



THE ANTARCTICAN SOCIETY

905 NORTH JACKSONVILLE STREET

ARLINGTON, VIRGINIA 22205

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No. 3

- Society Finally Goes West -

THE FUTURE OF THE WEST ANTARCTIC ICE SHEET

by

Charles R. Bentley

Geophysical and Polar Research Center

University of Wisconsin

and

Chairman, Polar Research Board

National Academy of Sciences

on

Thursday, December 8, 1983

8 PM

Auditorium

Terman Engineering Center

Stanford University

Palo Alto, California

(Directions-page 3)

The Society's largest single enclave of Antarcticans is in the San Francisco Bay Area, and these good folks will host the first meeting of the Society outside the Washington home base. A good turnout may make this event an annual occurrence, so all ye West Coasters, be there! Charlie Bentley first started going to Antarctica during the Little Ice Age, and has inside knowledge based on his infinite intuition as to what will happen to the West Antarctic Ice Sheet in the next century. Hopefully he will share this with us on the 8th.

* * * * *

Last call for Society calendars! We are accepting only prepaid orders this year, so out-of-town members who want them should send \$6 per calendar to the Society's address. Washington area members who want to pick them up at Ruth Siple's should send \$5 per calendar. Hopefully, mailings will be shortly after the middle of December. Your order MUST be in by 30 November!

This Newsletter has three objectives - meeting the deadline for the upcoming West Coast meeting on the campus of Stanford University on December 8th; restating our intention of selling the 1984 USAKP calendar only to those who send in prepaid orders; and sending a final notice to those members who are delinquent on their 1983-84 dues. We deeply appreciate that 120 members paid for future years, particularly that thirty-five signed up for five more years. It surely helps the bookkeeping for us. There are only three weeks between our November meeting and the December meeting, so we don't have much time. The format will be a bit different, as we have one central theme - dissertations on Antarctica.

AN EVENING WITH BENTLEY.

This will be a real good one; not only do we have a good man on the dais, but a very educated Antarctic crowd for an audience. We imagine that Charlie may put a little levity into the program as he did when he presented our 1980 Memorial Lecture in Washington. This meeting is being advertised on the West Coast as "1st Meeting of the Tom Poulter Memorial Chapter of the Antarctic Society", and everyone sincerely hopes that his widow, Helen, will be able to attend. Tom, of course, was the scientific leader on the 2nd Byrd Antarctic Expedition, 1933-35. The flyer states that Charlie will be speaking on "Is the West Antarctic Ice Sheet Really Melting Away?" We changed the wording a bit on the front page, as Charlie told Ruth he had forgotten just what he told Art Ford, so things aren't exactly set in concrete, or should we say finalized in ice? Who are all the Californians who should be there? The driving forces setting this up are John Katsufakis of Stanford, Art Ford of the USGS, and John Roscoe, happily unemployed retiree. Katsufakis is a large Antarctic tern who flies south each year; it is strongly rumored that Moulton is the only American bird to have made more flights than the Stanford physicist. Art Ford is a geologist at the USGS who started going south in 1960 and has made it an irregular habit ever since. John Roscoe adds another dimension, going back to Operation High Jump and Operation Windmill. John is one of three Vice-Presidents of the American Polar Society and is rallying their California members to the meeting. Bob Helliwell, atmospheric physicist at Stanford who dates back to the IGY, has been everywhere in Antarctica, including Eights and Plateau. Rob Flint has wintered over at Byrd ('64), Plateau ('66), and Vostok ('74); summered at Siple twice, once at Vostok, and once at Dumont d'Urville. William Trabucco is another upper atmospheric physicist who has a distinguished record down south. J. M. Detwiler, a LCDR in the Navy back in the 60's, was in the Antarctic four summers. Lewis Odell Smith is an O.A.E., dating back to Operation Windmill, who, somehow, resurfaced in Operation Deepfreeze in '66-'67. And when it comes to climbing, Nicholas Clinch led the expedition to the Sentinels in '66-'67. An invertebrate physiologist, Albert Towle, was at McMurdo in the summer of '69-'70. And there are some recent Antarcticans, too, as none other than Michele Raney, the doctor who was the very first woman to winter over at the South Pole is being Stanfordized in anesthesiology - or is it anesthesiologized at Stanford? One of the first women to go to Antarctica on a ship was Susan Patla who was there in the '74-'79 era. John Guerrero, who wintered over at the South Pole with Paul Siple in 1957, lives in Chico. Rex Hanson, one of the exchange scientists at Vostok ('80), is one of the young kids. Priscilla Grew is the other half of the team of Grew and Grew. Just because Ed is teaching-researching in Germany does not mean that he can't have a San Francisco wife, as he does,

