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EDITORIAL - Rediscovering the Prince of Monaco

An outline of the life and accomplishments of Albert 1er, Prince of Monaco is well established. Born in Paris in 1848, Albert showed an early interest in science and the sea. He entered the Spanish navy as an ensign in 1866, left it for the French navy with which he fought in the Franco-Prussian War of 1870, and shortly thereafter began a series of cruises in his yacht, best known under its second name *Hirondelle*. Albert's cruises became scientific no later than the early 1880s, and he began to plan the establishment of a biological station in Monaco. His succession to the throne of Monaco and the very successful display of the results of his scientific work in the Paris *Exposition universale* in 1889 provided the means and sufficient encouragement to expand his work at sea and to present it to the public. The magnificent yachts that followed, *Princesse Alice* (1891-1898), *Princesse Alice II* (1898-1910) and *Hirondelle II* (1911-1915) allowed Albert and scientific colleagues from several nations to carry out advanced and comprehensive work on the oceans until the beginning of the Great War. Although the early idea of a marine station at Monaco was not realized, Albert's vision expanded beyond such a simple plan to the conception and organization of a great oceanographic museum, the Musée océanographique de Monaco, begun in 1899 and inaugurated in 1910. While construction was underway, his promotion of the teaching of oceanography in Paris was formalized in the Institut océanographique that opened in 1906. By his death in 1922 Albert's wide-ranging interests had extended also to prehistoric anthropology, the social and political evolution of Monaco, and world peace in the wake of the war.

Such an outline misses many nuances, as became clear to me recently when I saw a new, brilliantly-produced commemorative volume, *Albert 1er. Des oeuvres de science, de lumière et de paix* (1998, Monaco: Palais de S.A.S le Prince), printed for the 150th anniversary of Albert's birth, November 13, 1848. Biographical at the beginning, then devoted to the Princes's interests and obsessions, lavishly illustrated with paintings, drawings, engravings and photographs, many never printed before, it outlines Albert 1er's life and personality in quotations from his published and unpublished writings in local journals, the reports of his cruises, and the archives of the Musée océanographique and the Palais princier in Monaco. The tapestry of a turn of the century life emerges in new detail, but with significant new questions to consider.

In 1902, Albert viewed Monaco as "...this little country that war has not touched for centuries; where one can effortlessly and fearlessly, under all the forms of science and art, cultivate the fruits of progress." Just over a decade later, as Europe stumbled into war, he was less sanguine about the ability of the arts to promote human welfare alone. The assistance and the guidance of science were needed to provide equilibrium in human affairs, to overcome the propensity of the arts to lack definition and balance, thereby adversely affecting human character and morality.

What lay behind this pessimism and the humanistic sentiments of a man whose musical life centered around Massenet and Saint-Saëns, and who gave his name, time and money to the pre-war mutualist movement and to the search for principles of international agreement through arbitration and mutually-beneficial treaties? It may be too facile to see science alone as providing Albert 1er's beacon of international collaboration and social stability, for he passionately and unpopularly supported Captain Dreyfus, and called for a the rapprochement of Germany and a France seething with resentment after the debacle of the Franco-Prussian War. Whom did he talk to about these ideas and positions? What did he read? What can his private correspondence tell us about the involvement of this passionate moralist with the ideas, the movements, and the personages of his age? Oceanography mattered - it was at center stage for much of Albert's life - but his life had other facets and corners that begin to emerge in this new book, giving us a glimpse of his works of science, but most notably of his involvement with the light of reason, and with peace. It is time to look again at Albert 1er, and at the ways his life illustrates how science, society and morality were interrelated in the decades before the Great War.

Eric L. Mills

ORIGIN OF THE NAME AGULHAS

As with many place names that have an ancient derivation, there is also uncertainty about the exact origin of the

name *Agulhas Current*.

Bartholomew Dias, the first European explorer to round the Cape of Good Hope, gave up his attempt to reach India at the Great Fish River on the south-eastern coast of South Africa and shortly after reached the southern tip of Africa for the first time, on his return journey. This probably occurred on 16 May 1488, the name-day of the Irish monk St. Brendan, since he called this promontory *Ponto de S. Brandão*.

This name for the southernmost cape of the African continent soon fell into disuse although it was employed to denote the present Quoin Point for some time. A map of 1502 shows a *Golfo das Agulhas* (Bay of Needles) directly to the east of the cape currently called Cape Agulhas¹, and cartographers subsequently started using variations on the name *Cape Agulhas* with increasing frequency. So, for instance, Hen Hondio in 1631 designated this headland as *C. d' Angulas*, I. Covens and C. Mortier (1660 - 1730) as *Cap des Aiguilles*, Gerardo and Leonardo Valk (1650 - 1720) as *C. das Agulhas* and D'Anville in 1763 as *Kaap des Aiguilles*.

Two possible origins for this concept of “needles” have been put forward: one, the resemblance of the jagged reefs opposite the cape; two, the observation that the needles of compasses showed no magnetic declination at this point, i.e. magnetic north and true north were identical at this time. The latter origin is more likely, since, for example, authors such as Jan Huijgens van Linschoten in his book *Itinerario* (1595) have called this cape the *Cape of Compasses* or *Needles of the Compass*. Particularly notable in this regard is the inscription on a map of Mathia Hasio (probably redrawn from one by Batiste Homan) of about 1750 describing the cape as *Prom. Accularum declinatione magnet carentium* (Cape Needle, i.e. without magnetic declination). This exciting discovery I made while rummaging about in the stock of maps held by a dealer of antique prints on the Oude Gracht in Utrecht, Netherlands, in September of this year.

