



The Bulletin of

THE ANTARCTICAN SOCIETY

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MESSAGE FROM THE PRESIDENT

Much of our deliberation at board meetings last year related to the possibility of the Antarctic Society becoming a bipolar society. Dr. Ned Ostenso presented a fine and comprehensive proposal. We encouraged members of the Society and of its Board of Directors to send written comments to either Dr. Harry Dater, editor of the *Bulletin*, or to myself. It became clear from the letters received that most members wished the Antarctic Society to remain as it had been since it was founded in 1959. The following excerpt from a distinguished member's letter sums up the sentiments.

An initial premise of the Bipolar Discussion Paper is that 'There is not an adequate constituency for the Antarctic Society to achieve viable size'. What is a viable size? I believe our current dues paying membership must be close to 500, a large percentage of which lives in the Washington, D.C. metropolitan area, yet rarely does our attendance exceed 50 at any given meeting. Perhaps our efforts need to be directed to increased participation within our existing membership, many of whom are already bipolar oriented. It is doubtful that if we are unable to attract these people to the Antarctic Society meetings now that this situation will change simply because of a bipolar organization. I should say here that I believe the continued timely publication of *The Bulletin of the Antarctic Society* will contribute significantly to an increased participation by the membership.

Like many others I am also concerned about the loss of identity of the Antarctic Society in the proposed bipolar makeup and it is mainly for this reason that I believe we should lay aside the bipolar discussion at this time and direct our concerted efforts to improving the Antarctic Society and achieving a more active membership, both in and outside of the Washington metropolitan area.

Thus, on May 31, 1972, at the Board of Directors meeting of the 1972-1973 year to which past presidents, as well as the retiring and new directors were invited, the following motion was introduced and passed unanimously.

It is agreed that the Bipolar Society proposal developed at the request of the Board of Directors be deferred indefinitely, and that the Antarctic Society continue to maintain its emphasis on south polar interests while continuing to exercise a constructive interest in polar affairs generally.

So we are back to where we started several years ago, and the only message I have just now is that we need to play a more important role in Antarctic affairs for we are the only private organization exclusively devoted to the furtherance of knowledge and appreciation of this new and vast continent.

Those of you in the Washington-Baltimore area can look forward to a very interesting program this coming season under the chairmanship of Gerald Schatz. Mrs. Harriet Eklund is chairman of the Education Committee and with Mrs. Lillian Brown of CBS is finalizing plans for the series of radio broadcasts "Antarctica the Peaceful Continent". Mrs. Joanna Turner and Mrs. Katherine Petrin are co-chairmen of the Membership Committee. With this issue of the *Bulletin* we are sending you a membership form. Please pass it on to a non-member and help the Society increase its numbers.

WILLIAM J. L. SLADEN

U.S. ANTARCTIC RESEARCH PROGRAM, 1971-1972

The past season's activities included research at McMurdo, Siple, Byrd, Palmer, Hallett, and South Pole Stations, as well as at remote field sites across Antarctica. Sixty-five projects were carried on by 210 scientists and technicians from more than 35 different institutions and laboratories. In addition, scientists from more than 6 foreign countries participated in the U.S. Antarctic Research Program this past season.

Antarctica is obviously not the most convenient or comfortable environment to work in. Most of the area is covered with snow and ice, which is fine for the glaciologist but pretty frustrating for the genuine rock hound. For geologic study, however, the areas of open rock in Antarctica are some of the best in the world. They have been deeply cut by glaciers, show little weathering, and have little covering foliage, thus leaving exposed excellent sites for investigation.

This year detailed studies in the northern Transantarctic Mountains were conducted by geologists from the University of Maine. The group, working at the Carapace Nunataks some 120 miles north of McMurdo, investigated the age and origin of the deposits and collected fossil specimens of insects and plants. Nearby, at the Convoy Range, a two-man team from Ohio State University examined the bedrock geology for comparison with previous findings in the central Transantarctic Mountains. Both these teams were supported by helicopters operating from McMurdo Station.

Directly across McMurdo Sound from the station is the Royal Society Range. Of special interest are its dry valleys—

Taylor, Wright, and Victoria. This year the Dry Valley Drilling Project, a multi-national, inter-disciplinary program, was begun. Glaciologists, geologists, biologists, and hydrologists from the United States, Japan, and New Zealand surveyed the valleys for potential drilling sites. Starting next season, a comprehensive drilling project will begin, with plans to obtain as many as ten continuous cores from sites determined this year. In addition to ground surveys, an aeromagnetic survey by helicopter and infrared photography from LC-130's was flown by the U.S. Navy. The U.S. Geological Survey established ground control points for the mapping of the area. It is hoped that this project will clarify the history and mechanisms behind the formation of the dry valleys.

The features and environment found in the dry valleys are some of the best terrestrial analogues of the expected conditions on the surface of Mars. Geologists from NASA studied the texture, reflectants, and photometric characteristics of the soil to test systems that may be incorporated into the Mars landing vehicle.