who is very gainfully employed there as a commissioner. -- *Fauno Cordes* is the woman who supplied us with her very interesting bibliography on Antarctic novels. -- *Richard Miller* is another old-timer, dating back to '58-'59 when he was leader of the Ross Sea Ichthyology Project. -- But all these folks pale in comparison to *Gordon Fountain* who was on the legendary BEAR OF OAKLAND on the 1933-35 Byrd Antarctic Expedition. Don't feel sorry for Gordon, as I just saw him within the past month and he looks just as good as old Art Ford. -- *Bob Feeney* is at Davis, and he has been an active Antarctic. -- There's a *Robert Rofen* whom I'm not certain about, but he does have research interests. -- *Walt Dabberdt* did a study on Plateau winds, although he has never been south of Las Vegas. -- *Charles Neider* is not a Society member, but I believe this writer is in the San Francisco area. -- There are a lot of good Antarcticans in southern California, including one of Admiral Byrd's daughters, one of his grandsons, one of his granddaughters, as well as *Gentleman Jim Zumberge* (who won't be too gentlemanly if the Trojans don't start winning), *Mary Goodwin*, and many others. It should be a gala evening!

TERMAN ENGINEERING CENTER, STANFORD UNIVERSITY, WHERE ARE YOU? Thanks to John Katsufakis, who has engineered "An Evening with Bentley," we think we can give you the proper directions for getting there. It is my understanding that everyone in California is very familiar with the El Camino Real (California Route 82) so find your way to Palo Alto on that historic highway. You should turn in to Stanford on Palm Drive, which appears to be the main entrance. After crossing Arboretum Road, get ready to take the next right, Campus Drive, which circumscribes the Harvard of the West. Stanford does not put a scale on their campus maps, so I don't know how far one goes, but the road swings left, then comes right 90 degrees, then left 90 degrees, followed by a straight stretch. You will be taking a left off this open stretch onto Santa Teresa Street. If you find yourself going by Governor's Corner, you should come about and head back to Santa Teresa. Terman Engineering Center is across Sam Morris Way from Roble Gym, where, I presume, there are plenty of parking spaces. Those who are going to the Faculty Club (adjacent parking) for sustenance will find it within a short walking distance of Terman, being in a southerly direction on Lagunita Drive. If we have confused you, call Art Ford at the USGS in Menlo Park (323-8111, Ext. 4123). As to the gathering at the Faculty Club prior to the presentation, we will have a number problem, as there's room for only 24 in the room where some of us are dining. Art and John are handling the dinner reservations, and when they get to 24 they will close up shop.

AMERICAN GEOPHYSICAL UNION GOES POLAR. If man's best laid plans do not go asunder, the American Geophysical Union will henceforth have a polar session at all future meetings, a decent and honorable step forward for the geophysicists in rightfully recognizing the importance of the polar regions. The first polar session will be at their upcoming "fall" meeting in mid-December in San Francisco. Geophysicists may not know fall from winter, but they do know how to pick a good conference city. The polar session (December 8th) will be co-chaired by Ed Todd and Bob Rutford, and will feature Juan Roederer from the University of Alaska (The Upper Atmosphere in Polar Regions, A Window to Outer Space); Knute Aagaard of the University of Washington (The Search for Northern Sources of Deep Waters); David Elliot of The Ohio State University (Earth Sciences Research in Antarctica); Charlie Bentley of the University of Wisconsin (Antarctic Glaciological Research); Jim Zumberge of the University of Southern California (The Scientific Committee on Antarctic Research-SCAR); and R. Tucker Scully of the Department of State (Political Developments Relating to Antarctica). To stimulate a little more interest in Charlie Bentley's lecture to the Society on the 8th, we are including his abstract of what he will present earlier that day to the American Geophysical Union.

Antarctic Glaciological Research

The objectives of Antarctic glaciological research are to determine the dynamics of the Antarctic ice masses, to ascertain their role in world climate, and to understand the record of environmental parameters stored in the layers of firn and ice. There are three principal aspects to current research: ice coring, studies of glacier dynamics, and glacial geophysical measurements.

A number of shallow, intermediate, and deep ice cores have been recovered and analyzed for a continually expanding list of isotopic, chemical, and physical properties. Interpretation of these yields detailed information on past environmental conditions and sheds light on past dynamics of the ice sheet that are crucial to the understanding of its response to climatic change. The evidence for concurrent changes in CO₂ content and paleotemperature is particularly dramatic. Measurements on ice cores have also yielded values of physical parameters necessary for the interpretation of remote sensing information.

