THE ANTARCTICAN SOCIETY

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1987 Paul C. Daniels Memorial Lecture

STUDIES OF SPACE FROM THE POLAR REGIONS

by

Dr. Louis J. Lanzerotti
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Murray Hill, New Jersey

on

Friday evening, *10 March 1987*

at

National Academy of Sciences
Joseph Henry Building
21st and Pennsylvania N.W.

Reception (cocktails)	6PM	4th Floor Reception Area
Dinner	7PM	The Refectory, 2nd Floor
Lecture	8PM	Room 451

Dr. Lanzerotti is your basic small-town, country boy (Carlinville, Illinois) who has led a very sedentary existence, going to only one graduate school (Harvard), and having only one job (Bell Laboratories) . But Lou has been a Visiting Astronomer at Kitt Peak National Observatory, Visiting Professor at the University of Calgary, Visiting Scientist at the Max Planck Institute for Aeronomy, and is an Adjunct Professor at the University of Florida. His principal research interests include studies of planetary magnetospheres, energy particles emitted by the sun, and the impact of space processes on space and terrestrial technologies. He has published extensively - authored or coauthored 264 publications - and has been coauthor or coeditor of three books. Other than that, he has not done much with his life, although he is considered one of the real nice guys and a great speaker. This lecture is cosponsored by the Polar Research Board of which Lou is an outstanding member. Come and hear this brilliant polar satellite!

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This meeting is our Society's only dinner meeting of the year, and we urge all members to attend the Memorial Lecture and, if at all possible, come to the dinner, too. There is an all-inclusive price of $25 per person, which includes cocktails and the dinner. (We don't have the menu, but the entree will be fish, presumably filet of sole. As we have to guarantee a certain head count, PLEASE make your reservation NOW!!' Mail your check, payable to the Antarctican *Society, to the Society, c/o R. J. Siple, 905 North Jacksonville Street, Arlington, Virginia 22205.*

B E R G Y B I T S

This column constitutes a potpourri of stories, anecdotes, fabrications, and, occasionally, some facts - about Antarctica and Antarcticans - which have been gathered from both reliable and unreliable sources and put together to fulfill our requirement for a newsletter. Under no conditions should anything herein be considered sanctioned by the Society. An effort has been made to find something enjoyable for each of the many separate enclaves within the Society. Our aim is to make everything as interesting to our readers as is humanly possible, never letting the truth get in the way of a perfectly good story. Occasionally there are inputs from outside sources, and they are duly cited. PLEASE! When you move, send us your new address! Bulk mail is neither forwarded nor returned!!

IRS, NATIONAL ACADEMY OF SCIENCES AND ANTARCTICAN SOCIETY PRESENT LOU LANZEROTTI. Our 1987 Paul C. Daniels Memorial Lecture will be on March 10th, when the Polar Research Board (PRB) meeting is being held in Washington. We hope our dragnet will snare many of their members. The Antarctican Society has been wanting Lou Lanzerotti to speak to us for several years, and finally we have corralled him as he departs the Polar Research Board. Lou is one of the really bright lights on the PRB, is an excellent speaker, and one can be sure that his presentation will be of exceptionally high quality. It's a one-stop affair, as the dinner and the lecture will both be in the same building. There is one other advantage, the price of the dinner includes cocktails and wine, so you won't have to bring extra greenbacks for your libations. And if you go to only one banquet/speaker meeting per year, you can write this one off on your income tax next year, as Money Magazine for February 1987 says "if you attend a banquet meeting that features a speaker, and if you dine with a group of 40 or more people and more than half are from out of town, 100% of your expenses will be tax deductible. The loophole vanishes in 1989." So the IRS is co-hosting this meeting along with the National Academy of Sciences. All this and Lanzerotti, too. You can't go wrong!