The Antarctic ice cap is the major reservoir of fresh water in the world, and fluctuations in its volume would have world-wide effects. To adequately study a huge ice cap or sheet' is no easy task. Glaciologists must consider as one unit the movement of thousands of cubic miles of ice.

This year a team from Ohio State University studied the dynamics of the ice sheet at Byrd Station by measuring the distortion within a matrix of stakes that was originally set out in 1963. Seismic measurements were also made to determine the bottom topography. The data obtained will be used to test the classical theories of ice sheet motion as well as a more recent hypothesis that suggests the presence of thermal convection in thick ice sheets.

On a smaller scale, two glaciologists, a man and wife also from Ohio State, continued a long-term study of Meserve Glacier in Wright Valley as a single manageable unit. The main objectives are to understand the mechanisms of glacier movement such as surface buckling and surging.

Studies of the physical properties of the ice itself continue although no deep bedrock drilling has occurred since 1967. It has been found from the 1967 cores that the ice at a depth of three or four thousand feet, for some unknown reason, changes its structure from randomly oriented ice crystals to a bubble-free, strongly-oriented crystal structure. At Byrd Station scientists from the University of Berne utilized a new technique for dating the gases that are trapped in the ice. Their technique consists of sealing off short segments of a drill hole, using a heater to melt the ice between the seals, and pumping the released gases to the surface for carbon-14 dating.

This year also marked the beginning of the International Antarctic Glaciological Project. This project is a joint effort by the United States, Australia, the Soviet Union, and France. The objective is to determine the overall characteristics of the massive East Antarctic ice sheet. Four phases are planned for the ten-year study. They include aerial radar measurements of ice thickness and base rock topography, establishment of strain networks, deep drilling through the ice cap to determine the flow and baserock characteristics, and a resurveying of the strainlines in 1976. This year a series of ice thickness surveys was flown for the IAGP by the United States in an LC-130 aircraft. These radar measurements were carried out in cooperation with the Scott Polar Research Institute of Great Britain and the Technical University of Denmark. Also in

support of the IAGP, aircraft of Antarctic Development Squadron Six established five fuel depots for a French traverse that travelled from Dumont d'Urville halfway to Vostok. This traverse established a series of strain networks for measuring the ice movement as well as obtaining ice cores and temperature profiles.

Despite the harsh conditions—gale winds, cold temperatures, lack of rainfall, and alternating abundance or lack of light—life does exist in Antarctica. The ability of life to adapt itself and survive makes Antarctica a unique biological laboratory. Several cold-adaptation studies were performed this past season. From a shelter on the ice of McMurdo Sound, scientists from the University of California at San Diego continued to investigate the cold-adaptation characteristics of certain Antarctic fish. These fish appear to have a form of antifreeze in their blood that prevents them from freezing in the very cold sea water. It is possible that such a substance might be utilized as a cryoprotectant for the storage of red blood cells, sperm, and tissues.

Another team from the University of California at San Diego studied the ability of the newborn Weddell seal to survive despite the extremely cold conditions it experiences at the time of birth. Though born wet and without much fur the pup can maintain its body core temperature and survive until fur is developed. The capability of creating heat by shivering or regulating core temperature through surface vascular changes is being explored. In order to understand the structural adaptation of the seal to the Antarctic environment, a team of biologists from the University of Oklahoma worked with the California team in performing an anatomical examination of several adult and young seals.

The general characteristics of the life of the seal and penguin were also examined during the past season. A University of Minnesota team investigated the movement and migration patterns as well as the population changes of the seals in the McMurdo area. Battery powered transmitters attached to the flippers of a seal permit tracking its movements from a shelter or helicopter. Underwater television was used to observe the seals directly.

Iowa State University continued to study the embryonic development and incubation of the Adelie penguin at Hallett Station with particular attention to the behavioral adaptations of the newborn chick and the ability of the embryo to adapt to cold incubation conditions.

Recent work has shown a very low number of detectable microorganisms in Antarctic soil, generally considered to be a result of the limited amount of liquid water. In some cases, however, measurable numbers of airborne bacteria have been found. Scientists from the California Institute of Technology continued their survey in the dry valleys for the presence of microorganisms.

The season also saw the pursuit of several oceanographic projects. The National Science Foundation has two polar ships that are used for assessing and surveying the geology and biology of the southern oceans. USNS *Eltanin* for the past nine years has crisscrossed the Antarctic seas in a systematic manner. The average cruise lasts sixty days. During the cruise the scientists study ocean water circulation, the food chain and available food resources, and map the sea floor, which includes a mid-ocean ridge that nearly encircles the continent. *Eltanin* conducted two cruises during the past season. The first, a special biology cruise, was carried out in January and

February and terminated at McMurdo Station in late February. Most of the biologists debarked at that time and were replaced by a team of geophysicists who conducted a thirty day survey during the month of March in preparation for a deep sea drilling program next season.