Studies of ice dynamics proceed slowly because of the huge size of the ice sheet. Nevertheless, evidence is growing, from regional studies of surface mass balance combined with ice movement measurements using repeated satellite positioning, that suggest a rising and steepening of the ice-sheet surface. Numerical model studies, which play a vital role in ice dynamics, have suggested the possibility of surges of the ice sheet and have provided realistic scenarios for major post-glacial (and perhaps future) changes in the West Antarctic ice sheet.

Geophysical measurements are used for a variety of purposes – for obtaining clues to paleodynamics from various reflectors within, and at the base of, the ice sheet (radar sounding), for determining internal crystalline fabrics (seismic shooting), for calculation of englacial temperatures (electrical resistivity measurements), and for studies of isostasy and glacial history (gravity).

AND THERE WERE TEN. Kennard Bubier, aviation mechanic on the 1st Byrd Antarctic Expedition, 1928-30, who lived in Corona Del Mar, California, died on July 2, 1983. He had retired as a Lieutenant Colonel from the U.S. Marine Corps in 1953, and then worked another eleven years for Lockheed Aircraft. His death leaves ten living members of the 1st Byrd Antarctic Expedition—Larry Gould, Henry Harrison, Howard Mason, Norman Vaughan, Dean Smith, Eddie Goodale, Carroll Foster, Ed Roos, John Bird and Leland Barter. — Some of the fellows in NSF ran into Norman Vaughan up on the ice cap in Greenland this past summer. It seems a couple of planes (now extinct) went down on the ice cap during World War II and the downed crew decided not to wait for the rescue dogs (led by Norman) but to walk on out to civilization, which they did. The planes were left out there, and now, some forty years later, someone came up with the great idea of going back and retrieving them for some museum. So they got old Norman out of Alaska and rendezvoused in Greenland, hoping to find the planes. I understand that everyone had a lot of fun, that they told a lot of good stories; but the snow and ice were reluctant to divulge just where they were holding the planes. — Martin Ronne, who was on the '28-'30 Byrd Expedition, sired Finn, who in turn sired Karen, who in a pre-Veterans Day production on November 10th gave birth to a real bouncing boy, Michael Ronne Tupek, who checked in at 10 pounds, 9 ounces. Now it's only a question as to where Mike will play football!

ED TODD WANTS RETIREMENT. The Pride of Newburyport, Massachusetts has decided there is nothing more to live for now that the New Yorker has immortalized him with that cartoon of Ed walking down the street in polar garb. In one of the best known

secrets in Washington, Ed finally went through with his plan of asking NSF to search for his replacement. The announcement for applicants for Director of the Division of Polar Programs closes 25 November 1983. The whole Antarctic community waits with bated breath to find out who will ascend the throne on the 6th floor in NSF. Ed expects that his replacement will come aboard by late winter or early spring. Please disregard statement on page 3 that Ed would be co-chairman of the AGU polar session on 8 December, as Ed will be on a trip to the ice.

ANTARCTIC DISSERTATIONS. This has long been a subject of interest to me, because I have felt that the National Science Foundation's Division of Polar Programs was probably financing more PhDs per unit grant than any comparable office in the Foundation, which I thought was highly commendable as it seems to be consonant with the basic theme of Antarctica being a scientific laboratory. My curiosity led me to soliciting dissertation titles and authors from both The Ohio State University and the University of Wisconsin. We published the former (Vol. 81-82, December, No. 3) and looked at the latter. This year I thought it would be interesting to go to Xerox University Microfilms people in Ann Arbor (300 North Zeeb Road) to get a listing of Antarctic-type dissertations in their computer, so we did. We made up a list of key words - there is no limit to the number one can submit - and got a printout of 215 references, but only 181 were valid! We knew of ten others which did not show up on the printout, so we are working with a base of 191 dissertations. We can't list them all in a single newsletter - it would take too many pages - so we will spread them out over several issues. This Newsletter will show some special categories on pages 6-11.