DICK CHAPPELL WAS OUTSTANDING. In spite of Washington's double dose of snow in the preceding week, we had a full house for Boy Scout Dick Chappell's presentation on January 30th. He didn't leave out anything, taking us with him from the crib to his first primer, Larry Gould's *COLD,* through his Scout selection for the Antarctic, McMurdo, Little America V, Hallett, Wilkes, Mirny, Princeton, Admiral Rickover, Johns Hopkins, Hunter College, Woods Hole, Japan, Baselites and Hoya crystal, and finally, the Gifted Student Development Program. Never before has the Society been taken into the inner sanctum sanctorum of *a* speaker in such detail, and everyone came away with the feeling that they knew everything about Dick. We think he lost most of the audience when he tried to make us all experts on his retina research. He ended up by showing us some of the products of his wife's business — she is president of Hoya Crystal, USA. He had several beautiful pieces of crystal which were handsomely enhanced by lighted bases designed by the Chappells. He gave one to Ruth Siple and the other to his old Antarctic mentor, Bert Crary and his wife Mildred.

Bergy Bits told Dick it was too bad that Paul Siple wasn't still alive and present, as Paul would have been so proud of him. Dick has been on the Selection Committee for all of the Antarctic Boy Scouts after him, and he read a short letter from Louis Sugarman, the Scout selected in 1986, who was in Antarctica this past austral summer, captivating everyone with his eagerness to assist one and all.

The following day, twenty-five aging Antarcticans gathered to have lunch with the Chappells and to show Antarctic slides. We weren't encumbered with any limitation on slides, so we all sat around for several hours watching Rudy Honkala's slides of Wilkes, Bob Benson's of the South Pole, Jackie Ronne's of the Ronne Antarctic Research Expedition, Bernie Fridovich's of McMurdo, and then Dick Conger showed us everything from Operation High Jump through Deep Freeze III, as he was there for it all, being the Navy's chief photographer in Antarctica. It was quite an afternoon following a great evening.

MY EYES HAVE SEEN THE GLORIES OF .... Bergy Bits is most happy to tell you that he returned to the ice as the 30th anniversary IGY scientist, and that it couldn't have happened to a more appreciative guy. It was an outgrowth of NSF sending Jim Bergstrom to the ice last year as the 30th anniversary Navy builder of McMurdo, which more or less opened the door for sending a scientist this past fall, as it was the 30th anniversary of the IGY Antarctic scientists' departure. Seventy-one civilian scientists departed the U.S. in November-December 1956 for Antarctica, and the following year another 67 were sent down; altogether 136 scientific personnel wintered over in Antarctica during the IGY. Four of us (Bert Crary, Charlie Bentley, Mario Giovinetto, and myself) were detained on the ice for a second year. Bert was indispensable and had to stay, while the rest of us were either slow learners or were considered expendable by our home offices. But staying a second year put Bergy Bits in a good bargaining position as a 30th anniversary scientific candidate, although we don't think it had a very high priority at the corner of 18th and G Streets! They are really more interested in sending down people who are in a position to help them downstream, not some old has-been. It was gratifying, however, to hear several of today's generation of Antarctic scientists express the thought that it was a good idea to send down someone from yesteryear. When one considers that NSF invites about fifty so-called VIPs a year to Antarctica, they probably had enough available spaces for all they wished to send. I dare say that none of the other invitees who went south this past austral summer appreciated it anywhere nearly as much as I did, as it was my first trip south since the IGY.

Thomas Wolfe was right; you really can't go home. There was something real special about being there at the beginning of the IGY, as it was all so new. And I think the people were different too, because there were many who had been waiting for years for the opportunity to go south. The biggest change since those early days has to be the introduction of women to the ice. Other significant changes are the full-service support which scientists receive today, and the magnitude and diversity of the operation. Antarctica is big business, make no mistake about it. The population at McMurdo this past austral summer was 1,2.00 persons, many more than we totaled at any time during the IGY at McMurdo, Little America V, Byrd, South Pole, Ellsworth, Wilkes, and Hallett. McMurdo never was a nice, little surburban town, but now it's a big, sprawling, urban monstrosity whose ugliness is unparalleled in the polar regions - and that is high condemnation, considering the likes of Point Barrow! On the plus side is morale, which appeared to me to be just excellent. I think this can be attributed to the presence of women, as it seems they fill many roles - scientists, scientific supporters, common laborers, dance partners, et cetera. ITT alone had 55 women at McMurdo this past austral summer,

many more than they have had in previous years; when you add in the Navy and the scientists, there must have been a hundred women at McMurdo. During the IGY bitching was a highly developed form of rhetoric, especially among the Navy who just weren't certain why they were in the Antarctic. It appears that nowadays everyone in Antarctica knows his/her place, knows why he or she is there, and loves it. McMurdo may and does look like a large mining camp, but personnel-wise Bergy Bits thinketh it has many of the attributes of a highly motivated polar college community — it wouldn't be far off to describe McMurdo as an institution!

