



THE ANTARCTICAN SOCIETY

905 NORTH JACKSONVILLE STREET
ARLINGTON, VIRGINIA 22205

HONORARY PRESIDENT - MRS. PAUL A. SIPLE

Presidents:

Dr. Carl R. Eklund, 1959-61
Dr. Paul A. Siple, 1961-62
Mr. Gordon D. Cartwright, 1962-63
RADM David M. Tyree (Ret.), 1963-64
Mr. George R. Toney, 1964-65
Mr. Morton J. Rubin, 1965-66
Dr. Albert P. Crary, 1966-68
Dr. Henry M. Dater, 1968-70
Mr. George A. Doumani, 1970-71
Dr. William J. L. Sladen, 1971-73
Mr. Peter F. Bermel, 1973-75
Dr. Kenneth J. Bertrand, 1975-77
Mrs. Paul A. Siple, 1977-78
Dr. Paul C. Dalrymple, 1978-80
Dr. Meredith F. Burrill, 1980-82
Dr. Mort D. Turner, 1982-84
Dr. Edward P. Todd, 1984-86
Mr. Robert H. T. Dodson, 1986-88

Honorary Members:

Ambassador Paul C. Daniels
Dr. Laurence McKinley Gould
Count Emilio Pucci
Sir Charles S. Wright
Mr. Hugh Blackwell Evans
Dr. Henry M. Dater
Mr. August Howard

Paul C. Daniels

Memorial Lecturers:

Dr. William J. L. Sladen, 1964
RADM David M. Tyree (Ret.), 1965
Dr. Roger Tory Peterson, 1966
Dr. J. Campbell Craddock, 1967
Mr. James Pranke, 1968
Dr. Henry M. Dater, 1970
Sir Peter M. Scott, 1971
Dr. Frank Davies, 1972
Mr. Scott McVay, 1973
Mr. Joseph O. Fletcher, 1974
Mr. Herman R. Friis, 1975
Dr. Kenneth J. Bertrand, 1976
Dr. William J. L. Sladen, 1977
Dr. J. Murray Mitchell, Jr., 1978
Dr. Laurence McKinley Gould, 1979
Dr. Charles R. Bentley, 1980
Dr. Robert L. Nichols, 1981
Dr. Robert H. Rutford, 1982
Mr. R. Tucker Scully, 1983
Dr. Richard P. Goldthwait, 1984
Dr. Mark F. Meier, 1985
Dr. Claude Lorius, 1986

Vol. 87-88

February

No. 4

Welcome to our gracious second Honorary President!

MENTAL HEALTH EVALUATION OF WINTER-OVERS IN ANTARCTICA

by

CDR John M. Mateczun, MC, USN
M.D., MPH
Chairman, Department of Psychiatry
Portsmouth (VA) Naval Hospital

and

LCDR Elizabeth Holmes, MSC, USNR
PhD, Clinical Psychology
Thrasher Faber Associates
Norfolk, Virginia

on

Thursday evening, 24 March 1988

8PM

National Science Foundation
18th and G Streets N.W.

Room 543

- Strong hot coffee and good commercial cookies -

John and Betsy were the psychiatrist and psychologist team from the Naval Hospital in Bethesda who screened for Operation Deep Freeze from 1983 until 1987. Both have gone to Antarctica to debrief the winter-overs. Betsy went to McMurdo in 1985 and presents research on the 84 personnel. John went to the South Pole in 1986 and will present his observations of the 19 people who wintered over. Both will speak on the Navy Medical Department's support to the National Science Foundation. This could be a hot and lively meeting, and those of you who were ever debriefed by either John or Betsy had better show up and defend yourselves. This should be a fun evening. Come and be psychoanalyzed!

Isn't it just great we have Ruth Siple for our Honorary President! She is an awful prude, but a fastidious and devoted worker. So it's like signing her up for life with the Society - a life-time contract to work without compensation. We're shrewd!

This issue is a mini-milestone, marking the 60th Newsletter, by the unlikely twosome of rjs and pcd, in the past ten years. There have been a lot of anecdotes recounted, some special features, too many obituaries, and occasionally even some news items. There is no game plan for this column outside the fact that we try to find something of interest for all Antarcticans, young and old, and that we never let the truth stand in the way of a good story. However, we are making efforts to make it more timely, and we beseech current investigators to send us personal accounts of their achievements. We leave the hardcore science to the professional publications, and try to highlight the "up-front and personal."

The meeting with Bob Hofman on *Conservation of Marine Living Resources* was the Society's 135th in our 28-year old history. Brash Ice has been to the last sixty meetings (29 March 1977 -9 February 1988), but missed the joint meeting with the Washington Group of The Explorers Club in order to watch on TV the two Brians at Calgary. C'est la vie!

RUTH J. SIPLE BECOMES OUR HONORARY PRESIDENT. Your Board of Directors unanimous] agreed that Ruth Siple should become our second Honorary President, succeeding the late Ambassador Paul C. Daniels who died on April 6, 1986. This was announced by President Robert Dodson to a near-capacity group of attendees at the February 9th meeting. It is expected that an "official induction" will take place at the 1988 Memorial Lecture.