ANTARCTIC IVORY TOWERS OF LEARNING. Our list shows that degrees have been awarded by 61 universities. There are two giants, Wisconsin and Ohio State, with 27 and 22 dissertations, respectively. Then there are nine additional schools which have produced over five dissertations: University of California at Davis, Columbia, Florida State, Johns Hopkins, Minnesota, Stanford, Texas ASM, VPI, and Washington. Here they are, with number of dissertations awarded:

| | | | | | |
|------------------|----|-------------------|---|----------------------|---|
| Wisconsin | 27 | Duke | 2 | Louisiana State | 1 |
| Ohio State | 22 | George Washington | 2 | MIT | 1 |
| California-Davis | 11 | Illinois | 2 | Nevada-Reno | 1 |
| Columbia | 9 | Miami (Florida) | 2 | Oklahoma | 1 |
| VPI | 8 | Oxford (UK) | 2 | Oklahoma State | 1 |
| Texas ASM | 7 | Saint Louis | 2 | Perm State | 1 |
| Florida State | 6 | So. California | 2 | Princeton | 1 |
| Johns Hopkins | 6 | Texas Tech | 2 | Purdue | 1 |
| Minnesota | 6 | Tufts | 2 | Rice | 1 |
| Stanford | 6 | Wyoming | 2 | South Carolina | 1 |
| Washington | 6 | Arizona State | 1 | South Dakota | 1 |
| Maine | 4 | Boston | 1 | State Univ.-NY | 1 |
| Oregon State | 4 | Boston College | 1 | Temple | 1 |
| Calif.-San Diego | 3 | Case Western | 1 | Tennessee | 1 |
| Iowa State | 3 | Clark | 1 | Washington Univ. | 1 |
| Maryland | 3 | Colorado | 1 | William and Mary | 1 |
| Michigan | 3 | DePaul | 1 | McGill (Canada) | 1 |
| New York Univ. | 3 | Georgia | 1 | Melbourne (Aust.) | 1 |
| Rhode Island | 3 | Harvard | 1 | U.S. Internat'l U. | 1 |
| | | Idaho | 1 | Victoria (N.Z.) | 1 |
| | | Kansas | 1 | Witwatersrand (S.A.) | 1 |

BY DEPARTMENTS. It is pretty difficult to put the studies into groupings by disciplines, as so many could be placed in two or more categories. So we have separated them by the departments in which the degrees were granted. There are a few surprises, such as a degree coming from an agriculture department, another one coming from an anatomy department, and conversely, with all that snow and ice only one from a hydrology department. So, for a continent that has no crops except snow, we have equal representation in agriculture and in hydrology!

| | | | |
|-------------------------|----|------------------------|---|
| Geology | 45 | Microbiology | 3 |
| Oceanography | 21 | Political Science | 3 |
| Zoology | 17 | Psychology | 3 |
| Atmospheric Sciences | 15 | Biochemistry | 2 |
| Geophysics | 15 | Limnology | 2 |
| Ecology | 12 | Physiology | 2 |
| Geography | 10 | Agriculture | 1 |
| Biology | 6 | Anatomy | 1 |
| Engineering | 6 | Environmental Sciences | 1 |
| Paleontology | 6 | Geochemistry | 1 |
| Biological Oceanography | 4 | History | 1 |
| Botany | 4 | Hydrology | 1 |
| Chemistry | 3 | Inorganic Chemistry | 1 |
| Marine Science | 3 | | |

WOMEN OF ANTARCTICA. According to our information, the first woman to earn a PhD on Antarctica was Mary Adamkiewicz, who back in 1950 did a dissertation in the Geography Department at Temple on "Twenty-five Years of American Antarctic Exploration, 1925-50." Wonder whatever happened to dear old Mary? Even Pete Burrill, the grandfather of American geography, has no idea. There are only four older listings: Stewart- 1933; Wade - 1937; Siple - 1939; and Warner - 1942; so she was in real good company. There wasn't another woman on the list until nineteen years later, 1969, when a real Antarctic name, Lois Jones, received her degree from The Ohio State University. All together thirteen women have received Antarctic degrees: Adamkiewicz, 1950; Jones, 1969; Katherine Green, 1975; Greta Fryxell, 1975; Cynthia Whitman, 1976; Claire Parkinson, 1977; Jennifer Kitchell, 1978; Donna Oliver, 1979; Jeannette Thomas, 1979; Ellen Mosley Thompson, 1979; Anne Douglass, 1980; Charlene Denys, 1981; Katherine Balshaw-Biddle, 1981. But there must be more, so let us know about them, please!

DISSERTATIONS ON PENGUINS, SEALS, SHAGS, AND SKUAS.

- Pinshow, Berold Philip. Energy expenditure for thermoregulation and locomotion in Emperor penguins. 1976. Duke University.
- Derksen, Dirk Van. A quantitative analysis of the incubation behavior of the Adelie penguin (*Pygoscelis adeliae*). 1974. Iowa State University.
- Thompson, David Hugh. Mechanisms limiting food delivery by Adelie penguin parents exclusively to their genetic offspring. 1974. The University of Wisconsin-Madison.
- Ainley, David George. Communication and reproductive cycles of the Adelie penguin. 1971. The Johns Hopkins University.
- LeResche, Robert Edward. Ecology and behavior of known-age Adelie penguins. 1971. The Johns Hopkins University.
- Penney, Richard Lee. Territorial behavior and social interactions by the Adelie penguin. 1964. The University of Wisconsin-Madison.

