "Helmholtz on Physics and Aesthetics" (27 February); **Paula Findlen** (Stanford University) on "Is a Crocodile a Work of Art? Seeing Objects in the Early Modern Cabinet of Curiosities" (6 March); **Barbara M. Stafford** (University of Chicago) on "Scientific

Necromancy, or the Art of Imposture" (23 April); and **Roald Hoffmann** (Cornell University) on "One Culture: The Commonalities (and the Differences) of Art and Science" (4 May).

Further information is available from the OSU History Department:

Phone: 541-737-3421

E-mail: MBethman@orst.edu.

BOOK NEWS

Pacific Empires: Essays in Honor of Glyndwr Williams

Edited by **Alan Frost** and **Jane Samson** and expected out from Melbourne University Press in 1999, this volume contains essays on exploration and empire in the 18th and 19th centuries written by colleagues and former students of Glyn Williams. Authors include: **Christon I. Archer** on Spanish northwest coast voyages and smallpox epidemics; **William Barr** on George Ford's journal of HMS *Investigator* in the Arctic; **Andrew Cook** on Alexander Dalrymple and the Hydrographic Office in Britain; **Greg Dening** on laughter, theatre and culture contact in Tahiti; **Robin Fisher** on George Vancouver, Hawaiians and northwest coast peoples; **Alan Frost** on British plans to undermine Spain in the Pacific; **Roger Knight** on John Lort Stokes and the New Zealand survey; **David Mackay** on the historiography of Captain Cook; **P. J. Marshall** on *The Great Map of Mankind* revisited; **A. N. Porter** on William Ellis and Anglo-American missionary connections; **Jane Samson** on the imperialism of HMS *Herald's* north Pacific survey; **Sylvia Van Kirk** on native wives and daughters in the Vancouver Island colony; and **Glyndwr Williams'** Caird Medal Lecture on Pacific exploration in the 18th century. Introduction by Frost and Samson; afterword by **Deryck Schreuder**; bibliography of Glyndwr Williams.

Ferdinand von Mueller Project

The first volume (1840-1859) of the *Selected Correspondence of Ferdinand von Mueller* was published in 1997, and the second (1860-1875) is scheduled to appear this year. The Life and Letters of Ferdinand von Mueller Project will eventually issue: three volumes of *Selected Correspondence*; a fully searchable CD-ROM of the complete surviving correspondence (approximately 12,000 letters); and a one-volume biography, *The Botanical Baron: Ferdinand von Mueller, 1825-1896*. Editors for the von Mueller project are: **R.W. Home**, **A.M. Lucas**, **Sara Maroske**,

D.M. Sinkora and J.H. Voigt. The publisher is Peter Lang Verlag (Web: <http://www.peterlang.ch>).

Science in 19th-Century Australia

Historical Records of Australian Science, vol. 11, no. 3 contains the selected proceedings of the 1996 Commemorative Conference, *The Scientific Savant in Nineteenth-Century Australia*, edited by **Rod Home**. It was published by the Australian Academy of Science, and may be obtained from the Royal Botanic Gardens, South Yarra, Victoria (Email: library@rbgmelb.org.au).

Contents: **Lionel Gilbert**, "From Joseph Banks to Joseph Maiden: Towards a Scientific Botanic Garden"; **Stephen Jeffries**, "Alexander von Humboldt and Ferdinand von Mueller's Argument for the Scientific Botanic Garden"; **R.W. Home**, "Ferdinand Mueller: Migration and the Sense of Self"; **Gabrielle L. McMullen**, "Getting to Know Dr. Muller: Accounts of Ferdinand von Muller in Victoria's Mid-Nineteenth-Century German-Language Newspapers"; **Sara Maroske**, "The Private Life of a Public Figure: Baron Ferdinand von Mueller"; **P.F. Stevens**, "J.D. Hooker, George Bentham, Asa Gray and Ferdinand Mueller on Species Limits in Theory and Practice: a Mid-Nineteenth-Century Debate and its Repercussions"; **James Moore**, "Green Gold: the Riches of Baron Ferdinand von Mueller"; **Ken Orchard**, "Regional Botany in Mid-Nineteenth-Century Australia: Mueller's Murray River Collecting Network"; **Andrew Brown-May** and **Tom W. May**, "'A Mingled Yarn': Henry Edwards, Thespian and Naturalist, in the Austral Land of Plenty, 1853-1866"; **Anthony J. Harrison**, "The Fisheries Savant: William Saville Kent in Victoria, 1887-8"; **Warwick Frost** and **Sarah Harvey**, "Forest Industries or Dairy Pastures: Ferdinand von Mueller and the 1885-1893 Royal Commission on Vegetable Products"; **Sally Gregory Kohlstedt**, "Nature Study in North America and Australasia, 1890-1945: International Connections and Local Implementations."