The other research vessel *Hero* is principally involved in biological research in Antarctic Peninsula and South American waters. Space does not permit detailed accounts of research efforts, either aboard *Hero* or at Palmer Station in the peninsula area. About half of the activity this season was in marine biology with the remainder divided between the earth sciences and terrestrial biology. An international cooperative project with scientists from Argentina, Chile, the United Kingdom, the Soviet Union, and the United States entailed a comprehensive study of recent volcanic activity on Deception Island.

In addition to summer projects, there are programs that proceed on a yearly or winter-over basis. These programs are usually in the atmospheric sciences and primarily involve study of the sun and its effects on the earth's environment. Of great importance is the strong magnetic field found in Antarctica, which permits the measurement, elsewhere impossible without the use of rockets or satellites, of solar effects. During the winter night, these effects can be directly observed by watching the aurora australis wind about the sky like a ribbon. Indirectly, these same effects may be recorded on charts showing rapid variations in the strength of the earth's magnetic field. At McMurdo, the McDonnell Douglas Astronautics Company is studying ionospheric conditions as a tool for predicting deep space radiation levels. Also at McMurdo and at South Pole, the Bartol Research Foundation is monitoring variations in the rate at which high energy particles from space, the cosmic rays, pass through the earth.

This year Siple Station was scheduled to begin year-round research. Owing to operational difficulties, however, construction was delayed and will not be completed until next season. It will then be possible to carry out, on a continuous basis, investigations by Stanford University and Bell Telephone Laboratories that thus far have been conducted during the summer only. These use a unique 13-mile dipole antenna to study the coupling of very-low-frequency electromagnetic energy with charged particles in and beyond the ionosphere. Both projects are in the field of magnetohydrodynamics and are, therefore, of importance to the development of controlled fusion reactions.

Throughout the year members of the National Weather Service observe Antarctic weather and transmit data to the World Weather Watch for the determination of global weather and circulation patterns. The program also provides data for meteorological research and environmental monitoring.

In addition to year-round atmospheric studies, short term projects are conducted. For example, National Science Foundation sponsored studies have found that pollutants such as lead, DDT, and radioactive fallout exist even in the Antarctic. To study the transport of particulate matter in the upper atmosphere, a team of scientists from the University of Wyoming launched two balloons from South Pole Station. On each flight two sets of measurements were made: the first as the instrument, a dustsonde, is carried to the burst altitude of

the balloon (about 100,000 feet), and the second as the instrument descends by parachute. These measurements establish baseline values for particle concentrations over polar regions. Also at South Pole Station, the University of Rhode Island conducted studies to determine the concentration of trace metals such as aluminum and copper and of the halogens—bromine, chlorine, and iodine—in the atmosphere.

Looking toward the future, tests of an unmanned geophysical observatory, begun near McMurdo in January and February, are continuing this winter. Data from two integrated ionospheric experiments are collected and transmitted to the United States by communications satellite. Some weather and housekeeping data are also being collected and transmitted by the same means.

In conclusion it should be emphasized that all of these activities, dissimilar as they may seem, are not a fragmented effort, but parts of a national program, which in turn is integrated into a greater international effort. All of the pieces of information that are gathered are fitted into a pattern, a global pattern of knowledge concerning the world in which we live. It is hoped that the results of studies of this exciting continent will not only elucidate the history of the continent itself but also will contribute to the knowledge, protection, and proper utilization of the global environment. In the words of T.S. Eliot, "We shall not cease from exploration, and the end of our exploring will be to arrive where we started and know the place for the first time."

KENDELL N. MOULTON

EKLUND BIOLOGICAL CENTER

On February 27, 1972, the biological laboratory at McMurdo Station was dedicated as the Eklund Biological Center. Since its modest inception in 1959, this thoroughly equipped, modern facility has expanded and played a key role in the rapid development of Antarctic biology. The dedication was a fitting, if belated, tribute to the memory of Dr. Carl R. Eklund, pioneer Antarctic biologist. Dr. Eklund initially went to Antarctica in 1939 as a member of the United States Antarctic Service Expedition and returned in 1957 as Senior Scientist at Wilkes Station during the International Geophysical Year. In the period between, he was active in the north polar region. From his experience, he early recognized the importance of adequate laboratories in the field, and as a member of the National Academy of Sciences' Committee on Polar Research, was in a position to further the construction of such facilities.

Known among biologists for his studies of the skua and for the pioneering application of telemetry to ornithological research, Dr. Eklund was a man of many interests. His enthusiasm was infectious and an inspiration to those with whom he was associated. To his friends he was known for his ready wit and endless supply of amusing stories with which he often drove home a point or enlivened an occasion. All these qualities he devoted to the founding of the Antarctic Society and to his work as its first president.

U.S. ANTARCTIC SERVICE EXPEDITION CACHE DISCOVERED

A cache set by two members of the U. S. Antarctic Service Expedition (1939-1941) was discovered more than 30 years later, in May 1971, by two members of the British Antarctic Service Expedition. The BAS men were members of a surveying field party working out of Stonington Island in Marguerite Bay. Mr. Tim Christe, a surveyor, and Mr. Drummond Small, a dog driver, had been in the field for approximately 30 days when they found the cache.