Ruth became a member of our Society in 1962, which means she is eligible to wear our mythical 25-year diamond penguin brooch. She would have joined earlier, but the forefathers in our Society were a bunch of good old boys from the Antarctic, and women were recognized as mothers of their children who remained faithful to them while they went south and then met them at dockside on their return. Ruth has served the Society in a number of capacities, including being its first woman president. Her official title now is "Treasurer for Life," but she is far more than just that, as she does all of the hard-core administrative work. Her hardest job is censoring Brash Ice (formerly Bergy Bits) so it can go into every member's living room!

Ruth was born in Cincinnati, Ohio, and some years later her parents moved to Meadville, Pennsylvania, home of Allegheny College, which just happened to be where Paul A. Siple was an undergraduate, and where they met. Both graduated from Allegheny, and several years after he returned from the Second Byrd Expedition, they were married in the college chapel. Their honeymoon was spent at the annual meeting of the Association of American Geographers in beautiful, downtown Syracuse, New York, on their way to Clark University. After Paul obtained his PhD at Clark, he went on the U.S. Antarctic Service Expedition, serving as leader of West Base, and doing the experimentations for his wind chill computations. While he was in the Antarctic, their first daughter, Ann was born. Two years later Jane arrived. Then there was another expedition, Operation Highjump, and Paul saw to it that there would be another baby around the house to keep Ruth out of trouble while he was gone - their third daughter, Mary Cathrin. Fortunately for Ruth there was a hiatus of Antarctic expeditions between 1947 and 1957, and so endeth the growth of a wonderful family.

Ruth is very family oriented, is the catalyst who keeps in contact with her five brothers, and sister, and her love for her daughters and their families is a thing of great beauty. She has strong religious faith, but is now experiencing heartaches over developments the past six years within her beloved Episcopal church. She is probably the most forward-looking person any of you will ever know, never talks about yesterday, and greets every day with unabated enthusiasm. She loves everyone, and promises to be the most kissable Honorary President in the United States.

After family and church, cometh the Antarctic Society. I doubt if there is any Antarctic who keeps in touch with more of the early American Antarticans than Ruth; she is the lightning rod they all contact when in trouble, sorrow, or need, or just to be friendly.

Her Antarctic highlight came on 9 January 1975, when she actually stood at the South Pole, having been taken there by the National Science Foundation for the dedication of the new South Pole station. Those eight hours at the Pole were probably the sweetest eight hours of her life; at the slightest mention of the trip, she pulls pictures from her billfold to show herself at the Pole. Usually nothing much good happens to good people, but in this instance, here was something real great happening to a truly fantastic person - having the opportunity to also go into the original South Pole station which her late husband had built in 1956, and to sit, presumably, where he sat in the science building.

Our Society cannot help but be graced and honored by her serving as our titular head our Honorary President. She adds class to our group. She will be an active Honorary President, as the Society will continue to function out of her home, and she will continue working like a sledge dog. Congratulations, Ruth! We love you, and may your 40th birthday be a long way off.

SIPLE STATION FADES AWAY. Add Siple Station to the list of defunct U.S. Antarctic stations, as it is about to join Little America I through V, Ellsworth, Wilkes, Hallett, Eights, Byrd, and Plateau as former U.S. stations. There actually were two Siples - the one dating late 1969, first as a summer station, then as a permanent station in 1971; and the rebuilt Siple from the early 1980s. However, the ravages of time have had their effects, and there is no way one can belay hydrostatic pressure which has pushed the subsurface buildings up into the steel overhead arches (which were once 22 feet high, 44 feet wide). It would be an expensive operation to put Siple back into a safe operating mode, and right now the National Science Foundation has much higher financial priorities - the building of the new science facility at McMurdo and a new ice-strengthened research vessel. Siple was also a victim of its strategic location (as a conjugate station to Roberval, Quebec), 1250 miles from McMurdo. It wasn't a favorite flight of pilots, as not only was it a long flight, but the station often had foul weather. So Siple will be closed after approximately five retrograde flights during which they will remove desirable equipment, and then burn off several thousand gallons of fuel.

We should probably try to entice either Bob Helliwell or John Katsufrakis to write an obituary on Siple Station. Its demise and closing certainly mark the end of one of the most brilliant scientific chapters in Antarctic history. And you know something? No woman ever wintered over at Siple, making it man's last wintering-over bastion in the Antarctic! I remember once hearing the astute and personable Lou Lanzerotti say at a National Academy of Sciences' Polar Research Board meeting that Siple Station merited becoming an international station. Could it be reborn?

HOVERCRAFT PASSES EARLY TESTS IN MCMURDO WITH FLYING COLORS. Last April Steve Dibbern, polar vehicular expert with the Army's Science and Technology Center in

Charlottesville, told us about the possible glories of using an air-cushion vehicle at McMurdo. Within the past month, Steve's dream has come true, as an English Griffon 1500-TD hovercraft, made in this country by Frank W. Hake, Inc., arrived on ship at McMurdo. Erik Chiang tells us that it has been successfully tested in trips to Willy Field and also to White Island. It normally takes five to six hours for tracked vehicles to make a round trip to White Island; the hovercraft made it out and back in only 90 minutes - cutting the overall time by three-fourths! Evidently this would have been an excellent year to have had one in full use, as the ice went out early, and it could have saved a lot of expensive flying time maintaining personnel at such places as New Harbor. The hovercraft has a cruising range of 200 miles, and bids well for a great Antarctic future.