The Agulhas Bank, Agulhas Current and the Agulhas Plateau all take their names from the cape. Cartographers I. Covens and C. Mortier (1660 - 1730) called the continental shelf south of Africa *Banc du Cap*, by 1746 M. Belin designated it as *Banc des Equilles*. When the name of the cape was first transferred to the current is not entirely clear. Kerhallet (1852)² has still indicated a *Courant de Cap*, while Zimmermann (1865)³ has shown a *Cap Lagullass Strömung*, suggesting the gradual equating of the name of the cape and the current. Rennell in his 1778⁴ map has indicated the *Bank of Lagullas*, but has not named the current; but fifty years later (1832)⁵ he clearly denoted it *Lagullas Current*, as did Maury⁶ in 1855. By 1866 Findlay⁷ called it, unequivocally, *Agulhas Current*, as did Krümmel (1882)⁸. Krümmel (1911, p.672)⁹ has in fact stated that south of 30° S latitude the current along the south-eastern coast of Africa is to be called the Agulhas Current, and so it has remained since.

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POLAR SEA OF DISCORD AND COLLABORATION.
Science and Politics in Oceanography and Arctic Exploration
St. Petersburg, Russia, 27-30 January 1999

The conference was organized by the St. Petersburg Branch of the Institute of the History of Science and Technology, Russian Academy of Sciences. The meeting format was a workshop with a series of sessions and round-table discussions with brief presentations on the results and perspectives of research in different national and disciplinary perspectives. Some materials for discussions were pre-distributed via email including recent information on various associations and networks in the area of maritime history, history of oceanography and polar research etc. It was most helpful to receive also "News and Views" from the participants outlining their personal visions of trends, problems, and perspectives in their field.

The aim of the conference was not to present focused academic papers but to talk more about recent achievements and to identify new trends and important, but yet understudied, historic issues and problems. This was admirably achieved during the meeting, with the participants coming from Alaska and other states of the US, from Scandinavia, Germany and Russia.

The sessions covered 'Research efforts in the history of polar science and in oceanography'; reflections on 'Social and cultural history'; and 'History of oceanography and fisheries'. Another leading theme was 'Studies of international collaboration in polar research'. A session on 'Navy, oceanography and polar research' was held in the famous Russian Geographical Society. Extended discussions on 'Perspectives of oral history' and 'Science and the navy' followed. A summing-up on an agenda for future collaboration, requested by the participants, completed the conference.

In addition to the meeting and associated receptions, there was a tour of the very interesting Arctic and Antarctic Museum. On the last day we had time to visit the wonderful State Hermitage Museum at the Winter Palace. St. Petersburg in wintertime gave a very clear sense of what polar history was all about.

First published in the International Commission on the History of Geological Sciences INHIGEO Newsletter NO. 31 for 1998, page 14.

Cornelia Lüdecke, Valleystasse 40, D-81317 München, Germany.

INFORMATION FROM THE SCRIPPS INSTITUTION OF OCEANOGRAPHY ARCHIVES

RECENT ACQUISITIONS:

Scripps Institution of Oceanography Archives has acquired the following collections in subject areas of interest to oceanographers since our last report:

Nancy Amanda Bray Papers, 1976-1997

27 cubic feet. Accession 97-11. Manuscript Collection 34

Physical oceanographer, born May 5, 1952; University of California, Berkeley BS, 1975, Woods Hole/MIT Ph.D. (physical oceanography) 1980. Postdoc, WHOI, 1980-1981; Desalination Systems, Inc, 1981-1982; Scripps Institution of Oceanography, UCSD: assistant to associate; research oceanographer, 1982-1996: Director, Physical Oceanography; Research Division, 1992-1996; CSIRO, Hobart, Tasmania, Australia; visiting scholar, 1996-1997, Chief of Division Marine Research, 1997-present.

The Bray Papers document Bray's education especially at Woods Hole Oceanographic Institution and her research at the Scripps Institution of Oceanography. The papers include correspondence, reports, scientific papers,

research notes, and data. The papers include documentation of major ocean circulations studies in the Strait of Gibraltar, the Gulf of California, the Gulf of Mexico, the Indonesian Archipelago and other areas. The papers include documentation of the Northern California Coastal Circulation Study (NCCCS).

George G. Shor, Jr. Papers, 1954-1992

15 cubic feet. Accession 95-6. Manuscript Collection MC 33

Marine geophysicist, born New York June 13, 1923; California Institute of Technology BS 1944, MS 1948, Ph.D. (seismology) 1954. Seismological party chief, Seismic Explor, Inc, 1948-1951; research assistant, California Institute of Technology, 1951-1953; Scripps Institution of Oceanography, UCSD: research geophysicist 1953-1969; professor of marine geophysics, 1969-73; Associate Director, SIO, 1968-1990.

The Shor Papers include correspondence, teaching files, committee files, project and proposal files documenting geophysics research undertaken by Shor largely at Scripps Institution of Oceanography, UCSD. The papers include material documenting expeditions, instruments, oceanographic vessels and major research projects including ocean drilling and the International Decade of Ocean Exploration (IDOE). The papers include material documenting geophysics refraction and reflection work undertaken by Shor 1954-1977.