BOOK REVIEWS

David Branagan (ed.), *Science in a Sea of Commerce: A Day-by-Day Account of an 1820s South Seas Trading Venture, based on the Journal of Samuel Stutchbury, a Scientific Observer*. Northbridge, NSW: D.F. Branagan, 1996. Pp. 246, x. Notes, bibliography, index, illustrations, maps, appendices. Paperback, ISBN 0-64628-612-9, A\$44.00.

This self-published labor of love makes available new data about 19th century Euroamerican seafaring in the South Pacific. It also raises the question of when such ship journals are worthy of transformation into books. For those devoted to this genre of maritime record, Samuel Stutchbury's journal has much to offer: detailed accounts of weather, flora and fauna, glimpses of shipboard life and landfalls, passing interactions with native peoples, and intriguing items such as the experimental use of a deep-sea diving bell at Hao atoll in 1825-26. David Branagan has been a geologist at the University of Sydney, but he has also published half a dozen articles of historical interest. He spent almost twenty years preparing the journal for printing, undertaking extensive research in the archives of Australia, Britain and New Zealand. These efforts yielded a useful introduction, a follow-up account of Stutchbury's later years, and 900 endnotes. In his lengthy acknowledgments, the editor particularly thanks Robert Langdon, a longtime Pacific historian who knows the nautical journals well and provided numerous insights, most notably in the brief overview of the Pacific pearling industry.

The literature of published ship journals on the Pacific is huge, but Branagan argues in his foreword that this book's special value is its portrayal of the relatively under-documented Pacific pearling industry in the Tuamotus. The voyage was not an official exploring expedition but a commercial venture, yet it was blessed with a chronicler who was a professional naturalist trained by the Curator of the Royal College of Surgeons. The editor makes much of Stutchbury's later contributions, to Darwin's theory of coral reef formation and other scientific debates of the day. But scientists, by training, are often not as loquacious as historians, and Stutchbury's journal entries are relentlessly laconic. Even the core of his future ideas about coral reefs takes up only five lines of text (p. 103).

Interesting portions of the book include an account of the steward's clever attempt to steal the ship's papers and other items from the captain's cabin (p. 35), Stutchbury's double duty as dissector of captured seabirds and fish and sometime ship's doctor, trading firearms (for provisions) to warring New Zealand Maori factions before British annexation (p. 61), the commercial and political scene in Tahiti, and the hiring of native divers who could blow tobacco smoke out their broken ear drums but found the compressed air inside the bottomless metal diving bell too painful (pp. 104-7). Less engaging are the wind and weather data, which one reviewer apparently called "non-informative" but Branagan gamely claims can be entered into computers to assess long-term patterns in the region. He also notes in

his introduction the momentous shipment to Australia on Stutchbury's vessel of 200 Saxon sheep, which unfortunately are barely mentioned in the 111-page journal. Nor are there recorded comments about prominent fellow passengers like missionary William Williams, en route to New Zealand. The description of the British settlement in New South Wales is frustratingly superficial, and the reader is left to wonder why the crew went on strike in Sydney (pp. 47-48). But then, reading such journals is like hunting for raisins in the breakfast cereal, and everyone has his own criteria for raisinhood.