NEW U.S. RESEARCH VESSEL FOR ANTARCTICA BECOMING MORE THAN A WISH. The United States has had a long-standing need for research ships with ice-breaking abilities for use in both polar regions. The Coast Guard breakers are not only ill-fitted for scientific laboratories, but the Department of Transportation, their parent organization, has priced their utilization by the National Science Foundation completely out of the picture. So ITT has solicited bids for a research vessel, approximately the size of the old Wind class icebreakers, with ice-breaking capabilities. Hopefully the contract can be awarded by the middle of this year, and there is a wistful dream that it will be in operation by January 1990. This vessel will have a full-time commitment to Antarctic waters, and will, in all likelihood, be based out of Punta Arenas or Ushuaia. However, she won't be in port very often, as she will really be a seagoing workhorse. - P.S. The Washington Post for 8 February 1988 said the Coast Guard is drafting a plan "to decommission two aging polar ice breakers, the WESTWIND and the NORTHWIND."

VIKING DEATH FOR NELLA DAN. The 26-year old NELLA DAN is no more; she took her own life on Christmas Day 1987, sinking in 4570 meters of water off Macquarie Island. The ship was unloading fuel oil to the Macquarie base on 4 December 1987 when its anchor suddenly dragged in 32-knot winds and high seas. Within half an hour it was driven onto a reef, tearing holes in its bottom, with water filling the engine room and drive shaft. On Christmas Eve she began her final trip, being towed out to sea where she was going to be stripped of her fittings and then scuttled. But like any proud woman, she had her own ideas about her demise - a fire suddenly broke out, presumably from two diesel generators running on deck to pump water. The salvage crew hightailed it off the ship when she listed 30 degrees, and Jim Bleasel, Director of the Australian Antarctic Division, reported that the NELLA DAN looked like a Persian oil rig with flames soaring high into the air before she sank. She took with her \$NZ550,000 worth of equipment which will not be salvaged. Bleasel said that the NELLA DAN chose to die like a traditional Viking rather than accept the planned scuttling. Shades of the famed BEAR OF OAKLAND!

Australia has already awarded a contract for the replacement vessel to Carrington Slipsway, in New South Wales, and the new ship is expected to be finished by September 1989. Meantime, the Aussies made a worldwide search for a replacement cargo ship, and found one lying idle at a Montreal dockside, the 103m LADY FRANKLIN, blessed with a skipper and crew boasting of plenty of Antarctic experience. She was due in Hobart on 15 January to pick up 55 builders to take to Casey where they will build a new station. It seems that Casey is in precarious shape, as one article said they could not "guarantee beyond March that it won't be blown to bits in a blizzard." The Aussies really moved out on the ship procurement and contract, didn't they? Don't they have bureaucratic red tape down under?

We are indebted to our own Paul L. Adams for these news items. He is currently living in Auckland, having swapped houses with a Kiwi for several months. Incidentally,

Paul, how did you go about that? I think that's fantastic, trading off winter months in the States for summer months in New Zealand! Was your agent the shrewd Walt Seelig?

CHALET PREVIEWS ALAN CAMPBELL. A relatively young - depending entirely on which side of 37 years you may be - artist from Athens, Georgia by the name of Alan Campbell has taken his southern accent, paint brushes, and pencils to McMurdo Sound and produced 23 watercolors and drawings which were recently shown at the Chalet at McMurdo. An article in the New York Times for 15 February by Charlotte Evans didn't say whether any penguins viewed the showing, nor did it say how it was received by camp personnel, but there were a lot of comments from Alan which we will confiscate for Brash Ice. Following the sneak preview at the Chalet, the show took to the road, and people in Christchurch, Wellington, and Auckland are getting a chance to see it. When Alan completes his Antarctic paintings/drawings, he expects to have about a hundred. The opening exhibition in the States will be in September at the Thomasville (Georgia) Cultural Center. Its itinerary is "still incomplete," but tentatively will be seen at the Macon (Georgia) Museum of Arts and Science, and at Oglethorpe University in Atlanta - Georgians really love Antarctica - then the Hunter Museum in Chattanooga, and the Addison-Ripley Gallery in Washington.

Alan has been in the Antarctic for the past two and a half months, seeking to meld art and science with brush and pencil. Maybe there should be an Alan Campbell Antarctic Calendar, as it seems he may have caught it all - an ice cave in Taylor Valley, the POLAR STAR breaking ice in McMurdo Sound, a penguin rookery at Cape Royds, Shackleton's Hut, hot scones at Vanda, et cetera. But there were some Antarctic qualities that Alan thinks may not be paintable. He recalled sitting on the bank of Lake Fryxell in Taylor Valley at 2 AM, trying to draw glaciers and suddenly being overcome by Denton's silent Antarctica. Alan asked, "How can you convey total silence in a painting? I am partially able to get it into words. I'll have to see the paintings to see if it's in the paintings at all." He also found it hard to adjust to the unexpected range of colors, as "you get things that are incredibly far away that look very close because of the clarity of the cold air and bright light and the resulting optical effects."