Fred Noel Spiess Papers, 1971-1990
7 cubic feet. Manuscript Collection MC 36

Marine physicist, born Oakland, CA December 25, 1919; University of California, Berkeley AB 1941, Ph.D. (physics) 1951; Harvard University, MS, 1946. Submariner, U.S. Navy, 1941-1956; Deputy Oceanographer of the Navy, 1969-1974; Nuclear Engineer, Knolls Atomic Power Lab, Schenectady, NY, 1951-1952; Scripps Institution of Oceanography, UCSD: Associate Research Physicist to Research Geophysicist University of California Marine Physical Laboratory (MPL), 1952-1961; Director, MPL 1958-1980; Professor of Oceanography, 1961-present; Chairman, Department of Oceanography, 1963-1964; Acting Director to Director, SIO, 1961-1965; Associate Director, SIO, 1965-1980, Director, UC Institute of marine Resources, 1980-1985; Liaison Scientist, Office of Naval Research, London, 1974-1975.

The Spiess Papers include correspondence, research proposals, calendars, subject files and other material documenting his scientific research and academic career. The papers include files documenting the Foundation for Ocean Research, Marine Technology Society and other scientific societies and organizations. A substantial series within these papers document the effort spearheaded by Spiess to preserve and restore the oldest marine laboratory in North America, the George H. Scripps Memorial Marine Laboratory at the Scripps Institution of Oceanography, constructed in 1910 and designated a National Landmark in 1977.

Scripps Institution of Oceanography. Office of the Director (Frieman). Records, 1983-1998.
51 cubic feet. Archival Collection AC 30

These records were generated by the office of the director during the administration of Edward A. Frieman and document all aspects of the administration of the Scripps Institution of Oceanography during that period. The records are arranged in numerically coded subject files.

Scripps Institution of Oceanography. Scripps Industrial Associates. Records, 1969-1991.
11.25 linear feet. Archival Collection AC 8

SIA was organized in 1969 and became inactive in 1991. Membership was by subscription and consisted of companies with an interest in geophysics and oceanography, including many petroleum companies. Member organizations were entitled to attend seminars at SIO which described the latest research findings in marine geology, geophysics and oceanography. Membership fees were used to support graduate students and research in the SIO Geological Research Division. The records include correspondence, records of program manager John E. Bennett and administrator George Shor, records of member organizations, contributions and seminars. The records also include research proposals, membership files, and tape recordings of meetings and seminars.

FINDING AIDS:

Finding aids to collections at the Archives of the Scripps Institution of Oceanography are published as numbers in the SIO Reference Series and are available in electronic form to the Online Archives of California <<http://sunsite2.berkeley.edu/oac/>>. The following finding aids for SIO collections have been issued this year:

Alaoen, Josephine. Guide to the Fred B. Phleger (1909-1993) Papers, 1955-1986, Manuscript Collection MC 26. (San Diego: UCSD/SIO Reference Series Number 87-13, April 1998), 39p.

Alaoen, Josephine. Guide to the S.I.O. Scripps Industrial Associates Records, 1969-1991, Archival Collection AC 8. (San Diego: UCSD/SIO Reference Series Number 98-14, May 1998), 35p.

Owens, Kimberly M. A Guide to the S.I.O. Contracts and Grants Office Records, 1959-1996, Archival Accession AC 25. (San Diego: UCSD/SIO Reference Series Number 98-72, January 1997), 2 volumes, 502p.

Smith, Rebecca Sherwood. A Guide to the S.I.O. Office of the Director (Nierenberg) Records, 1904-1992. (San Diego: UCSD/SIO Reference Number 98-1, January 1998), 186p.

Scholars can gain access the guides at no charge on the web and/or can purchase hard copies at cost by writing: Carolyn Rainey, SIO Archives, UCSD, La Jolla, CA 92093-0219, or email <crainey@ucsd.edu>.

ORAL HISTORY:

In preparation for the celebration of the centennial of the Scripps Institution of Oceanography in 2003, SIO Archives has made a special effort to undertake oral history interviews with selected scientists and others long associated with the institution. SIO Archives partnered with American Institute of Physics Center for the History of

Physics to do an oral history with geophysicist Walter Munk. The transcript of this interview will be available to researchers at SIO Archives and at the AIP Center.

In 1988, UC Berkeley oral historian Sarah Sharp undertook four thematic oral history interviews with oceanographer Roger Revelle collectively titled, "Oceanography, Population Resources and the World." Transcripts for three of the interviews were issued and are available to scholars. Roger Revelle died while editing the transcript of the fourth interview, entitled "Roger Randall Dougan Revelle: The International Scientist." Sarah Sharp completed the editing of this final Revelle oral history interview, and it has been issued as an SIO Reference Series Number 98-18, 97 pages.

Roger Revelle's widow, Ellen Revelle Eckis, a grandniece of Scripps Institution of Oceanography founder Ellen Browning Scripps, was interviewed in 1998 by Judith Morgan. A transcript of this interview is in the editing stages and will be issued by July 1999.

SIO Archives has enlisted graduate students Christopher Henke and Joellen Russel to do a series of short (3-4 hour) oral history interviews with senior scientists associated with the Scripps Institution of Oceanography. The transcript for the first of these, an interview with Dr. Easter Ellen Cupp (1904-), the first American woman to receive a doctorate in oceanography, is in the editing stage now.