The cache had originally been set by Mr. Herbert G. Dorsey, Jr., and Mr. Joseph D. Healy on February 9, 1941. They were part of the East Base compliment of the U. S. Antarctic Service Expedition located on Stonington Island. The East Base leader was Rear Admiral (then Commander) Richard B. Black, U.S.N.R. (Ret.). The base was manned by 26 persons from various government departments. It was equipped with one Curtis-Wright "Condor" biplane.

The location for East Base was selected by Rear Adm. Richard E. Byrd, Commander Black, and two Navy pilots — Ashley Snow and Earl Perce — during a scouting flight on March 8, 1940. Three days later U.S.S. *Bear* and U.S.M.S. *North Star*, anchored in the harbor at Marguerite Bay and began unloading operations. Severe blizzards and strong wind storms hindered unloading operations and it was not until March 21 that all cargo for East Base was unloaded, and the two ships departed.

The East Base party spent six days of dawn-to-dusk work in completing the main building. This consisted of a Pullman-like structure with five two-man partitioned cubicles along each wall and a long mess table down the center. The galley was at one end of the building, and the leader's quarters and sick bay at the other end. A deck the length of the building, with the exception of the galley, was raised 16 inches above the insulated main floor. This raised deck prevented the usual crust of ice from forming and resulted in a dryer and warmer environment in the living and working area. By late April they had completed the machine shop, generator building and the science building.

Scientific and geographic exploration, as well as station and equipment maintenance, occupied the winter period. Although the U. S. Antarctic Service Expedition is felt by historians to be the least reported U. S. expedition to Antarctica many papers were published in the Proceedings of the American Philosophical Society, Vol. 89, No. 1, dated April 30, 1945.

The two ships — *North Star* and *Bear* — returned to the Marguerite Bay area to relieve the East Base personnel in February 1941. They found heavy pack ice blocking their way and could penetrate no further south than Adelaide Island, about 100 miles from their goal. When the ice pack began to thicken and move northward, and when the hoped for easterly winds that would clear the bay failed to appear, everyone realized that an emergency evacuation would be necessary to prevent another winter-over.

During this time the men at East Base were investigating alternative areas where they might meet the ships. On one of these attempts to locate an over land route to a relatively ice free harbor north of Adelaide Island, the cache discovered by Christe and Small was set.

When notified of the cache discovery by Rear Admiral David F. Welch, then Commander, U. S. Naval Support Force, Antarctica, Herb Dorsey, now living in Ojai, California, recounted the incident as follows:

"The cache mentioned in Admiral Welch's letter . . . was the lesser of two depots laid on a reconnaissance undertaken to locate an 'overland' route to relatively ice-free coastal harbors north of Adelaide Island in February 1941 after ships of the 'relief force' failed to penetrate much south of there due to heavy pack ice. A cache of food containing rations for 70-dog-days and 20-man-days Was left on the high point of a rocky ridge farther from East Base.

". . . the cache and letter found by Christe and Small was placed on February 9, 1941 at . . . a place we named "Specimen Nunatak", located 69° 59'30" South Latitude and 66 48'30" West Longitude. Elevation above sea level at the base of the rocky pinnacle was 1,540 feet, at top 1,720 feet."

Dorsey also related they named the rocky pinnacle "Specimen Nunatak" since it was a "good example of a nunatak projecting above a broad ice field."

On March 20, 1941, Expedition headquarters in Washington, D. C. ordered *North Star* to Punta Arenas to unload the previously relieved West Base men and take on food for a year and a full fuel supply. Plans called for her to take advantage of any easing of the ice situation and dash in to relieve East Base. The food supply was for a possible winter-over in the ice.

The day after *North Star* departed for Punta Arenas, *Bear* approached Mikkelsen Island and discovered, from the vantage point of the crow's nest, a possible landing site for the East Base Condor on a snowfield which topped the island. Radio conferences between *Bear* and East Base resulted in a decision to attempt an aerial evacuation if the weather turned clear and cold. The cold would harden the snow field and reduce crevasse dangers; the clear weather would be necessary for the flights.

The two Navy pilots — Snow and Perce — took off at 5:30 a.m. on March 22 in the Condor with 12 passengers plus records from the expedition and emergency equipment. One hour and forty-five minutes later the Condor safely arrived atop Mikkelsen Island, a distance of some 120 miles. The Condor returned for the remaining 12 men and at about 11:30 a.m. attempted to take off. The surface, by this time, had softened enough to make a takeoff impossible. Several hundred pounds of clothing, food and other emergency equipment was discarded and after a take-off run of 1 minute and 10 seconds the Condor was airborne. By twilight the entire East Base compliment was aboard *Bear* headed for the open sea. The Condor was abandoned.