Some of you may be interested in what Bergy Bits saw and did. First, to set the stage, I was traveling with an Assistant Secretary of State - youngest person in the State Department with the rank of an ambassador, an environmental lawyer in the State Department who is involved with Antarctic Treaty discussions, and a staff officer of the National Academy of Sciences' Polar Research Board. By dint of the mix, I was predestined to see the best! The first day was sheer ecstasy, as they took us on a seven-hour helicopter flight around McMurdo Sound. The first stop was Cape Evans, the home base of Captain Scott's ill-fated 1910-1913 British Antarctic Expedition. For an Antarctic history buff, it doesn't get any better than this; your heart strings tighten as you look at that old, elongated table in the middle of the room and realize that this table hosted the famed mid-winter dinner party pictured in so many publications. Sacred territory, indeed. The second stop was at Sir Ernest Shackleton's hut at Cape Royds, home base of the 1907-1909 British Antarctic Expedition. To a long-time Shackleton admirer, this ranks right up there with Scott's hut at Cape Evans as an Antarctic nonpareil visit. The building is still in excellent shape, and the backdrop of Adelie penguins sitting on their eggs in a nearby rookery, plus Mt. Erebus, makes the station site a photographer's dream. It was very exciting, as well as *a* real privilege, to visit those two historic camps. In retrospect, everything that followed seemed mundane.

We were then taken out to what is now referred to as the "ice edge", and this was essentially an Eastman Kodak stop for pictures of Adelies, Emperors, and Killer whales. Then we were whipped over to the Dry Valleys, where our first landing was at Bull's Pass, although Colin wasn't at home. Artifacts were noted, and then it was on to Vanda Station. The Kiwis there are capitalistic entrepreneurs, and they immediately took us to this hole cut through the lake ice, inviting each one - for a five-dollar bill - to become a registered member of the Lake Vanda Swimming Club. Bergy Bits found out that he could have become the oldest swimmer when he noted that Trevor Hatherton of New Zealand had claimed that honor by going in the preceding day. However, this seemed like a senseless honor, so we kept our clothes on, although two of my traveling companions did go in. After thirty-six hours, their teeth stopped chattering, and it appears they will go on to live a fruitful life, although it's not certain whether they will father any more offspring. Incidentally, the hole is unisex, and women at McMurdo were clamoring for the opportunity to join the club - one had been duly recognized and baptized the day before.

We had hot tea and scones before taking a trip up Wright Valley onto the polar plateau, where we turned left and came back down on to West Beacon where we landed to look at all those rocks with small, spherical holes. Then it was down Taylor Valley to Lake Hoare at the terminus of the Canada Glacier. What an imposing site for a research station - fantastic! Each scientist has his/her own tent, as the buildings are reserved for science connected with a study of oxygen levels in the lake. A short stop at New Harbor found no scientists at home - they knew we were coming, and we returned to McMurdo seven hours after takeoff, having flown for three and a half hours. Great day - super! Thanks, taxpayers.