Deborah Day, Scripps Institution of Oceanography Archives, UCSD Mail Code 0219, La Jolla, California 92093-0219, U.S.A. E-mail: Deborah_Day@UCSDLIBRARY.ucsd.edu

RESEARCH ON THE HISTORY OF CHINESE OCEANOGRAPHY

There are many treatises and books on the subject of Chinese ancient nautical technology and fisheries. The most representative works are: Sun Guangqi's *The History of Chinese Ancient Navigation* (Marine Press, 1989), Zhang Xun's *The History of Chinese Nautical Science and Technology* (Marine Press, 1991), Li Shihao et al. *History of Chinese Fishery* (Shangwu Press, 1937) and Zhang Zhendong et al. *General History on Chinese Fishery* (Marine Press, 1983) etc.. Representative works on the history of marine disciplines are: Song Zhenghai et al. *The History of Chinese Ancient Oceanography* (Marine Press, 1989) and *Oriental Blue Culture — The Tradition of Chinese Marine Culture* (Guangdong Education Press, 1995).

Because of warfare, modern Chinese marine science developed very slowly from the second half of the 19th century to the first half of the 20th century. During this period, most of the scholars in the study of marine science were geographers. Therefore, oceanography was a branch of earth science. In 1935, Zhang Qiyun published the *Development of Chinese Geography in Recent 20 years* in the well known Chinese magazine *Science*, which summarized the development of Chinese earth science from 1911 to 1935. The sixth chapter summarized the achievements of Chinese oceanography. There is seldom research on the oceanographic history of this period nowadays. In section 3 of chapter 6 in Ju Jiwu's book, *The History of Chinese Geography* (Jiangsu Education Press, 1987), there was a section on modern Chinese oceanography. In 1998, Zhang Jiuchen published *Chinese Oceanography in the First Half of 20th Century (China Historical Materials of Science and Technology)*. This paper summarized the achievements of Chinese modern oceanography from 1910-1949. The establishment of oceanographic departments in Chinese universities was a sign of the independence of oceanography from earth science in the 1940's. From then on, the Chinese oceanography developed into a new era.

In connection with national construction, Chinese marine science developed after the establishment of the People's Republic of China in 1949. Ten years later, the Science Press published the series *Chinese Sciences in 10 years*, which includes more than twenty books. Among them, the book *Synthetic Survey* summarized the achievements of Chinese marine science from 1949 to 1959. In 1982, Niu Yinyi published the paper "Marine Science More Than 30-years in Our Country" (*China Historical Materials of Technology*). This paper summarized the achievements of marine science from 1949 to 1980. In 1985, the Chinese Social Science Press Published the series *Contemporary China*, which includes 200 books. One of them was *Contemporary Marine Undertaking in China*, which summarized the achievements of marine science in 35 years of the People's Republic of China. In 1994, Wang Ying published the paper – "Contemporary Development of Oceanography" (*Geography Journal*). This paper summarized the achievements of marine science in 45 years of the People's Republic of China.

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THE NEXT CONGRESS OF HISTORY OF OCEANOGRAPHY

The Museum of the World Ocean, Kaliningrad, Russia, has been selected as the site of the Seventh International Congress of History of Oceanography (ICHO VII). Scheduled for 2003, the organizers have suggested the general theme *International Aspects of the Development of the Marine Sciences*, especially connected with their museum ship, the famous research vessel "Vitiaz." Further information will be available in future editions of this newsletter and from the Congress organizers, who may be contacted at the Museum of the World Ocean, Naberezhnaya Petra Velikogo 1, Kaliningrad 236006, Russia (e-mail: postmaster@vitiaz.koenig.su).

REPORTS FROM NATIONAL AND REGIONAL REPRESENTATIVES

GREECE

The most recent issue of the newsletter of the Society of Greek Oceanographers, *Mesopelaga*, presents the oceanography of the Mediterranean as a special theme.

The Sixth National Congress of Oceanography, organized by the National Centre for Marine Research, will be held on the island of Chios in the eastern Aegean Sea from 23-26 May 2000.

My book of about 200 pages concerning the history of oceanography in Greece from the early nineteenth century to the 1960s will be published in September 1999 [please see the bibliography section for a recent paper by Dr Vlahakis on this subject - Ed.]

George Vlahakis, National Hellenic Research Foundation, Centre for Neohellenic Research, Vas. Constantinou 48, 11635 Athens, Greece.

ITALY

In Naples from November 27-28, 1998 "*The Stazione Zoologica 'Anton Dohrn': A Symposium to Honour the Memory of Prof. Gaetano Salvatore*" featured a very distinguished roster of participants from the sciences and history of science, including Howard Schachman, Bernardo Fantini, Richard Keynes, L. Cavalli Sforza, François Jacob, Renato Dulbecco, Emile Zuckerkandl, Francisco Ayala, Victor Smetacek and Benno Müller-Hill.

Christiane Groeben, Stazione Zoologica 'Anton Dohrn', Villa Comunale I, 80121 Napoli, Italy.

NORWAY

THE SEA, THE FISH AND THE MARINE SCIENCES. The Norwegian fishery investigations and the Institute of Marine Research 1860-1990

This is the title of a work in progress analysing the history of the Institute of Marine Research (IMR) (Havforskningsinstituttet) in Bergen, Norway. The Institute will be celebrating its century in 2000 and I have been commissioned by the Institute to write its history also including the prehistory. The book will be published in Norwegian, but presumably with an English summary. I focus on the main areas that have defined and redefined the IMR throughout its existence.