David A. Chappell
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Masao Watanabe, *Science and Cultural Exchange in Modern History: Japan and the West*. Tokyo: Hokusensha, 1997. Pp. xi, 406. US\$138.00 from publisher, \$76.00 from author.

Masao Watanabe, the *eminence grise* of the history of science in Japan, has collected some of his previously-published papers in what is hopefully not a final effort. *Science and Cultural Exchange* offers much insight into an area that still has not been extensively covered to date. But as Watanabe points out, Conventional Wisdom, both native and international, does not credit the Japanese with much that is original in scientific research, despite such innovators as Yukawa, Nishina, and Tomonaga.

Because the book is a collection of articles, it understandably lacks some cohesiveness. Divided into three main parts, it focuses first on Western science, from Francis Bacon to the industrial revolution. Primarily of interest for its non-Western perspective on the topic, it is a historiographical/philosophical collection on themes that interested Watanabe, although they are not what he is best known for. He recognizes that the Western scientific revolution does not begin or end with Newton, and this section emphasizes calorics, the now-obscure theory on the nature of heat that was supplanted in the mid-nineteenth century.

Part 2 is the best part of the book. It provides an excellent overview of the influence of the West on Japanese science from a Japanese perspective. For those seeking an introduction, this section will be an invaluable resource, especially in its explanation of the reason why physics flourished in Japan but languished in Australia during the same period. Furthermore, Watanabe's point of view provides an excellent complement to that of Western historians of the subject such as James Bartholomew.

In the final section, Watanabe examines some cultural aspects of Japanese science. He writes of Meiji-era studies of the Japanese “Magic Mirror,” or *Makyo*, which, like *Wasan* mathematics, is more art than science. Watanabe also provides insights on the Japanese concept of nature, which, because it did not conceptually separate humankind from the rest of nature, was an impediment to the conduct of what is generally thought of as Western-style science, and therefore prevented the practice of “practical” science until the 19th century.

Watanabe’s importance as one of the few historians of Japanese science, is that he serves as an essential introduction to that specialty. He also offers insight into Japanese culture and its influence on the assimilation of Western science in Japan. But if Watanabe’s purpose was to provide an introduction to the history of Japanese science, a collection of previously published papers may not have been the best way to do it. At the very least, more is needed to unify the material than the outline given in the foreword. In any case the price is quite high, even for such a fine collection as this. Even if the author had filled out his introduction, made the compilation more cohesive by modifying the articles with paragraphs that indicated their place within his thesis, and added a conclusion and an index, a price of US\$138.00 would still limit it largely to institutional purchases.

Kevin Fujitani
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GRANTS FOR TRAVEL AND RESEARCH

The Rockefeller Archive Center invites applications for its program of Grants for Travel and Research. Grants of up to US\$1,500 to U.S. and Canadian researches and up to \$2,000 to researches from other countries in any discipline, usually graduate students or post-doctoral scholars, are made for research that requires use of the collections of the Center. These amounts will be raised to \$2,500 and \$3,000 respectively, for grants awarded in March 1999.

The annual deadline for all grant applications is November 30; recipients will be announced the following March. Inquiries and applications:

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NEW SERIALS

Studies in History and Philosophy of Biological and Biomedical Sciences is a new journal whose first issue will be published in early 1998. The journal will be devoted to historical, sociological, philosophical and ethical aspects of the life and environmental sciences, of the sciences of mind and behavior, and of the medical and biomedical sciences and technologies. The period to be covered will be from the middle of the 19th century to the present. The editorial policy will be in line with the policy of its parent journal, *Studies in History and Philosophy of Science*. Original English language articles in the 10,000 word range or proposals for 3-4,000 word essay-reviews are welcome. For proposals and inquiries should be sent to:

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CONSTITUTION OF THE PACIFIC CIRCLE

The original Constitution of the Pacific Circle, as approved in 1989, is printed below. Proposals to amend and update the Constitution will be considered at the next business meeting of the Pacific Circle.