Alan was amazed at the "incredible clarity of light." As a Mainiac, Brash Ice takes great pride in Alan's comments that "the only place I've ever seen that approximates it, is Maine." Alan must have a brilliant future in front of him! He said, "On a glacier you just don't have white with gray shadows. You might have yellows and pinks in the white of the sunlight working with pastel blues and lavenders and violets in the shadows. But to convey the feeling of this place, you need to know how to control those things, to know that a pale yellow-white against a certain type of violet will give you a stronger sensation of light than just white against blue." Alan also spoke of the fusion of reality and abstraction in the Antarctic landscape, "The more real you attempt to paint it, the more abstract it becomes." You know, Alan sounds a lot like Casey Stengel! May he be one tenth as successful, as Casey died an extremely wealthy man.

MORE ON SUPERNOVA. In the last Newsletter we wrote about the ongoing supernova research in Antarctica, and to wrap it up, we are reprinting the news release of 22 January from the National Science Foundation on the experiment.

An advanced gamma-ray detector, launched in Antarctica and borne aloft to an altitude of 115,000 feet by a helium balloon measuring 11.6 million cubic feet, has collected data on the spectrum of gamma-ray emissions from the supernova 1987A..... Originally intended to be flown aboard the space shuttle, the detector was housed in a solar-powered gondola, attached to a parachute, and suspended beneath the balloon. After the January 8 launch from Williams Field, ... near McMurdo Station, ... the balloon and payload remained aloft

for 72 hours. Released on a radio signal from scientists, it made a soft landing on the remote east antarctic plateau, approximately 200 miles from the Soviet station at Vostok, and was retrieved by a U.S. Antarctic Program LC-130 Hercules airplane on January 13.

While the balloon was in sight of McMurdo Station, the instrument system, designed by a University of Florida team led by A. Carl Rester, telemetered data directly to Williams Field. During the first two days, scientists recorded ten hours of gamma-ray data on supernova 1987A and eight hours of data on background radiation in the earth's stratosphere. Once past the horizon, the instruments automatically stored data in memory for transmission to an airborne station aboard an LC-130 flown under the balloon.

Researchers flying under the balloon on January 11 discovered that a 3,000-volt power supply in the detector was delivering only 1,135 volts. Their choices were to leave the instrument package aloft, allowing it to circle the geographic South Pole to obtain data on circumpolar wind patterns, or to bring it down in an area where they could retrieve it. Opting for retrieval, they brought the gondola safely down by parachute. By bringing the instrument back to the laboratory at McMurdo, the team [was] able to study the radioactivity induced in the detector by exposure to the cosmic rays.

..... The objectives of the balloon-borne antarctic gamma-ray detector experiment are to confirm that cobalt-56 was produced in supernova 1987A and to acquire new information about how fast the shock waves passed through the mantle of the exploding star.

Participants in the project include eight scientists and engineers from the University of Florida, the Goddard Space Flight Center, the Catholic University of America, and the Defense Advanced Research Projects Agency (DARPA) Nuclear Monitoring Office. A team of 12 balloonists from the Air Force Geophysics Laboratory, New Mexico State University, and Oklahoma State University assembled and launched the balloon and its payload and operated the tracking and telemetry system.

MARRIAGE - A GAME FOR ONLY THE STOUTHEARTED. Our youngest-at-heart member, Norman Vaughan, 82, Harvardian dropout who drove dog teams on the First Byrd Antarctic Expedition, 1928-30, entered the hallowed halls of marrieddom for the fourth time, marrying another Society member, Carolyn Muegge of Atlanta, a youthful lass of 45 years in early January. You may recall that Norman and Carolyn did the Iditarod race as a twosome last winter, and this column speculated that their late finish - two weeks behind winner Susan Butcher - might have been due to some hanky-panky along the 1,157 miles, as Norman isn't really that slow a driver!

According to the Frontiersman of 6 January 1988 (provided to us most gratefully by one of our loyalists, Arville Schaleben), they were married in some place called Peters Creek - a most appropriate place for any 82-year-old's marriage - during "lightly falling snow outside of rustic Forks Roadhouse, eight miles from the nearest plowed road and fifty miles from Mount McKinley." Two hundred friends and family arrived by dogsled, snowmachine, cross-country skis, and helicopter. The altar was a snow-covered platform festooned with spruce boughs and a ceramic dog-team molded in miniature. The vows were administered by a fellow Iditarod mustier, Burt Bomhoff. Then the fur-hatted guests moved inside and crowded around a bar heated by a wood stove and decorated with bearskins, moose racks, and gold-mining artefacts.