Norwegian fishery-investigations were founded in 1860 as the very first scientific studies of commercial fish stocks in the Western Hemisphere. Probably the initiator was the marine zoologist Michael Sars, and it is likely that the commission was modelled after the Norwegian Geological Investigations. Forty years later a national administration for the saltwater fisheries was established in Bergen, including scientific investigations as a core of the activity. The Institute for Marine Research was placed under the Directorate of Fisheries (Fiskeristyrelsen/Fiskeridirektoratet) until 1989 when it became affiliated with the Ministry of Fisheries. With its 500 employees and six research vessels the IMR today is one of

the major marine research Institutes in Europe and at home in Norway the IMR has dominated the field of marine sciences.

One special feature of Norwegian marine research seems to be the close link between science and the public administration of the Fisheries and the intersection of science and policy. An important task therefore is to analyse the art of balancing science and management i.e. the role of the marine scientists in the public management of the saltwater fisheries. I also discuss the intersection of science and policy, more precisely the trilateral relationship between the fishing industry, marine scientists and the manifold governmental initiatives for developing the industry.

Four components are important in the marine sciences: the *choice of topics, theories, studies in the field* and the *elaboration of instruments*. What has been the significance of the IMR in international marine research? In the years between 1900 and the outbreak of World War I the Institute represented a centre for the emerging marine research. In 1914 the Director of the Fisheries and marine zoologist Johan Hjort and his assistants published the now classical: "Fluctuations in the great Fisheries of northern Europe viewed in the light of biological research". In the report they formulated a theory of fundamental importance for the field and especially for the newly established International Council for the Exploration of the Sea (ICES). After World War II the IMR became noted for the supreme quality of its field studies and the success with developing hydroacoustic instruments and methods for estimating the quantities of commercial fish stocks. In the 1970s the Institute came in a forefront thorough the introduction of a new subject, aquaculture, which has turned out to be a story of success for the IMR.

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ROMANIA

At the annual meeting of the Subcommittee Constanta of the Romanian Committee of History and Philosophy of Science and Technology (CRIFST) on May 29, Dr N.C. Papadopol gave a short paper on the Romanian expeditionary fishing fleet after 1990.

After some delay the proceedings of the scientific session "The Black Sea in Danger" (October 1996) has been published. This special volume was dedicated to the 70th anniversary of the Professor Dr. Ioan Borcea Marine Biological Station, Agigea and the 60th commemoration of its founder. Five articles dealt with the history of Romanian oceanography: on Ioan Borcea (G. Mustata et. al.); Constantin Motas (G. Mustata); Ioan Gheorghe Botez (G. Mustata and M. Mustata); Prof. Dr. Sergiu Carausu (G. Mustata et. al.) and Leon Cosmovici (I. Neacsu).

In 1999 I was a member of the Biographical Institute/ Board of Advisors.

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SWEDEN

In August 1998 I was the only Swede to attend ICHO VI in Qingdao, China. I presented a lecture of my own on "Otto Pettersson. Extracts from a biography in preparation", as well as two contributions by the absent Jens Smed.

The Department of Economic History of Gothenburg University is, among other things, active in the framework of NAFHA, the North Atlantic Fisheries History Association. NAFHA's annual meeting is being planned for September 1999 in this Department. A mini conference on Swedish and International Fisheries was hosted on 20-22 November 1998 with invited lecturers from Canada, Spain, UK-Scotland, Norway, and Sweden. Two of the lectures dealt with (fisheries) oceanography, i.e. 1) pelagic fish resources - not easy to predict, examples from herring and sprat fisheries of Bohuslån by A. Lindquist, Sweden, and 2) herring and hydrography, Otto Pettersson and his ideas of the behaviour of the period herring by myself. All the contributions of the meeting have already been published in Reports of the Department of Economic history, no. 13 this year.

From Lindquist I learned that the connection between fisheries science and NAO, i.e. North Atlantic Oscillation, has come into fashion in fisheries biologists' circles. Studying Walker 1924, I have found out that he is the father of "all" Oscillations e.g. also the Southern often paired with El Niño to ENSO. Moreover, concerning NAO, there are bridges from Otto Pettersson to Meinardus to Walker, where Meinardus seems to be the one who introduced atmospheric pressure to be a better parameter than Pettersson's air temperature to be correlated with ocean variations.

Fredrik Nornvall and I attended the meeting in St. Petersburg, 27-30 January 1999 on "Polar Sea of Discord and

Collaboration: Science and Politics in Oceanography and Arctic Exploration.” Asked for short comments to be included into a Conference Report I sent the following lines: “Tim Smith, in his lecture on the coming centenary of ICES [Stockholm September 1999, Helsinki August 2000, Oslo 1901 and Copenhagen 1902], regretted that its first programmes contain very little about the relation between biotic and abiotic oceanography except for the practical plankton investigations. I myself informed that this fact was quite contrary to the visions of Otto Pettersson, the initiator of ICES. The influence of salinity on the herring wintering in the coastal areas of Sweden during the last Herring Period, had been an important incentive to his initiative. His ideas were well expressed in the Draft Programme annexed to the Stockholm Meeting invitation. Apparently, however, it did not arouse the interest of the participants.”

Augusta Palmquist is considered to be “the first woman in Swedish oceanography”. She worked simultaneously as schoolteacher of natural sciences also as assistant to and co-author with Otto Pettersson. From St. Petersburg I have received copies of letters highlighting her visit to Professor Knipovitsch in Murmansk about 1901 to teach him and his team the determination of salinity and other chemical parameters.