- Douglas, Donald Sterling. Salt and water metabolism of the Adelie penguin. 1963. Duke University.
- Ho, Charles Yen-Kuang. Biochemistry and immunochemistry of penguin egg-white proteins. 1975. University of California-Davis.
- Allison, Richard Gall. Proteins of penguin egg white and blood serum. 1968. University of California-Davis.
- Thomas, Jeanette Anne. Quantitative analysis of the vocal repertoire of Weddell seals (*Leptonychotes weddelli*) in McMurdo Sound, Antarctica. 1979. University of Minnesota.
- DeMaster, Douglas Paul. Estimation and analysis of factors that control a population of Weddell seals (*Leptonychotes weddelli*) in McMurdo Sound, Antarctica. 1978. University of Minnesota.
- Boyd, Robert Bruce. A comparative anatomical study of the respiratory systems of the Antarctic Weddell and Crabeater seals. 1973. The University of Oklahoma.
- Hofman, Robert Joseph. Distribution patterns and population structure of Antarctic seals. 1975. University of Minnesota.
- Gilbert, James Robert. The biology and distribution of seals in Antarctic pack ice. 1974. University of Idaho.
- Bernstein, Neil Philip. Activity patterns, energetics, and parental investment of the Antarctic Blue-eyed shag (*Phalacrocorax atriceps bransfieldensis*). 1982. University of Minnesota.
- Trivelpiece, Wayne Zebulun. Ecological studies of Pygoscelid penguins and Antarctic skuas. 1981. State University of New York, College of Environmental Science and Forestry.
- Schlatter, Roberto Pablo. Social organization of non-breeding South Polar skuas at Cape Crozier, Antarctica. 1972. The Johns Hopkins University.
- Eklund, Carl Robert. Distribution and life history studies of the South-polar skua. 1959. University of Maryland.

DISSERTATIONS ON FISHES, INCLUDING KRILL.

- Denys, Charlene Jeanne. The visual pigment and photoreception of the Antarctic krill, *Euphausia superba* (Crustacea, Euphausiacea). 1981. DePaul University.
- Daniels, Robert Artie. Aspects of the biology of Antarctic fishes. 1980. University of California-Davis.
- Targett, Timothy Erwin. Trophic ecology and structure of coastal Antarctic fish communities. 1979. University of Maine.
- Crawford, Richard Earl. Digestive system morphology, gastric evacuation rates and energetics in Antarctic Notothenia. 1978. University of Maine.
- Eakin, Richard Reynolds. The osteology and relationships of the fishes of the Antarctic family Harpagiferidae (*Pisces, notothenioides*). 1976. University of Maine.
- Ahmed, Ahmed Ibrahim. The structure-function relationship of antifreeze glycoprotein from an Antarctic fish. 1974. University of California-Davis.
- Dobbs, Gary Hobson, III. Agglomerularism in Antarctic teleost fishes. 1974. University of California-San Diego.

- Vandenheede, Jackie Rogier. Primary structure and mechanism of action of a freezing-point depressing glycoprotein from Antarctic fish. 1972. University of California-Davis.
- McSweeney, Edward S. Morphology and distribution of the Antarctic Cranchiid squid *Galiteuthis glacialis* (Chun). 1971. University of Miami.
- Komatsu, Stanley Kazuo. Proteins of cold-adapted Antarctic fishes. 1969. University of California-Davis.
- DeVries, Arthur Leland. Freezing resistance in some Antarctic fishes. 1968. Stanford University.
- Somero, George Nicholls. Mechanisms of cold adaptation in some Antarctic fishes. 1967. Stanford University.
- DeWitt, Hugh Hamilton. A revision of the Antarctic and southern genus *Notothenia* (*Pisces, nototheniidae*). 1966. Stanford University.

DISSERTATIONS ON OCEANOGRAPHY (MOSTLY PHYSICAL OCEANOGRAPHY) .