THE PACIFIC CIRCLE

A Historical Commission of the
International Union for the History and Philosophy of Science,
Division of History of Science (IUHPS/DHS)

CONSTITUTION

BACKGROUND. In recent years there has been a considerable growth of scholarly interest in the history of science and culture in the Pacific. Histo-

rians familiar in general terms with the impact of the Pacific on European ways of seeing, are now beginning to sense the wider implications for science and scholarship of the rapid economic and political changes occurring in the region. As recent events have demonstrated, there is need for improved communication among historians of science of the Pacific basin and rim countries, or sharing interest in specifically Pacific areas of scientific and technological research. An attempt to link scholars of similar interest, from China to Chile, Australia to Alaska, and Southeast Asia to Central America, was warmly welcomed at the Symposium devoted to "Western Science in the Pacific" at the XVIIth International Congress of History of Science held at Berkeley in August 1985. Following that symposium, an informal "Circle" was established, a Newsletter was begun, and a program of activities planned. It is now proposed that the Circle seek formal recognition as a Historical Commission under the Statute of the International Union of the History and Philosophy of Science, Division of History of Science.

NAME. The name of the Commission shall be "The Pacific Circle."

OBJECTS. To encourage the study of the history of scientific ideas; to associate scholars who share an interest in those issues affecting the history of science and technology that are especially relevant in this region; to further the aims and objectives of the IUHPS/DHS.

OFFICERS AND MEMBERS. The Commission shall, subject to the Statute of the IUHPS/DHS, elect its own officers, accept members, and levy its own subscription fee.

Officers. The Council of the Commission shall consist of its three officers and up to four other members. The officers shall be:

President

Vice President

Editor-Treasurer

Officers and council members shall be elected for terms of four years, at the four-yearly meetings of the IUHPS, by a majority of those in attendance at the Commission's business meeting. A slate of officers and council members shall be prepared by a nominating committee consisting of the existing officers, or officers pro tem. Elections for the first term (1989-93) shall be held in Hamburg at the XVIIIth International Congress.

Members. Membership will be open to scholars and institutions residing in countries within, or bordering, the Pacific; and to scholars residing elsewhere who have research interests in subjects bearing upon the history of science in the Pacific region. There shall be two categories of individual members: Regular Members who shall be elected by the Commission; and Associate Members who acquire membership upon application.

ACTIVITIES.

Meetings. Scholarly meetings will be held from time to time in different locations, principally but not exclusively in the Pacific region. The first formal meeting will coincide with the XVIIIth International Congress of History of Science, Hamburg, West Germany, in August 1989. The second meeting, entitled "Science of the Pacific Island Peoples," will be at the University of the South Pacific, Suva, Fiji, in December 1990. The third meeting will coincide with the 17th Pacific Science Congress, Honolulu, in May 1991. The fourth meeting will coincide with the 5th International Congress for the History of Oceanography, LaJolla, California, in July 1993.

Publications. The official organ of communication shall be the *Pacific Circle Newsletter*. Responsibility for production and distribution of the *Newsletter* shall reside with the Editor-Treasurer.

As appropriate, the Commission will sponsor the publication of research.

SUBSCRIPTION INFORMATION

The *Bulletin of the Pacific Circle*, formerly the *Pacific Circle Newsletter*, is the communication medium of the Pacific Circle, organized in 1985 to promote and assist scholarship in the history and social studies of Pacific science. The Pacific Circle is a commission of the International Union of the History and Philosophy of Science.

The Pacific Circle website is located at:

<http://www2.hawaii.edu/~frehbock/pcn/pcn.html>

The *Bulletin* is distributed twice a year with the assistance of the Department of History, University of Hawaii. Membership in the Pacific Circle, which includes the *Bulletin*, is available at a cost of US\$20 per year for individuals, \$30 for institutions. Additional contributions in any amount to support the costs of production will be gratefully accepted. Cheques or money orders should be made payable to "**Bulletin of the Pacific Circle**"

and sent to the Editor. Credit card charges (VISA and Mastercard only) are also now accepted (see insert).

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