To commemorate the 100th anniversary of the birth of Professor Carl-Gustaf Rossby an international symposium was held 8-12 June 1998 in Stockholm. A joint special issue of “Tellus” A and B comprising 10 invited papers presented in plenary sessions appeared in 1999. Only the article “Carl-Gustaf Rossby. The Stockholm period 1947-1957” by Bert Bolin is of historical character. One of Bolin’s references, i.e. “Phillips, N. 1998. Carl-Gustaf Rossby: his times, personality, and actions. Bull. Am. Meteorol. Soc. 79, 1097-1112” seems to be appropriate to include into your list of publications, if it has not appeared there already [see this year’s bibliography - Ed.].

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UNITED STATES OF AMERICA

In late October 1998, the National Academy of Sciences sponsored a conference, *FIFTY YEARS OF OCEAN DISCOVERY*, to celebrate fifty years of National Science Foundation (NSF) funding of oceanography. This event preceded the actual anniversary in 2000 and served as a forum for considering the future as much as assessing the past.

Organizers brought together senior scientists and NSF program managers as well as the next generation of oceanographers represented by the large number of graduate students in the audience. No historians were included on the program or in the planning; instead retrospective analysis was carried out by both retired and active scientists.

The program was not so much historical as devoted to reviewing and assessing methods, programs, funding, trends and intellectual accomplishments. John Knauss (Scripps Institution of Oceanography and University of Rhode Island) opened the meeting with a keynote address describing the emergence of NSF as an important patron of American ocean science. Several sessions divided up the field by discipline, considering in parallel the important intellectual advances of the past half century and the current challenges in physical, chemical, geological and biological oceanography. Ships, sensing technology, institutions, and major national and international programs all appeared on the agenda. John Byrne (past president, Oregon State University), for example, spoke about the development of the academic fleet, a uniquely American phenomenon compared with the governmental research fleets found in most other countries that support ocean science. Throughout the meeting, presenters concentrated on academic science, particularly though not exclusively that sponsored by NSF and its predecessor as oceanography patron, the Office of Naval Research. Due to this focus, areas not covered included fisheries, marine biology, public interest in marine science, industry contributions, ocean engineering and government science.

Only a handful of historians attended the symposium, probably because efforts to notify the history of science community were belated and unsystematic. Many historians of science working on oceanographic topics never heard about the symposium. Until very recently, oceanography’s past was described almost exclusively by practitioners. At the International Congresses of the History of Oceanography (ICHO), scientists and historians meet together to present and discuss ocean science history. Unfortunately, the opportunity was missed to do the same on the important subject of NSF funding of American oceanography.

Helen Rozwadowski, bei Ulrich Wegenroth, Munich Centre for History of Science and Technology, Museuminsel 1, D-80306, Munich, Germany. E-mail: helenroz@compuserve.com

QUERY - 19TH CENTURY TIDE CORRESPONDENCE

I am transcribing nineteenth century tide correspondence on tides, and would like to hear of any letters on the subject anywhere in the world.

The archives of the major workers (Lubbock, Whewell, Beaufort, Airy, Adams, Thomson and Darwin) have been consulted and from them emerged the names of a number of field workers and computers. I seek the papers of:

Thomas Gamlen Bunt, fl. 1837-1867, a surveyor of Bristol

Joseph Dessiou, 1797-1842, Hydrographic Office

Edward Roberts, FRAS, 1845-1933, Nautical Almanac Office
Andrew Wilson Baird, FRS, FRGS, 1842-1908, Royal Engineers

Any other stray letters would be welcome. Please send to my address below.

Capt. Paul Hughes, 106 High Street, Airmyn, Yorkshire DN14 8LB, United Kingdom. E-mail: airmyn@email.msn.com.

COMPLETION OF A CATALOGUE - OCEANOGRAPHIC INSTRUMENTS

Christian Carpine's masterful catalogues of oceanographic instruments and equipment are now complete with the publication of the last volume, dated 1999, *Catalogue des appareils d'océanographie en collection au Musée océanographique de Monaco 8. Suppléments, matériel de démonstration, météorologie. Additions et index cumulatifs* (Bulletin de l'Institut océanographique, Monaco, vol. 76, no.1444, 183p.). The previous volumes, published between 1987 and 1998 include detailed descriptions, photographs and historical notes on photometers, current meters, biological samplers, water bottles, sounding devices, thermometers, ships' equipment, laboratory instruments and a miscellany of other less easily characterized items. They are essential resources for any historian needing information on the development of oceanographic instruments, and with the wealth of information on their use and on instrument makers, deserve to be studied carefully by historians of technology as well as by historians of science.

Prices may be obtained from and orders placed with: Musée océanographique (Service de publications), Avenue Saint-Martin, MC 98000, Monaco (e-mail: mcmobiblio@meditnet.com).

Eric L. Mills

NEWS AND EVENTS

JOURNAL OF THE HISTORY OF BIOLOGY. The new co-editors of the *Journal of the History of Biology* are Garland Allen of Washington University, St. Louis, and Jane Maienschein of Arizona State University, Tempe. The editorial office is at Arizona State University, from which editorial information can be obtained by e-mail (jhb@asu.edu). The journal welcomes articles on a wide range of topics as long as there is a central biological component.