- Molinelli, Eugene John. Isopycnal transport by the Antarctic circumpolar current and the Antarctic influence at intermediate water densities. 1979. Columbia University.
- Williams, Richard Turl, II. The ocean tide and waves beneath the Ross Ice Shelf, Antarctica. 1979. Virginia Polytechnic Institute and State University.
- Schlemmer, Frederick Charles, II. Structure and spreading of Antarctic bottom waters in oceanic basins adjacent to Antarctica. 1978. Texas A&M University.
- Lutjeharms, Johann Reinder Erlers. Meso-scale dynamics in the Southern Ocean: A statistical analysis of historic data. 1977. University of Washington.
- Herrera, Luis Enrique. On the origin, propagation and mixing of Antarctic intermediate water in the Atlantic Ocean. 1973. New York University, School of Engineering and Science.
- Johnson, Ronald Ernest. Antarctic intermediate water in the South Pacific Ocean. 1972. Oregon State University.
- Callahan, Jeffrey Edwin. The structure and circulation of deep and bottom waters in the Antarctic Ocean. 1971. The Johns Hopkins University.
- Irish, James David. Australian-Antarctic tides. 1971. University of California-San Diego.
- Devine, Michael. Dynamics of the Antarctic circumpolar current. 1969. New York University.
- Knapp, Warren Willard. A satellite study of large stationary polynyas in Antarctic coastal water. 1969. The University of Wisconsin-Madison.
- Kolpack, Ronald Lloyd. Oceanography and sedimentology of Drake Passage, Antarctica. 1968. New York University, School of Engineering and Science.
- Littlepage, Jack Leroy. Oceanographic and zooplankton investigations in McMurdo Sound, Ross Sea, Antarctica. 1967. Stanford University.

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If you move, PLEASE send us your NEW address!

DISSERTATIONS ON THE SOUTHERN OCEAN.

- Taylor, Hoyt Weston. Some large-scale aspects of the Southern Ocean and its environment. 1980. Columbia University.
- Toole, John Merrill. Wintertime convection and frontal interleaving in the Southern Ocean. 1980. Massachusetts Institute of Technology.
- Corliss, Bruce Hayward. Studies of Cenozoic deep-sea benthonic foraminifera in the Southern Ocean. 1978. University of Rhode Island.
- Georgi, Daniel Taylan. Temperature fine-structure in the Southern Ocean. 1977. Columbia University.
- Lutjeharms, Johann Reinder Briers. Meso-scale dynamics in the Southern Ocean: A statistical analysis of historic data. 1977. University of Washington.
- Weaver, Fred Martin. Late Miocene and Pliocene radiolarian paleobiogeography and biostratigraphy of the Southern Ocean. 1976. The Florida State University.
- Schornick, James Curtis. Uranium and thorium isotope geochemistry in ferromanganese concretions from the Southern Ocean. 1971. The Florida State University.
- Pisher, Victor Arthur. The Southern Ocean 700,000 years ago. 1960. The Florida State University.
- Martin, David William. Satellite studies of cyclonic developments over the Southern Ocean. 1968. The University of Wisconsin-Madison.
- Hays, James Douglas. Antarctic radiolaria and the Late Tertiary and Quaternary history of the Southern Ocean. 1964. Columbia University.

DISSERTATIONS ON FRESHWATER STUDIES.

- Howell, Leonard Wood, Jr. A mathematical model for Lake Bonney, Antarctica. 1977. Virginia Polytechnic Institute and State University.
- Weand, Barren Luther. The chemical limnology of Lake Bonney, Antarctica with emphasis on trace metals and nutrients. 1976. Virginia Polytechnic Institute and State University.
- Whitman, Cynthia McIlroy. A hypothetical mathematical model of the benthic algal mat in Lake Bonney, Antarctica. 1976. Virginia Polytechnic Institute and State University.
- Samsel, Gene Leroy, Jr. Limnology of select freshwater systems near the Antarctic Peninsula—Field and Laboratory studies. 1971. Virginia Polytechnic Institute and State University.
- Bierle, Donald Arthur. The ecology of an Antarctic freshwater lake with emphasis on the ciliate protozoa. 1969. University of South Dakota.
- Wharton, Robert Andrew, Jr. Ecology of algal mats and their role in the formation of stromatolites in Antarctic-Dry Valley lakes. 1982. Virginia Polytechnic Institute and State University.
- Seaburg, Kenneth Gus. Temperature and algae - a study of South Victoria Land, Antarctica, algae and their habitat distributions as influenced by temperature. 1979. Virginia Polytechnic Institute and State University.
- Harris, Henry John Hayden. Hydrology and hydrogeochemistry of the South Fork, Wright Valley, Southern Victoria Land, Antarctica. 1981. University of Illinois at Urbana-Champaign.

DISSERTATIONS ON PEOPLE AND POLICY.