Norman looked just great in an accompanying picture, more like 52 than 82, and sure is a great endorsement of why one should live in Alaska and not Arizona. He was quoted after the informal ceremony punctuated by howls of dogs as saying, "I'm a

very happy man. Getting married to a girl like Carolyn is a great experience and a great adventure. You can't beat that." Sounds like the winning quarterback talking after winning the Super Bowl! After the reception he and Carolyn drove a dog team off to his log cabin where they supposedly enjoyed "a brief honeymoon." After all, when you are 82, what man needs a prolonged honeymoon? Quicker is probably better, if not bestest! Besides, Carolyn needed to return to Atlanta for business, and Norman had to continue his preparations for his 11th run in the Iditarod. Watch for it and Norman and Carolyn on national TV in late March, as one of the major networks is covering the race.

One must keep things in their right perspective, and not get overwhelmed by something as mundane as a simple old honeymoon. This summer Norman is going back to Greenland in another effort to recover two bombers and six fighters that crash-landed during World War II. He also plans on going back to the Antarctic, taking a dog team to the South Pole, being there for his 85th birthday, 19 December 1990. Don't count him out; he'll probably be there. Norman, you are a devil. You are also being envied by every old codger in our Society who wishes he was in your boots. Go for it!

ONCE A FOKKER, ALWAYS A FOKKER. The Fokker Universal monoplane which flew itself backwards for half a mile into complete destruction in the Rockefeller Mountains on 15 March 1929 was recently seen by a four-man New Zealand expedition studying the geology and biology of the area. Originally Bernt Balchen and Harold June had flown Larry Gould into the area so Larry could conduct some geological studies. They set up camp on the snow, but soon were beset with foul weather. Murphy's Law then took over, and conditions worsened. Larry estimated that the winds which tore the plane loose from its moorings were about 150 mph. Our immediate past president, Ed Todd said that Larry's description of the blizzard in Cold is the best description of a blizzard he has ever read.

The New Zealand field party expressed surprise at how exposed the Fokker was, saying that "most of the aircraft is on the surface ... with only the tail and the lower portion of the wing being buried in ice." The little Fokker originally had a 425-horse power Pratt and Whitney Wasp engine. Three men on the Second Byrd Antarctic Expedition (EdMoody, Paul Swan and Duke Dane) had salvaged the engine, propeller, and instruments from the plane in 1935. Jim Caffin, Mr. Antarctica, is interested in what happened to the engine after they got it back to Little America II. Steve Corey, you must know what happened to the engine - can you help us out?

KERSHAW - SWITHINBANK OPEN ANTARCTICA. (Reprinted from Flight International, 23 January 1988 with permission of Reed Business Publishers, 205 East 42nd Street, Suite 1705, New York, New York 10017. ... Brash Ice did change the title; theirs was 'Antarctic Airways' frozen future.") Last November a tatty and somewhat travel-weary DC-4 touched down on a 16km sheet of ice, set 3,000ft above sea level among the Patriot Hills, just 600 n.m. from the South Pole. It was the climax of three years of planning and heartache by a small band of dedicated Antarctic enthusiasts, who believe that access to the continent should be available to private individuals at an affordable cost.

The use of a remote ice landing strip has made the dream possible. Adventure Network International (ANI), trading as Antarctic Airways, has now started commercial operations. The company hopes that private individuals will take advantage of flights which, for the first time, link the interior with the outside world, using a conventional wheeled transport aircraft.

Until now, private organisations or individuals wishing to enjoy the unspoilt scenery or to climb mountains in the central Antarctic have had no easy means of getting there, whatever price they might be prepared to pay. The logistical

cost of supporting any Antarctic programme is enormous, for sea conditions prevent ships from resupplying the continent for much of the year. Any stores landed by ship must then be moved inland using ski-equipped Twin Otters or Dornier 228s, unless assistance is provided by military C-130 Hercules aircraft, and only the United States has ski-equipped C-130s.

Aircraft operations are impossible during the Antarctic night, which lasts about eight months, and fuel supplies have to come by sea, so these operations are very expensive. Hitherto, only government-sponsored agencies have had sufficient funds to support such ventures. Private expeditions are seen as a costly drain on limited resources by such agencies and are generally discouraged. Moreover, each government acts in isolation, with little international cooperation. There is a lot of politics dressed up as science, believes AMI, which aims to transcend purely national interests.

ANI was created in 1984, to break the stranglehold on exploration imposed by Antarctic logistics and to provide support for anyone wishing to visit the continent. A ski-equipped Twin Otter was leased from Canada, and a Chilean Air Force C-130 was hired to airdrop barrels of fuel in the Ellsworth Mountains. A route from Punta Arenas, Chile, to the Ellsworth Mountains was established with a ski-equipped Twin Otter, using the 4,000ft hard runway on King George Island (61°10'S, 58°55'W) and a ski landing at Adelaide Island (68°45'S, 69°W) as refuelling stops. A small base camp was established at the foot of the 17,000ft Mount Vinson, the highest peak in the Antarctic and an attractive challenge to the world's leading climbers. The first round trip under the Antarctic Airways banner was made in November 1985 by Capt Giles Kershaw, who since 1974 has gained Antarctic flying experience with the British Antarctic Survey (BAS) and other expeditions.