SECOND MAURY CONFERENCE ON HISTORY OF AMERICAN OCEANOGRAPHY. Following the inaugural Maury Conference in June 1997, the second conference, held 16-18 June 1999 at Woods Hole Oceanographic Institution, with support of the Institution, the Office of Naval Research, the Naval Research Laboratory, the Naval Historical Center, and the Commission of Oceanography, concentrated on themes identified during the first conference in the form of precirculated papers and commentary. The topics included private and public patronage of ocean sciences, international cooperation in marine science, history of science and marine policy, and oceanography as a new interdisciplinary field. The scholars participating were Dean Allard, Keith Benson, Deborah Day, Ron Doel, Jim Fleming, Margot Garritt, Bruce Hevly, Poul Holm, Julia Lajus, Mellissa Lamont, Tanya Levin, Cornelia Lüdecke, Jane Maienschein, Eric Mills, Naomi Oreskes, Ron Rainger, Helen Rozwadowski, Tim Smith, Andrew Solow, John Steele, Jack Stillwell, David van Keuren, Zuoyue Wang, Gary Weir and Warren Wooster. Plans are underway, but not complete, for publication of the papers, and a third Maury Conference is being planned for 2001.

GERMAN SOCIETY FOR THE HISTORY AND THEORY OF BIOLOGY. The society held its 8th annual meeting in Rostock 24-27 June 1999, with special emphasis on the history of marine biology on the occasion of the centenary of the return of the German Deep Sea Expedition under Carl Chun on "Valdivia." On the programme were H.-J. Brosin (Rostock) on the history of marine research in Rostock, Julia Lajus (St. Petersburg) on the early relation between science and fisheries in Russia, E. Tammiksaar (Tartu, Estonia) on K.E. von Baer as marine biologist, Christiane Groeben (Naples) on baroque sea monsters, and H. Landsberg (Berlin) on the "Valdivia" Expedition. During the conference our colleague Christiane Groeben, archivist of the Stazione Zoologica "Anton Dohrn" was elected Second Vice-President.

HISTORY OF NATIONAL OCEANOGRAPHY. The second international conference, sponsored by the Museum of the World Ocean, the P.P. Shirshov Institute of Oceanology, the Russian National Oceanographic Data Centre and the Russian Geographic Society was held in Kaliningrad from 20-24 September 1999. It was timed to celebrate dates significant to the museum ship "Vityaz" and to set its work in national and international contexts. Information on this conference is available from the Chairman of the Organizing Committee, Dr Victor Stryuk, Museum of the World Ocean, Naberezhnaya

Petra Velikogo 1, 23006 Kaliningrad, Russia (e-mail: postmaster@vitiaz.koenig.su).

XXIst INTERNATIONAL CONGRESS OF HISTORY OF SCIENCE. This major congress, following Liège in 1997, will be held in Mexico City from July 8-14, 2001. International Commissions, like the Commission of Oceanography, are expected to organize a symposium or scientific session during the Congress. Anyone who plans on attending and who would be interested in organizing a symposium or session representing the Commission should contact Eric Mills as soon as possible (E.Mills@Dal.Ca). For information on the Congress, see the following websites: <http://weber.u.washington.edu/~hssexec/meetings.ICHS2001.html> and <http://www.cilea.it/history/DHS/>

AMS GRADUATE FELLOWSHIPS. The American Meteorological Society has already awarded a graduate fellowship in the history of science for 1999/2000, but information on awards in upcoming years can be obtained from Stephanie Armstrong, Manager of Fellowship & Scholarship Programs, AMS Headquarters, 45 Beacon Street, Boston, MA 02108-3693, U.S.A. Fellowships, which carry a US \$15,000 stipend, will be awarded to students wishing to prepare a dissertation on the history of the atmospheric or related oceanic or hydrologic sciences.

HISTORISCH-MEERESKUNDLICHES JAHRBUCH. Volume 5 of this publication contains papers from the symposium "History of Marine Science: Science and Technology at Sea," held during the XXth International Congress of History of Science, Liège, Belgium in July 1997. Subjects of the papers include dynamic oceanography at the time of the "Meteor" Expedition (Eric Mills), artificial hatching of cod and marine research (Vera Schwach), the U.S. deep sound surveillance system (Gary Weir), English Sea Fisheries Committees and waterborne pollution 1888-1914 (Gillian Parsons), J.S. von Waitz's 1755 paper on the water budget of the Mediterranean (Margaret Deacon), and the German Committee of Marine Research and Technology (Walter Lenz). The *Jahrbuch* is available from Deutsches Meeresmuseum, Katherinenberg 14-20, D-18439 Stralsund, Germany.

PACIFIC CIRCLE NEWSLETTER. The new editor of the newsletter of our sister DHS Commission is Dr Jane Samson, Dept. of History and Classics, University of Alberta, Edmonton, Alberta T6G 3H4, Canada (jane.samson@ualberta.ca). Dr Samson is a historian of exploration, with interests overlapping those of many of our other members.

STILLMAN DRAKE LECTURE. The annual Stillman Drake Lecture of the Canadian Society for History and Philosophy of Science under the title "*De Motu Marium; Understanding Ocean Currents Before the Second Scientific Revolution*" was delivered by Eric Mills at the Society's annual meeting during the Conference of the Social Sciences and Humanities in Sherbrooke, Québec in June 1999. The text will be available on the Society's website, <http://www.uwo.ca/philosophy/cshpsinf.html>, or by request to E.Mills@Dal.Ca.