When the cache was discovered in 1971 it consisted of Hershey bars, dog and man pemmican, bacon, milk and pipe tobacco. Christe and Small consumed the chocolate on the spot and fed the man pemmican to their dogs. The dog pemmican had deteriorated and was thrown away. The milk was still good and a message from the BAS base on Stonington Island reported ". . . tobacco now in glass jar on bar at Stonington and being smoked."

BOOK NOTES

Members of the Antarctic Society are literate. Many of them know how to write as well as read. Of the four books discussed below, two were written by fellow members, and *Research in Antarctica* was edited by another, with several of the contributors also belonging to the Society. Perhaps there are others writing on topics of general interest. The Editor would like to hear from them.

K. J. Bertrand, *Americans in Antarctica, 1775-1848*, American Geographical Society (Special Publication No. 39), New York, 1971, 554 pp. + xvi, illus. \$25.00.

Dr. Bertrand, long-time member of the Antarctic Society and Chairman of the Geography Department at the Catholic University of America, has written an important and long-awaited book. In it he sets down the activities and accomplishments of United States nationals in the Antarctic area from the eighteenth century to 1950. In what he set out to do he has succeeded. It is doubtful that anything has escaped his scrutiny. The volume will, therefore, become a work of standard reference.

Americans in Antarctica is no more a history of the area than is L. B. Quartermain's *New Zealand and the Antarctic*, noted in the last issue of this *Bulletin*. Both chronicle what the citizens of one nation have done to explore and study the area. Dr. Bertrand is well aware of this limitation and in an introductory chapter briefly sketches the historical background and elsewhere in the volume reminds the reader of contemporary events in which Americans did not participate.

The organization frequently seems repetitious as if each chapter were written to a formula. To appreciate why this is so, a few words about the origins of *Americans in Antarctica* are relevant. Since 1924, United States policy toward territorial sovereignty in the Antarctic has remained unchanged. It recognizes no claims of others and makes no claims of its own, but reserves the right to do so based on the activities of its nationals. After World War II, rising sentiments of interest and nationalism made it appear that this policy might not long remain viable. It was decided that the possible basis for United States claims should be investigated and documented to strengthen our position in negotiating some sort of international settlement or, if that failed, to put forward a claim or claims of our own. Dr. Bertrand was commissioned to prepare a study, or as it was sometime called a "white paper", which would provide the required documentation. The successful negotiation of the Antarctic Treaty in 1959 rendered such a study unnecessary. Dr. Bertrand requested and was given permission to seek a publisher for the results of his research. A good deal of revision of the original manuscript was necessary to put it in a form acceptable for public consumption.

To this reader the chapters dealing with the voyages of the sealers and whalers are more interesting than those retelling voyages of Wilkes in the nineteenth century and Byrd, Ellsworth, Ronne, and others in the twentieth. Even though Dr. Bertrand's summaries of the latter's activities and accomplishments are informative and accurate, persons conversant with Antarctic history are already acquainted with the material. The story of the sealers, however, was known only to

specialists in maritime history, and Dr. Bertrand has gone beyond their published works to dig out additional information from public archives, university libraries, marine society records, contemporary newspapers, and other sources. In so doing, he has made important and original contributions to the history of discovery as well as of the Antarctic.

Americans in Antarctica should be on the bookshelf of every serious student of Antarctic history.

L. O. Quam, ed., and H. D. Porter, assoc. ed., *Research in the Antarctic*, American Association for the Advancement of Science (Publications No. 93), Washington, D.C., 768 pp. + illus. and map, 1971, \$24.95 (AAAS members \$19.95).

The editors' preface points out that this volume is an "outgrowth from, but not a complete record of the Antarctic Research Symposium held in Dallas, Texas, December 1968 at the 155th Annual Meeting of the American Association for the Advancement of Science (AAAS)." Thirty-three papers are included, divided into seven sections with the number of papers in each indicated in parentheses: Introduction to Research in the Antarctic (3), Biology (8), Glaciology (4), Cold Poles and Heat Balances (3), Conjugate Phenomena (6), Ocean Dynamics (4), Gondwanaland (5). The last six sections also have brief introductions setting the various papers within the framework of the disciplines involved. Forty-six authors contributed to the volume.

Such a collection of papers is not a systematic review of current knowledge of the Antarctic even though the contributions illustrate the principal fields of research. As might be expected in a book by diverse hands, there exists considerable variance in treatment and clarity among the papers. For example, the reader may question why forty-eight pages are devoted to the glacial geology of a single valley while only ten are given to the "Thickness of Ice and Isostatic Adjustments of Ice-Rock Interface."

It would be presumptuous for this reader, who has no scientific background, even to try to assess the worth of the various contributions. He can only say that he understood and enjoyed some more than others. As a whole the volume gives a splendid overview of the kinds of research being conducted by United States scientists in the Antarctic. The variety and importance of the investigations are a tribute to the U.S. Antarctic Research Program and the individuals to whom it has given support.

Research in the Antarctic is highly recommended with the small reservation that the reader should have some general scientific knowledge to appreciate fully many of the articles.