The next day we flew to the South Pole in a Hercules LC-130. After being in a

chopper shooting over mountain peaks, zooming down valleys, eyeballing icefalls from close range, flying at 24,000' seemed anticlimactic. In the old days, flying to the South Pole in an R4D meant flying several thousand feet above the Beardmore Glacier, looking up at tributary glaciers! Nowadays you miss all the lower half of the glacier, although the Upper Beardmore is still spectacular. It is hard to put into words how I felt about returning to the South Pole after 28 years. I have to remain loyal to the Siple-built station where I lived very comfortably for a year, but I also have to admit that the current station is the Grand Prix. Even though I had seen many pictures of it, walking under the Dome is an uplifting experience, its magnitude is overwhelming. It's more impressive than I thought it would be, but the loud rock music in the mess hall made me very cognizant of the fact that it was actually better in 1958! One can get used to women at the South Pole, but how can one live with that kind of music and maintain any sense of sanity? Incidentally, I was welcomed at the South Pole by Ellen Mosley-Thompson — the Devil sent her to greet me! My biggest surprise at the Pole was to find an honest-to-goodness, full-sized bathtub; next was the luxurious Sky Lab. By the way, Bergy Bits talked at some length with the station's doctor, Nancee Schaffner. She is a big improvement on Lt. Vernon Houk, that's for sure.

The rest of the time was spent in and around scenic McMurdo. A trip was made to Hutton Cliffs, and I wondered whether Don Siniff actually pays NSF for the privilege of going there. If he doesn't, he should at least forfeit all pay, as this is a beautiful spot. Mt. Erebus is in one direction; Mt. Discovery in the opposite direction; another quadrant has the Erebus Tongue; while opposite it are Hutton Cliffs, which had beautifully overhanging cornices of snow when we were there.

Bergy Bits remained at McMurdo for some extra days because of a middle-ear infection, and this gave me the opportunity to go fishing with Art DeVries. I found Art to be a throwback to the kind of people who were in Antarctica during the IGY, and I thoroughly enjoyed his company and appreciated his taking me out to his fish shacks. He took along a few cans of Budweiser, and after he got through with his work, we all sat around the hole drinking beer and talking Antarctica. One night we had smoked filets of cod and sushi after we got back to Eklund Laboratory. Art has several articles in print about his current Antarctic research, but probably the most readily available one is in the November issue of Scientific American on "Antarctic Fishes," coauthored with Joseph Eastman. Other articles about his findings are in the November 22, 1986 issue of Science News, and in the September-October 1986 issue of Sea Frontiers.

Bergy Bits felt that one thing had changed drastically since the IGY, and that was the clarity of the air at McMurdo. It seemed as if the arctic haze problem has arrived in Antarctica, because I don't recall it existing there in the three separate times when I was in McMurdo in 1957 and in 1958. Were we there during a period of poor visibility, or is the visibility deteriorating in Antarctica? Anyone any thoughts on the subject?

Leaving Antarctica wasn't traumatic; all too well I realized that time had passed me by, that my remaining years should be spent pursuing outdoor sports. Going to the plane, I found a former cohort from the Corps of Engineers, a retired expert on the mechanics of snow for the Cold Regions Research and Engineering Laboratory, Al Wouri. He had been at the South Pole with a contractor trying to find the right mix of pulverized snow and sawdust which would allow wheeled planes to land at the South Pole. When I had gone south on the USS CURTISS thirty years before, another CRREL scientist, Austrian Andy Assur, was with us to solve the problem of how to get open holes in the runway - where planes had crashed - to refreeze. So thirty

years later, here I was with another CRREL man, but the stage had shifted from McMurdo to the South Pole. So some things change only slightly. It was great to represent the other 135 IGY Antarctic scientists, and *I* came back knowing that I was there in the right era; even though it is great now, it was better then!

TREKKING IN NEW ZEALAND. Bergy Bits has long felt that the real lure of the Antarctic has been New Zealand. Kiwiland has something for everyone, not the least of which are its recreational assets. If you like white-water rafting, there are forty-nine fully licensed outfits waiting to take you rafting on some of the most exciting rivers one will find anywhere. It is probably the leading growth industry in New Zealand. However, if you aren't that adventuresome, may we recommend some of the best walking trails in the world. Most of you probably have heard about the Milford Track; many of you have had the pleasure of walking it, either as part of a guided tour or as an independent walker. But there are eight other major tracks in New Zealand, as well as a very exciting new one being constructed in the Kepler Mountains which will open in 1988. In addition to the major tracks, there are probably over a hundred other challenging trails available for the more adventuresome.