ROZWADOWSKI IN GERMANY. Helen Rozwadowski, who is writing a history of the International Council for the Exploration of the Sea for its centenary in 2002, is spending 1999/2000 associated with the Munich Centre for History of Science. Address: Dr Helen Rozwadowski, bei Ulrich Wegenroth, Munich Center for History of Science and Technology, D-80306 Munich, Germany. Her e-mail address is unchanged.

GRANTS FOR RESEARCH IN PHYSICS. The Center for the History of Physics of the American Institute of Physics offers grants in aid of up to US \$2500 for graduate students or scholars with a record of publication for research in the history of physics and allied sciences (e.g. astronomy, geophysics, optics) and their social interactions. Direct expenses only are covered. Deadlines are June 1 and December 31 annually. See the Institute's Web site: <http://www.aip.org/history> or write Dr Spencer Weart, Center for History of Physics, AIP, One Physics Ellipse, College Park, MD 20740, U.S.A. (E-mail: sweart@aip.org).

MEETINGS AND CONFERENCES (See also News and Events section)

19-21 FEBRUARY 2000. The twelfth annual SYMPOSIUM ON THE MARITIME ARCHAEOLOGY AND HISTORY OF HAWAII AND THE PACIFIC, at the Hawaii Maritime Center, Honolulu on a wide variety of topics from naval history to archaeology and environmental history. Abstracts by 15 November 1999 to Marine Option Program, University of Hawaii

at Manoa, 2525 Correa Road, HIG 215A, Honolulu, Hawaii 96822, U.S.A. (mop@hawaii.edu).

16-19 MARCH 2000. INTO THE NEXT MILLENNIUM. THE PAST AND PROMISE OF ENVIRONMENTAL HISTORY, a meeting of the American Society for Environmental History. Paper and session proposals invited examining any aspect of human interaction with the physical environment over time. Information: Mark Stewart, Dept. of History, Western Washington University, Bellingham, WA 98225-9506, U.S.A.

MARCH 2000. HISTORY OF GEOPHYSICS AND SPACE PHYSICS. A one day session during the annual meeting of the German Geophysical Society in Munich, including development of geophysics, biographical notes, international research programmes, and historical and philosophical problems of geophysics. Information: Dr Wilfried Schröder, Hechelstrasse 8, D-28777 Bremen-Roenebeck, Germany.

3-4 APRIL 2000. ROYAL METEOROLOGICAL SOCIETY HISTORY GROUP. Meeting to celebrate the Society's 150th anniversary, at the Royal Society, London. To cover the history of the society, its contemporaries, and the societies with which it shared interests and members. Information: the History Group Hon. Sec., Royal Meteorological Society, 104 Oxford Road, Reading RG1 7LL, U.K.

10-12 APRIL 2000. SCIENCE IN THE 19th CENTURY PERIODICAL: AN INTERDISCIPLINARY CONFERENCE, organized by the SciPer Project, at the University of Leeds, U.K. To identify and analyse representations of science, technology and medicine in the general periodical literature of 19th century Britain. Individual papers or sessions of 2 or 3 papers are welcome. Abstracts to Dr J.R. Topham, School of Philosophy, University of Leeds, Leeds LS2 9JT, U.K. (j.r.topham@leeds.ac.uk).

1-3 AUGUST 2000. ICES HISTORY SYMPOSIUM: 100 YEARS OF SCIENCE UNDER ICES, in Helsinki, Finland. Celebrating the centenary of the International Council for the Exploration of the Sea (ICES) in 2002, this symposium is open to those with an interest in the historical development of marine science, particularly that involving ICES. Abstracts to the convenor by 31 August 1999. Information: Dr Emory Anderson, NOAA/NMFS Northeast Fisheries Science Center, Woods Hole, MA 02543, U.S.A. (E-mail: emory.anderson@noaa.gov).

3-6 AUGUST 2000. WHAT IS TO BE DONE? HISTORY OF SCIENCE IN THE NEW MILLENNIUM, the 4th British-North American Joint Meeting of the British Society for History of Science, the Canadian Society for History & Philosophy of Science, and the History of Science Society, in St Louis, Missouri. Proposals due 15 December 1999. Information: agar@fs4.ma.man.ac.uk; lightman@yorku.ca; or, paul_theerman@nlm.nih.gov.

6-13 AUGUST 2000. INTERNATIONAL CONGRESS OF HISTORICAL SCIENCES, in Oslo. The largest regular meeting of international professional historians, occurring every five years. The aim is comprehensive surveys of new trends and developments within historical disciplines and critical debate about themes of scholarship and pioneer fronts of historical research. Information: The 19th International Congress of Historical Sciences, Dept. of History, University of Oslo, P.O. Box 1008, Blindern, N-0315 Oslo, Norway.

4-8 SEPTEMBER 2000. THE XIXth SCIENTIFIC INSTRUMENT SYMPOSIUM, in Oxford, England. Organized by a sister Commission, the Scientific Instrument Commission of the IUHPS. Information: Dr J.A. Bennett, Museum of the History of Science, Broad Street, Oxford OX1 3AZ, England.

1-5 NOVEMBER 2000. ANNUAL MEETING OF THE HISTORY OF SCIENCE SOCIETY for 2000, in Vancouver, Canada. Information: <http://weber.u.washington.edu/~hssexec/>

7-11 NOVEMBER 2001. ANNUAL MEETING OF THE HISTORY OF SCIENCE SOCIETY for 2001, in Denver, Colorado, U.S.A. Information: <http://weber.u.washington.edu/~hssexec/>.

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