Charles Neider, ed., *Antarctica: Authentic Accounts of Life and Exploration in the World's Highest, Driest, Windiest, Coldest, and Most Remote Continent*, New York: Random House, 464 pp., 1972, \$10.00.

As the subtitle indicates, *Antarctica* is an anthology. No two persons would choose the same works or the same portions of the same works to excerpt. Mr. Neider has included accounts of fourteen authors, all but two of whom participated in United States or British expeditions. The exceptions are the Russian, Bellingshausen, and the Norwegian, Amundsen. Such concentration on the nationals of two countries distorts the historical picture and omits, for

example, French, German, and Swedish expeditions of which engrossing narratives have been written. One also may wonder why the anthologist includes two selections each from the Cook and second Scott Expeditions, and nothing from the first Scott or first Shackleton Expedition. A sketchy chronology at the end hardly compensates for these deficiencies.

In brief, this anthology contains what Mr. Neider likes, and what he likes is good. Also to his credit, the selections are sufficiently lengthy to give the reader a comprehension of the style of the authors. Many explorers wrote well, although Cook, Shackleton, and Byrd had considerable assistance in preparing their accounts for publication. Further, the narratives of most of the early explorers are not available except in the very largest research libraries, and it is a real service to reprint lengthy selections in a handy form.

The editing is minimal. The editor devotes the introduction to an account of his routine trip to Antarctica in 1969 rather than to an explanation of how he made his choices and the significance of each in the exploration of Antarctica. Lack of adequate maps and absence of illustrations may be the fault of the publisher, but they would have helped.

J. M. Dukert, *This is Antarctica*, revised edition, New York: Coward, McCann and Geoghegan, 109 pp. + illus., 1972, \$5.09.

This book is a revised edition of one originally published in 1965. The author has obviously tried conscientiously to bring the work up-to-date both in text and illustrations.

Mr. Dukert has a facile pen, perhaps a little too facile at times, and he occasionally lets his enthusiasm run away with him. On the whole, however, he has accomplished what he set out to do: to present in a short volume "the right highlights in the right proportions." *This is Antarctica* is particularly suitable for young readers at the junior high school level.

Library of Congress, *Antarctic Bibliography: 1951-1961*, Washington, Government Printing Office, 1970, pp. 349, \$4.75.

This publication fills a gap between the U. S. Naval Photographic Center, *Antarctic Bibliography*, 1951 (see, *Antarctican Soc. Bull.* No. 2) and the continuing bibliography also prepared by the Library of Congress and covering the literature since 1951, four volumes of which have been published. The present volume includes 4,773 titles organized into thirteen sections largely on the basis of scientific disciplines but also containing sections on expeditions (history), logistics, political geography, and a catch-all labeled "general." To assist the user, there are three indexes: author, subject, and geographic. Unfortunately, unlike the continuing bibliography mentioned above, only 15 percent of the entries, instead of all, have been abstracted. Brief annotations are provided for another 25 percent. For the remainder, the inquirer must depend upon the title alone to guide him. For those engaged in serious research this publication will prove most useful and should be in any serious antarctic library.

Addendum. The editor has been informed that L. B. Quartermain's *New Zealand and the Antarctic*, reviewed in the last *Bulletin*, may be purchased in the United States from Lawrence Verry Incorporated, Mystic, Connecticut 06355 at the cost of \$10.00 (U.S.). Mail orders will be filled. In addition to this important book, Lawrence Verry also distributes other New Zealand and Australian publications. A catalogue is available upon request.

CHANGE IN NAVY ANTARCTIC COMMAND

On the basis of a National Security Council study, President Nixon in 1971 directed that the Antarctic Program be maintained at the existing level, but that management and funding be consolidated in the hands of the National Science Foundation instead of being divided among the NSF and the Departments of Defense and Transportation. The decision became effective at the beginning of fiscal year 1972, except for funding of icebreaker operations for which the Department of Transportation will continue to pay until certain technicalities are worked out.

Pursuant to this decision, it was directed that studies be made with the objective of rendering the operation more effective and economical. Those studies were carried out during the past year, and many recommendations resulted. The first one to be adopted is to close the Washington headquarters of the U.S. Naval Support Force, Antarctica, and transfer the command to the Construction Battalion Center, Atlantic, at Davisville, Rhode Island, where it will be combined with the already existing Antarctic Support Activities Command. Even though it will be necessary to augment the staff in Davisville by transferring some positions and people from Washington, other positions can be eliminated. These changes, together with savings in rent, services, and other incidentals, reduce the overall expenditure by approximately a half million dollars.

Military personnel whose positions were abolished have been reassigned within their respective services. The records and library accumulated over a period of sixteen years by the History and Research Division of the Naval Support Force, Antarctica, have been removed to the Center for Polar Archives of the National Archives and Record Service where this unique collection will continue to be accessible to those interested in Antarctica. The former head of the division has accompanied the collection to its new location.