Bergy Bits did two tracks in December - the Milford before Christmas, the Routeburn before New Year's. The former was immortalized when someone described it as "the finest walk in the world," and if you are rain tolerant, I am sure it is. However, the Kiwis have a love affair with the Routeburn, and I was directed by their Washington Embassy not to return to the States without doing that track. Both are in Fiordland, and are practically adjacent to one another, so one can go from one to the other without missing a step or a heartbeat. It also means that you can walk both tracks and never see the sun, as rainfall is close to 300" per year, and it doesn't discriminate in that area of New Zealand. One trekker from California wrote in the hut at Routeburn Falls that walking the Routeburn was like standing in a cold shower tearing up twenty-dollar bills! At times you feel like that's what it's all about, but rain on the Milford can also be a blessing, as it is essentially a long, four-day valley walk, and when it rains, the walls of the valley become a myriad of spectacular waterfalls cascading down to the valley floor. Once I stood and counted over twenty-five beautiful falls within half a mile. In an effort to escape the commercialism of Christmas, Bergy Bits signed up for the last guided group before the holiday, and found himself with twenty-three others of the same ilk - well below the Track's normal number of forty-two. It rained on four of the five days, but the heavens parted and gave us a beautiful day to cross McKinnon Pass, so we had to be doing something right to be graced by the Lord with a fine day when we were on the most spectacular part of the Track. On the Routeburn, it rained only two out of the four days, but unfortunately one of those days was when we were highest up, had a large number of miles to cover, and the wind brought the rain horizontally smack into our faces.

What are the differences between the Milford and the Routeburn? The big difference is in the terrain, the facilities, the meals, the organization. The Milford is essentially a well-maintained valley trail of 54 kilometers; the Routeburn is a mountainous track of 39 kilometers. If you like botany, have an affinity for lovely ferns, take the Milford, as it is beautiful; if you like to look long distances down into valleys and at spectacular mountain scenery, go Routeburn and pray for sun. The Milford is very well organized, and everyone is walking in the same direction, with the independent walkers (the so-called Freedom Walkers) well ahead of you as they stop at special huts and are on the trail ahead of you. If you so desire, you can walk the Milford in solitude and have the whole world to yourself. There is no such privacy on the Routeburn. It can be and is walked from both directions;

there is no control over the number of independent walkers; and it is something like being on *a* freeway around Los Angeles or walking the Presidential Range in New Hampshire with people everywhere. On the Milford, you stop at well-appointed huts maintained by husband-wife teams, get a good meal, get an evening slide show over what you have covered and what you can expect the next day, and are in constant walkie-talkie communication with others up and down the line, so you don't get hung up in water over your neck, although we walked through water which was nearly waist deep. The facilities on the Routeburn aren't so plush, your guides carry the food, and you share in the housekeeping. The only communication is in the evening when they check with the boss man in Queenstown. The Milford Track ends with a bang — you stay at a really plush hotel at Milford Sound, have a break-up banquet (where such creatures as the little blonde pixie, Martina, from Stuttgart show up in an off-the-shoulder gown), and then, on the morrow, a great two-hour trip on the Milford Sound on one of the fantastic Red Fleet boats. It's a great finale! On the Routeburn you hop on to a bus making ranch stops enroute to Queenstown where they dump you on the street, an inglorious ending to a fantastic walk. But I think the Kiwis like the informality of the Routeburn over the more regulated Milford, as almost universally I heard them singing the glories of the Routeburn. The biggest advantage the Routeburn has over the Milford is that the track is above the flying limit of the sandfly, and it has less keas. If there is a more miserable damn bird in this world than the kea, I hope I never come up against it. It's very common in Fiordland, and will attack anything left outside - boots, raincoats, windbreakers, anything and everything. It's raucously loud and disturbing, and is no respecter of sleeping hours. Price-wise, the Milford is about $US345, the Routeburn $US220.