Thanks to the weight of supplies and emergency equipment carried, the payload-range of the Twin Otter allowed only eight revenue seats. The small cache of air-dropped fuel permitted only three round trips. Despite the arduous flight time (14hr, exclusive of the two refuelling stops) and great cost, demand for places was high and all seats were sold. Groups of climbers from Canada, the USA, and Korea were flown in for stays of two to three weeks.

The shortest one-way trip proved to be 18hr, while adverse weather forced Kershaw to make four unscheduled landings on one trip. On each occasion passengers were unloaded, accommodated in tents, and fed on emergency supplies until fair weather arrived. The one-way journey took seven days. "None of the passengers complained. They seemed to enjoy the stops in remote locations," says Kershaw.

During the following summer season five more flights were made to the Ellsworth Mountains and, in addition to passengers, two huts and 2 tons of food were flown in. During December 1986 the Twin Otter also flew 3,000 n.m. from Punta Arenas to Cape Evans (77°38'S, 166°22'E) on the New Zealand side of the continent to pick up three members of the ill-fated "Footsteps of Scott Expedition," whose supply ship had been lost in pack ice, fortunately without loss of life.

During this period Kershaw searched for a suitable icefield large enough for wheel-equipped heavy transport aircraft. In 1974 he had flown an extensive echo-sounding programme for BAS under the direction of Dr. Charles Swithinbank, its renowned glaciologist and head of earth sciences. They had then discovered extensive bare icefields south of the Ellsworth Mountains, suitable for use by wheeled Twin Otters. They were convinced that, if larger fields could be discovered, direct flights by heavy aircraft might at last end the need for resupply by ship.

Swithinbank retired from BAS in 1986 and joined Kershaw in the Antarctic in a bid to find a suitable site, starting in the area visited 12 years before. The Chilean Force air-dropped more fuel to allow Kershaw to undertake local reconnaissance

flights from the Mount Vinson base camp.

Using NASA Landsat images they determined that the best icefields were to be found in the Heritage Mountain range, and that the ideal criteria for a runway would be 3,000m x 50m, dead level and orientated into the prevailing wind. Unobstructed approaches allowing a 50:1 glide ratio were essential, something normally provided only by sea ice or frozen lakes. Since ice sheets are fed by gravity, via a slope, they move slowly but constantly, acquiring a ridged or crinkled surface in the process, which may be so severe as to restrict use to ski-equipped aircraft. Ideal sites are therefore hard to find.

Kershaw and Swithinbank made a reconnaissance of some 200km sq of bare ice, but found just two suitable areas. The most promising site was the icefield close to the Patriot Hills (80°19.5'S, 81°16'W). Kershaw left Swithinbank and his assistant, Dr. Michael Maxwell from Vancouver, at the icefield for a detailed survey. They determined that the field would provide two runways, one 3,400m x 50m and a shorter 1,700m strip of similar width. Mean transverse gradients were 0.72 per cent and 0.43 per cent respectively.

A week later Kershaw returned and carried out a series of high-speed landings with taxi and braking tests. The surface was found to be slightly corrugated and scooped by the wind. Paradoxically, this proved to be beneficial, and traction was "astonishingly good", according to Kershaw, who found that quite severe braking was possible without wheel-lock or skid, though he suspects that at higher temperatures the surface may be more slippery.

Not all was plain sailing, however. With its large tail area the Twin Otter, if lightly loaded or at aft e.g., was prone to weathercock when taxiing in strong crosswinds owing to insufficient nosewheel traction. With a 25kt crosswind the whole aircraft would drift sideways, though in lower wind conditions, it could be controlled with asymmetric braking and reverse thrust, Kershaw discovered.

Heavier aircraft would probably be limited to a 5kt crosswind component, but standard full-power recovery techniques were not found to be a problem owing to the length of the runway available for the Twin Otter. Kershaw noted that the area might in some directions offer up to 6,000m of useable runway, though long wave undulations might make them unacceptable for large aircraft.

Despite the encouraging icefield survey, ANI knew that before the Chilean Air Force could be persuaded to land there with the C-130, the company would have to prove the concept by setting up a base, marking a runway, and landing a large wheeled aircraft of its own. Such an aircraft had to be able to fly an unrefuelled round trip of 3,400 n.m., with reserves, while carrying a commercial payload of 10,000lb. Many aircraft were considered but, not surprisingly, no operator would allow its aircraft to be used for such a hare-brained venture. They simply would not believe that directional control and braking was achievable. ANI saw that it must get its own aircraft, though without government or private backing the choice was limited and the risks were very high.

The whole venture might never have got off the ground had it not been for the support of Calgary-based Kenn Borek Air, which had already leased ski-equipped Twin Otters to ANI. The Calgary company bought the DC-4 and leased it to ANI with \$25 million of insurance and a crew consisting of three pilots and three engineers, led by Jim Smith, an old hand on the type. All six had Arctic experience. The DC-4 dated from 1945, and was modified with long-range fuel and oil tanks, an auxiliary power unit (APU), new avionics (including an Omega long-range navigation system), and a 20-seat interior.

The aircraft left Calgary during late October last year, but suffered a bad delay in Punta Arenas when all four engines had to be changed following oil contamination

from an unknown source. Meanwhile, the two Twin Otters flew on to the Patriot Hills to provide essential ground support and emergency backup. Finally, after further weather delays, the DC-4 departed from Punta Arenas on November 15 for the 1,700 n.m. flight to the icefield.