- Siple, Paul A. Adaptations of the explorer to the climate of Antarctica. 1939. Clark University.
- McGrael, Lawrence John, Jr. Expectation of Antarctic duty. 1963. The Pennsylvania State University.
- Smith, William Marion. Developments of informal structure and some reactions to danger in a small group in Antarctica. 1964. The George Washington University.
- Oliver, Donna Mitchell. Some psychological effects of isolation and confinement in an Antarctic winter-over group. 1979. United States International University.
- Plott, Barry Merrill. The making of United States Antarctic policy. 1969. Tufts University-Fletcher School of Law and Diplomacy.
- Bing, Richard Newton. The role of the developing nations in the formulation of international controls for unoccupied regions: Outer space, the ocean floor, and Antarctica. 1972. Tufts University.
- Westermeyer, William Edward. Alternative regimes for mineral resource development in Antarctica. 1982. University of Southern California.

DISSERTATIONS ON ATMOSPHERIC SCIENCES (METEOROLOGY AND CLIMATOLOGY)

- Douglass, Anne Ritger. A model of the Antarctic sink for stratospheric water vapor. 1980. Iowa State University.
- Neff, William David. An observational and numerical study of the atmospheric boundary layer overlying the East Antarctic ice sheet. 1980. University of Colorado-Boulder.
- Parish, Thomas Richard. A study of topographically-forced surface winds in Antarctica with special emphasis on the katabatic flow at Adelie Land. 1980. The University of Wisconsin-Madison.
- Bromwich, David Howard. Precipitation and accumulation estimates for East Antarctica, derived from rawinsonde information. 1979. The University of Wisconsin-Madison.
- Mechoso, Carlos Roberto. The atmospheric circulation around Antarctica: Linear stability and finite amplitude interactions with the mid-latitudes of the southern hemisphere. 1979. Princeton University.
- Miller, Stephen Andrew. An analysis of heat and moisture budgets of the inversion-layer for steady-state conditions over the Antarctic plateau. 1973. The University of Wisconsin-Madison.
- Schlatter, Thomas Willard. The local surface energy balance and sub-surface temperature regime in Antarctica. 1972. Saint Louis University.
- Dabberdt, Walter Fred. Wind and turbulence structure in the boundary layer over the Antarctic plateau. 1969. The University of Wisconsin-Madison.
- White, Fred Donald, Jr. The radiative factor in the mean meridional circulation of the Antarctic atmosphere during the polar night. 1963. The University of Wisconsin-Madison.
- Sabbagh, Michael Ernest. A preliminary regional dynamic climatology of the Antarctic continent. 1961. The University of Wisconsin-Madison.
- Dalrymple, Paul Clement. A physical climatology of the Antarctic plateau. 1963. Boston University.

Riordan, Allen James. Climatedonic modeling of the dry valleys of Victoria Land, Antarctica with comparison to snow-covered regions. 1977. The University of Wisconsin-Madison.

Thompson, Ellen Mosley. 911 years of microparticle deposition at the South Pole: A climatic interpretation. 1979. The Ohio State University.

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A LITTLE LEVITY (submitted by John Splettstoesser for Bergy Bits). This is the kind of Antarctic story that often has to incubate for awhile before it can be told in print. In other words, the statute of limitations should have expired by now. When I went to Antarctica in November 1961 to be part of a University of Minnesota geologic expedition in the Ellsworth Mountains, I stayed at McMurdo for several days before going on to Byrd Station. When I arrived at McMurdo from Christchurch, lodging was very tight, as it often is, and especially at that time in McMurdo's history. The usual places were filled, so I was given a place to sleep in the so-called Cryopedology Laboratory, which was a small Jamesway building dedicated to Bob Black's (University of Wisconsin, now University of Connecticut) research project on patterned ground. Bob's students, Tom Berg and Jim ("Sully") Sullivan, roomed in the lab during the 1961 winter while conducting continuing research on ground temperatures and the like. Now that summer had arrived, they had moved out into regular USAKP quarters, and I slept in the lower bunk of the double-bunk arrangement. Bob Black arrived a few days later and slept in the upper-bunk. No one else lived in the building.

I remembered Tom and "Sully" from the previous season, 1960-61, when they did some field work prior to their wintering over. The story I remember about "Sully" is his choice of spirits. In those days, alcoholic spirits were provided free by NSF at McMurdo for field parties as part of the field rations. Your allotment depended on the number of field members and the expected duration of your¹- field work. Sounds like a pretty good deal, and it was, except that there were often inordinate delays in getting to the field because of bad weather, plane crashes, etc., and it was possible to consume a considerable volume of the field spirits at Byrd Station before one ever got to the field. Anyway, prior to the wintering-over at McMurdo, "Sully" was asked what kind or kinds of liquor he wanted for his winter "field" project, and he said "a case of creme de menthe." That has always stuck with me, because you would have to know "Sully" to imagine anyone actually choosing only creme de menthe when there were all kinds of other (free) choices. I expected to see him with green skin after the 1961 winter, but I guess he had sloughed it all off by the time I got there. Tom Berg is remembered by many of the 1960's Antarcticans as a good-natured guy who unfortunately was killed in a helicopter crash in one of the dry valleys in 1969. Berg Field Center at McMurdo is named for him.