The change became effective on September 6, in a ceremony at McMurdo Station, Antarctica. Captain Alfred N. Fowler, USN, Commander, Antarctic Support Activities, relieved Captain Harry W. Swinburne, Jr., USN, as Commander, U.S. Naval Support Force, Antarctica. Captain Swinburne had taken over the command from Rear Admiral Leo B. McCuddin, USN, on August 21.

As far as operations are concerned, the transfer will not result in sweeping changes. The Navy, as executive agency of the Department of Defense in Antarctic Matters, will continue to carry on its logistic support activities much as in the past, except that rather than having its own funds, it will be reimbursed for its expenditures by the National Science Foundation. In the future, further reorganization and shifts of function may occur because of the studies made last year or others to be made in the future.

At 3:14 on the morning of February 11, 1972, the cruise ship *Lindblad Explorer* grounded in Admiralty Bay, King George Island. The exact cause of the accident, which is of course a matter for judicial inquiry, has not been determined, at least publicly. There was, however, a storm raging with high seas and reduced visibility.

Because the extent of damage was unknown, it was feared that the ship might roll over on her side or even capsize. At 3:45 the staff of the tour director, Mr. Lindblad himself, awakened the passengers, instructed them to dress warmly and to report to the salon. There they were informed of what had occurred and told that they would be put over the side into small boats until it became clear how the *Lindblad Explorer* would react. One of the passengers later remarked that the most chilling words of her life were the Captain's, "Stand by to abandon ship".

Approximately ninety passengers remained in the small boats for over four hours by which time it was obvious that the ship was as solidly run up on the beach as if she had been in dry dock. During this period, a party went ashore and examined an unoccupied British base for possible use as a refuge had it proven necessary to abandon ship. It was found adequate for the purpose. Messages requesting assistance also went out. In that sector of Antarctica, stations are maintained by Argentina, Britain, Chile, the Soviet Union, and the United States, and the likelihood is good of vessels of one or more of these nations being in the area. As it happened, the Chilean research ship *Piloto Pardo* and ocean-going tug *Yelcho* were close by and responded immediately. Argentine and British vessels also answered the call. Naval authorities in Washington began an immediate investigation of what the United States might do to assist, but soon discovered that our closest ship, the Coast Guard icebreaker *Southwind*, was five days steaming distance from King George Island.

With assurance of *Lindblad Explorer's* stability, the passengers returned to the ship to await the arrival of the Chileans shortly after midday. With the storm somewhat abated but a high sea still running, the arduous task of transferring passengers, the service crew, and some members of the deck - Crew to *Piloto Pardo* began. Only a handful of the deck crew remained aboard *Lindblad Explorer*.

Obviously the small Chilean vessel was not prepared for such an influx of passengers; food, mattresses, bedding, and the passengers' personal belongings also had to be transferred between ships. Such was the skill of the small boat crews that no one was injured and no property lost.

For seven days the unexpected guests remained aboard *Piloto Pardo*. Beds were found for the women, but the men slept where they could—on the deck, on and beneath tables, in the passageways, and most anywhere else. No one complained. From Punta Arenas, Chile, where the passengers debarked, they flew to Buenos Aires and then dispersed. None was the worse for his experience.

Yelcho remained with *Lindblad Explorer*, but even with the assistance of an Argentine tug, was unable to free the stricken ship. The feat was finally accomplished by the German salvage vessel *Arktis*. After being towed to Buenos Aires where initial repairs were made, *Lindblad Explorer* proceeded under her own power to Europe where she entered a yard for refitting.

On May 24, 1972, Prince Bertil of Sweden presented the Vega Medal of the Swedish Society for Anthropology and Geography to Dr. Albert P. Crary, Director of the Division of Environmental Sciences, National Science Foundation. The medal was established in 1880 and was first awarded to the Arctic explorer Adolf Erik Nordenskjöld. Recipients, noted for their work in the Antarctic, have included Sir Ernest Shackleton, Roald Amundsen, and Rear Admiral Richard E. Byrd. Dr. Crary was invited to join this illustrious company because of his work in both polar regions. In reporting the ceremony, the Stockholm newspaper *Svenska Dagbladet* called him, "possibly our time's most experienced polar investigator . . ."

During the International Geophysical Year, Dr. Crary was Deputy Chief Scientist for the Antarctic Research Program and the scientific leader in the field, being stationed at Little America. He led traverses on the Ross Ice Shelf and one to the Victoria Land Plateau. During *Deep Freeze 61*, he conducted a glaciological party from McMurdo Station to the South Pole by way of the Skelton Glacier, arriving on February 12, 1961, after sixty-four days on the trail. From 1959 to 1967 he occupied the position of Chief Scientist of the United States Antarctic Research Program. Other investigations have taken him to Bahrein, Venezuela, Columbia, and the Arctic. He is one of few men to have stood at both poles.

Dr. Crary has belonged to the Antarctica!) Society since its beginning in 1959. He has contributed to the work of the Society in many ways—as a speaker at its meetings, committee member and, from 1966 to 1968, its President.