Fully loaded to the maximum takeoff weight of 73,000 lb, with 3,500 lb of wing fuel and a further 1,500lb of fuel capacity in the cargo compartment ferry tanks, a maximum endurance of 24hr was expected for a planned round-trip time of 20hr. Under average wind conditions outbound flight time proved to be 10 hr 20 min, with 9hr 40min for the return flight. Thanks to unfavourable winds and detours around bad weather, the inaugural outbound flight took 11 hr 43min, touching down after several low passes over the landing area. The Omega had packed up enroute, but Kershaw, who had flown the route more than 20 times, found the field by dead reckoning.

Landing conditions were not ideal. There was an unpleasant 35kt surface wind and a ground temperature of -25°C. Braking action proved effective, however, and the 8,000lb of personnel and cargo was soon unloaded, speed being essential to avoid excessive cooling of the Pratt & Whitney radial engines before restart. As a precaution some extra fuel was uplifted for the return flight, and before takeoff some taxiing tests were carried out which demonstrated that the aircraft could be taxied downwind with full flap selected. Traction was sufficient to allow full-stop braking without skidding.

The lightened aircraft was airborne in just 1,000ft, thanks to the strong wind. A 175kt cruising speed was maintained on the return flight, 10kt higher than on the heavily loaded outbound flight. Despite having return fuel, the crew responded to a request to divert to King George Island to pick up 14 Chinese nationals whose inbound C-130 flight had been delayed for several weeks. The DC-4 then resumed its return flight to Punta Arenas.

Since the inaugural flight in November, a number of route-proving flights to the Patriot Hills have been undertaken, each one building up the ground facilities and resources at the icefield. Commercial passenger flights started, and ANI needs ten flights during February to break even this season. Kershaw believes that using bare ice for landing is the most significant step forward in Antarctic logistics since the first ski-equipped C-130s came into service.....

THIRTY-FIVE WELL-HEALED TOURISTS ARRIVE AT THE SOUTH POLE. As a follow-up to the above, we now know that money can get you to the South Pole, as thirty-five tourists paid up to \$35,000 each to fly to the Pole between 12 January and 21 January. Nineteen of those tourists were shuttled in on three flights on 12-13 January, which meant that they were carrying 6.33 persons on each flight! What do you get for all those bucks? — a chance to look over a featureless plain of snow which must resemble North Dakota in mid-January; an opportunity to make a quick visit inside a geodesic dome and see real, live human beings, some with beards, staring at you like you were creatures from Mars; a chance to drink a cup of hot coffee; a chance to buy one souvenir; and, according to our friend Charlotte Evans in the New York Times for 7 February, an unauthorized chance to toss your cigarette butts onto the snow. The layovers were said to be two to three hours long.

Most of the visitors were Americans, many over 60-years old, and several had difficulty breathing at the high elevation (where the atmospheric pressure equates to about 12,000). It seems we heard from someone that some of the tourists needed oxygen while there, and had to be taken back out to their plane on sleds. You know this has all the potential for the South Pole becoming Barnum and Bailey South. Can McDonald's golden arches be far behind? There is a ceremonial South Pole, a Geographical South Pole, and perhaps there should be a Tourists' South Pole where Kershaw could

set up an Amundsen-like tent, let the tourists be photographed there, and leave the scientific station for its normal business.

Meanwhile, Mountain Travel is lining up intrepid skiers with deep pockets to ski to the South Pole next year. There are quite a few requirements. First, you have to be both a cooperative and tolerant person, which would immediately disqualify me; second, you have to have \$69,500, after you have paid your airfare to and from Punta Arenas; third, you need another \$1,500 to \$2,000, as you'll have to go through a ten-day survival trip in the boonies of the Canadian Arctic this March; fourth, you have to have a boss who would just as soon you don't show up at the office, as it will take sixty days to ski to the South Pole; fifth, you have to have a husband or wife who would prefer that you not be home over the holidays, as arrival at the Pole is on or about 10 January 1989. They already have eight serious candidates, who have put down \$5,000 each to show their seriousness. Brash Ice would call them somewhat of a motley group, although Mountain Travel must see them as beautiful people. There's an army colonel from New Delhi, a real estate developer from Lansing, Michigan, a manufacturer from Colorado, a landscape designer from Auburn, California, an investment banker from Los Angeles, a retailer from Toronto, and, of all things, a married couple from Napa, California. Will they end up developing real estate on the polar plateau, opening a southernmost bank, landscaping crevasses and sastrugi, establishing a manufacturing site, opening an outlet mall, et cetera? Anything is possible in this crazy world!