However, the real reason for telling this story is still coming. The afternoon of the first day that I arrived at McMurdo in 1961, I was alone in the Cryo Lab when a number of biologists from the nearby biolab trooped in, led by Don "Curly" Wohlschlag, the Stanford Professor of Biology and mentor of several of the students he accompanied. (That biolab is now the Eklund Biolab, and the Cryopedology Lab was about where the westernmost part of the present USARP garage is.) One carried cocktail glasses, another had a cocktail pitcher, others had bottles of vermouth and olives. It was obviously time for the cocktail hour before evening dinner at the McMurdo mess hall. Tom Berg and "Sully" arrived a little later. The only commodity not apparent was gin, which someone informed me was in a box under the bunk I was sitting on, and would I "please get some out and join us." The box turned out to be a case of Beef-eater gin, and after the martinis were mixed and distributed and we had begun to get

on to serious discussions, someone asked me how I liked the martini. I said that it was very good, and then something to the effect that Beefeater is some of the best gin for the job, at which they all laughed heartily and I thought I had made friends unusually quickly with my piercing wit. Well, after a few more splashes of martinis, after which the same question was asked and much the same answer was given, followed by roars of laughter, I thought these biologists were really okay, and I started to think of some other jokes I could tell. Not so, at least the part about my jokes. What they were laughing at was the part about the Beefeater. It was sure good gin, all right, but it wasn't Beefeater, it was theirs. They made it in the biolab, having brought the ingredients, like juniper, with them, and concocting their own recipe. They simply poured their batches into Beefeater bottles and used them over and over. Sure enough, when I slid the box back under the bunk I noticed that there were no tax stamps on the caps, and all the seals were broken, even though nearly all the bottles were full.

Some of those same biologists, then graduate students but now professors, are still active in Antarctic field research, presumably escaping any mishaps associated with a moonshining operation. I left for Byrd Station a few days later, about the time my liver told me it was time to leave town.

EMILIO PUCCI, ANTARCTICAN? Our letterhead shows Emilio Pucci as an Honorary Member, and our new people keep asking, "How come?" Once upon a time Pucci was a dear friend of one of our members, a French correspondent, who persuaded Emilio to design an Antarctic scarf for our Society. Needless to say, they sold like hot-cakes, and, in appreciation the Society voted him an Honorary Member. I had no idea whether Pucci was alive or dead until summer before last when he surfaced in Washington for a benefit fashion show by Italian designers. That benefit evidently was not for him, as an article in the Washington Post implied that everything he touches turns to gold. The article said that the "familiar geometric prints and bright colors that have been his signature for almost 30 years continue to sell around the world." And he exports wine, and also honey in an earthenware jar he designed. He is going to design another Lincoln Continental. He's evidently into men's underwear - bright pastel printed underwear. He's on the city council in Florence, Italy, where he lives, at age 69, in a huge palazzo and drives a car with bullet-proof windows. While in Washington, he showed dresses which had 8,000 hand-cut stones and which took five months to make, so the guy must have a lot of extra time on his hands. I guess he's done pretty well for himself, as he wears two wristwatches at the same time!

PASSING THOUGHT. Wonder if Brooke Knapp had not been a beautifully built and statuesque blond with a million-dollar smile if she would have gotten all that fuel at McMurdo from the Navy for her Pole-to-Pole globe circling. According to the Washington Post of 14 November, she wrote to the Division of Polar Programs at NSF asking for fuel at McMurdo, and Ed Todd wrote back telling her, in effect, "Heavens no! We aren't in business to support adventurers on boondoggling affairs." That fellow Todd surely is a pure scientist, but then again, he hadn't actually seen her! So Brooke reevaluated her position and decided to make some personal calls on the Navy. She found out that the Navy was real broadminded, and they said something like "Don't worry about NSF. You just meet us in McMurdo and we'll give you the whole place." Don't we have room for Brooke as an Honorary Member? Just asking!

NEW RECORD LOW. The Russians reset the absolute minimum temperature for this old planet, -128.6°F at Vostok on 21 July 1983. Previous record was -126.9°F, set at Vostok in 1960. Wonder when the Russians will come up with a higher world record wind speed than the 231 MPH measured atop Mt. Washington nearly 50 years ago?