CANTERBURY MUSEUM

Perhaps no place in the world has a more intimate acquaintance with Antarctica than the charming little city of Christchurch, New Zealand. Scott, Shackleton, and Byrd passed that way; each year hundreds of Americans en route to the ice enjoy its hospitality. Those who wish to learn about their host country visit the Canterbury Museum and come away informed about the history of New Zealand and the environment in which it unfolded.

To commemorate its first 100 years, the museum has launched a world-wide campaign to raise money for a hundredth anniversary wing. Considerable space in the wing will be reserved to illustrate Christchurch's contribution to Antarctic history and to explain the environment of the continent, islands, and seas south of New Zealand—their biology, geology, meteorology, and oceanography.

Already the museum has collected over two thousand priceless relics of early Antarctic exploration for which it needs proper display space. The National Science Foundation, the U.S. Naval Support Force, Antarctica, and the New Zealand Antarctic Research Program have contributed artifacts illustrating contemporary activities. In addition, the museum has books, maps, photographs, paintings, scientific publications, and what is most important, manuscript diaries and other documents, principally of New Zealanders who have assisted or participated in the many expeditions that have departed from Christchurch. For these materials, it desires to create a study center where some may be exhibited and all may be made available to students and researchers.

Some members of the Antarctic Society have already contributed to this worthy cause; it is hoped that others will desire to do so. Contributions may be sent to the Canterbury Museum, Rolleston Avenue, Christchurch 1, New Zealand, in care of Dr. Roger S. Duff, Director.

TREASURER'S REPORT

Mr. W. R. MacDonald, Treasurer-Membership Secretary, submitted to the President and Board of Directors the following financial statement covering the period July 1, 1971 to May 8, 1972:

Income		Expenses	
Dues & Initiation	\$ 921.00	General Printing	\$ 345.00
Misc.-Ant. Covers	299.16	Honorarium	116.00
Eastman Kodak Div.	16.00	Mailing Services	136.54
Garden Party	496.00	Antarctic Covers	179.12
		Society Meetings	311.15
		Miscellaneous	81.78
TOTAL	\$1,732.16	TOTAL	\$1,169.59
Cash on hand July 1, 1971			\$1,017.67
Income			1,732.16
TOTAL			\$2,749.83
Expenses			1,169.59
On hand May 8, 1972			\$1,580.24

Assets

Eastman Kodak
Stock ... 10 Shares at \$117.00 per share = \$1,117.00

Membership

		1972 Dues	
Honorary	4		(4)
Corporate	47		(0)
Overseas	28		(3)
General	437		(141)
TOTAL	476	148	(31%)

SECRETARY'S REPORT (1971-1972)

During the 1971-1972 winter season, the Society's Board of Directors met monthly at the Arctic Institute of North America offices on New Hampshire Avenue, Washington, D.C. Significant agenda items taken under advisement by the Board were the establishment of an international memorial at International Square, McMurdo Station, Ross Island, for all who have perished in Antarctica; assisting the New Zealand Antarctic Society in its efforts to fund an Antarctic wing for the Canterbury Museum in Christchurch, N.Z., through the purchase of Scott-Amundsen medallions; and an evaluation of

a proposal to recast the Society into a bipolar organization. Recommendation's on these matters will be made to the Society this fall.

The Society's meetings this past year were also held monthly. Highlights of the past year were International Night hosted by the British Embassy when films of Shackleton's last expedition, his fourth, were shown; the Memorial Lecture by Frank T. (Taffy) Davies, a member of the Byrd Expedition of 1928-1930; and a look into future Antarctic scientific programs by NSF personnel.

Suggestions for this season's programs are welcome and should be made known to Board members or Society officers for transmittal to the Program Chairman.

The Society's final event of last season was the annual garden party held at the Stronghold Estate on Saturday, June 10.

F. S. BROWNORTH

EDITOR'S NOTES

The Editor appreciates the replies from members to his request for opinions about turning the Antarctic Society into a bipolar organization. Because the issue has been resolved, it seems unnecessary to publish them in the *Bulletin*. In his message, the President has indicated the importance of the letters in "assisting the Board of Directors to reach its decision of May 31, 1972.

The Treasurer-Membership Secretary has reported considerable difficulty in keeping the membership list current. In our highly mobile society, Antarcticans; like other Americans, are frequently on the move. Please inform the Treasurer of any change of address by dropping a card to him at The Antarctic Society, 1619 New Hampshire Avenue, N.W., Washington, D.C. 20009.

In 1969 the Editor had the pleasure of visiting the Canterbury Museum in Christchurch, during which he enjoyed a tour of its treasures conducted by the scholarly and amiable director, Dr. Roger Duff. We discussed the plans, then just taking shape, for the museum's expansion. I was fortunately able to arrange the donation of a few items of equipment and some publications. Subsequently, I became one of the first contributors to the fund drive. In the back of my mind, however, the thought existed, and it still does, how nice it would be if the Antarctic Society were in a position to obtain a headquarters building with space for a small museum and library. Just a day dream, of course, but these activities are authorized in the Society's articles of incorporation.

HENRY M. DATER
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