Mike Parfit, who bids well to becoming the official Antarctic reporter/writer, wrote in the Washington Post on 24 January 1988 that a survey of tour companies going to Palmer revealed that tourists wanted five things: jacket patches, postal cachets, T-shirts, a look at krill, and a chance to have their picture taken. Is there really any difference between tourists and high school kids - outside the fact that high school kids might bypass looking at krill? Adult toys do cost more, but they are probably more appreciated. Last year sixteen cruise ships were scheduled to visit Palmer, so this year NSF put a limit on the number of tourists who could drop in -400. They also sent an official tourist liaison person to Palmer. The Antarctic Peninsula is so downright beautiful that every adventurer/tourist worth his pocket-book wants to go there. NSF estimated this year that 7,200 tourists would visit Antarctica; this may be low, as we have seen figures from one of the prime movers of people that approximately 10,000 tourists would go there. Tourism has really exploded in Antarctica, and will probably run rampant until the next catastrophe. However, what's a human life, or two or more, when a successful return gives you bragging rights throughout the neighborhood that you have been somewhere where they have not? Insignificant. One final weird thought in closing - do you suppose Kershaw gives all the men going to the South Pole fur-lined jocks and all the women fur-lined bras? Nothing, absolutely nothing, would surprise me! (Information above on Mountain Travel courtesy of Art Ford.)

MUCH ADO ABOUT NOTHING, WE HOPE, WE PRAY. Some of you people may have heard on CNN News, or on the radio, on 13 February, about some supposedly detonations of nuclear devices by Israel in the Antarctic. We were able to obtain a copy of the UPI article from Cairo which quoted at length from the Egyptian semi-official newspaper, Al Ahram, that there had been three nuclear tests in Antarctica. The report in the newspaper was attributed to its military analyst, Mohammed Abdel-Menem, although the article did not say how he had obtained his information. It all sounds like science fiction of the worst kind. The first test was supposedly in cooperation with South Africa in 1979, and the last two tests in 1986, one on 5 March in Queen Maud Land, and the other on 3 December. The article said that Israel was "now involved in intensified nuclear activities in Antarctica on Buffet Island which it has leased for 20 years from France." The USGS has no record of a Buffet Island in Antarctica. The article goes on to say that "an Israeli port is now being established

northeast of the island in which 500 Israelis 'including 150 military personnel¹ are stationed and living." Our Middle East expert, George Doumani, is quite familiar with the newspaper, Al Ahram, and says it is really the voice of the government. The Press and Information Office at the Norwegian Embassy in Washington told Brash Ice on 17 February that the article was "sheer nonsense, complete stupidity." As we go to press, the French Embassy had not returned our call, but we chalk that up to their being French, although not returning calls is a Washington malaise, not restricted to the French.

MURRAY HAMLET HAS A CURE FOR RAYNAUD'S DISEASE. According to the New York Times of 19 January 1988, Mr. Hypothermia Himself, the irascible Murray Hamlet of the Army's Research Institute of Environmental Medicine at Natick, Massachusetts, has a cure for Raynaud's disease, which is evidently a curtailment of blood flow to the hands and feet as the body saves energy to cope with the cold. It can also be induced by emotional stress or frequent use of vibrating machinery. It seems that curtailment of blood flow is harmless to most folks as one's circulation normally resumes after about ten minutes. But Raynaud's victims do not regain circulation to their fingers, causing a painful condition that increases the risk of frostbite, and in severe cases can force amputation. There is good news for us men, bad news for you women, as Raynaud's is more female selective, affecting perhaps as many as ten percent!

Now for the remedy - it's hot water and an ice chest! This is nothing new, as the original procedure was devised a decade ago by an Army doctor in an Alaskan laboratory, but only recently have scientists at Natick refined it. The current procedure finds Raynaud's sufferers undergoing treatment three to six times a day, every other day, in which they sit indoors with their hands submerged in warm water, and then are placed in a cold environment, exposed to the cold except for their hands, which are submerged in an ice chest filled with warm water. After fifty rounds of treatment, all of the 150 test subjects at the laboratory were able to venture into the cold without losing circulation to their hands. Murray says, "We just retrain those blood vessels to dilate rather than restrict in response to cold. It works extremely well." However, if you are a Raynaud's victim who developed it as a result of other illnesses, such as high blood pressure, arterial disease, drug abuse, and trauma, the treatment may not work.

PBS BUYS KIWI DOCUMENTARY "UNDER THE ICE". PBS is going to show throughout the States a New Zealand beneath-the-ice documentary film produced by Neil Harraway. But first they have to find an American voice and have the sound track redubbed into English! It is an ecology film, looking at how life exists in Antarctic waters. Diving on a reef between McMurdo and Scott bases, the photographic team saw giant multi-colored sponges, two meters tall and wide. Harraway said, "There were sea spiders as big as your hand, sea lice as big as your fist, giant marine worms up to a meter long, and starfish as big as your head." Supposedly this is an excellent film, and Harraway (*Journeys in Natural Parks* and *Ice Bird*) says it's one of the best things he has ever done. Sounds great - let's see it!

RUTH J. SIPLE SPEAKS. Words, spoken or written, are not my forte, but may I humbly express my deep, heartfelt appreciation for the undeserved honor of being named the second Honorary President of the Antarctic Society. As I tried to say through tears at the February 9th meeting, I am completely overwhelmed to think that I was selected to follow in the footsteps of our beloved first Honorary President, the late Paul C. Daniels. From the bottom of my heart, thank you for the great honor. With your support, the Society will go forward. My love to you all!