I would like to walk both trails again tomorrow, as each is so different. At 63, I was the oldest on the Routeburn, the second oldest on the Milford. There is no problem keeping up with people, as it isn't all that rough. Recently a woman 79 and a man 81 walked the Milford. For the first time in history, a blind man walked the Milford. They never accept blind walkers, but because this man showed up at Christmas time, they didn't have the heart to turn him down; so they gave him a special guide, and he did the whole track. What a great gesture by the Kiwis, what a great performance by the blind man! The Milford is heavily booked into next season, but you can generally find openings on the Routeburn. There is more of an international group on the Milford, which I found interesting; while the Routeburn is more of an Australia-New Zealand-United States-England mix. The Milford is described in the January 1978 National Geographic; the Routeburn was written up in the New York Times, September 19, 1986. If you are interested in finding out more, contacts are, for the Milford, Tourist Hotel Corporation, P.O. Box 185, Te Anau, New Zealand; for the Routeburn, Tourist Hotel Corporation, P.O. Box 271, Queenstown, New Zealand.

AND THEN THERE WERE EIGHT. John Bird, 80, crewman on the CITY OF NEW YORK, 1929-1930, died in Georgetown University Hospital on 11 January following a stroke. According to BAE I archivist, meteorologist Henry Harrison, that leaves eight known living members from the first Byrd Antarctic Expedition — Leland Barter, Carroll Foster, Eddie Goodale, Larry Gould, Howard Mason, Dean Smith, Norman Vaughan, and Henry, himself. John, like several other members of that expedition, was a graduate of Harvard. He once was firearms editor for Sportsman Magazine, knowledge which presumably he might have had an opportunity to use while on active duty in World War II and the Korean War. He attained the rank of colonel in the Army, and was awarded the Legion of Merit. In the early 1950's, he joined the Office of the Chief of Ordnance, and sixteen years later, in 1967, retired as chief of the Army Materiel Command's Technical Forecasting and Objectives Branch. However, he continued as a consultant to the Army until the mid-1970's. We can't tell you much about him, but he carried himself very erect, was very distinguished looking, and very quiet - typical Harvard man!

CANHAM'S ASHES GUARD ENTRANCE TO MCMURDO SOUND. The cremains of Dave Canham, Builder of McMurdo Station, senior Naval Officer at McMurdo in 1956, were taken up the north side of Mt. Erebus on 27 October 1986 where Chaplain Timothy Sims, Commander Rightly Perry (deputy Commander of the Naval Support Force Antarctica), Lt. William Gerardi (Force Medical Officer), and Lt. Harry Koerner (Medical Administrative Officer) conducted the Memorial Service. They flew about a hundred meters above a sharp outcrop of rock called Abbott's Peak (named for Petty Officer George P. Abbott, RN, British Antarctic Expedition, 1910-13), about half-way up Mt. Erebus. Chaplain Sims wrote Dave's widow, Betty, that the site has "a lovely view north past Mt. Bird to the open water. It would be possible to see the ice forming and breaking up there each year, and the icebreakers coming down to McMurdo. The white of the ice and snow, under the bright sun, made a dazzling contrast to the deep blue of the open water to the north. It was high enough, and windy enough, to be quite cold that day, even with the bright sunshine."

RALPH LENTON'S ASHES TAKEN TO SOUTH POLE BY SON ANTHONY. Bergy Bits pretty well covered the death of his friend, Ralph Lenton, in the October 1986 Newsletter. His ashes were taken to the South Pole by his son, Anthony, and Chaplain Sims this past austral summer. Bergy Bits thinks it is very appropriate that Ralph's cremains were left at the South Pole, as not only was Ralph an important member of the first trans-antarctic expedition (British Commonwealth Transantarctic Expedition), he thoroughly enjoyed their delay enroute while staying at the South Pole for five or six days in mid-January 1958. I often tell people that Ralph never slept at the Pole, that he spent all his time in the galley drinking coffee and telling stories about the crossing. His Memorial Service was conducted at -40°C or F (take your choice) with a 10-to 15-knot wind - a typical Lenton day! Sims wrote "a bright sun picked out ice crystals in the air around us, the crystals swirling and dancing in the light like the heavenly hosts as we prayed 'Eternal rest grant him, 0 Lord, and let perpetual light shine upon him'." There should have been an addendum mentioning hot coffee! But what an appropriate place for Ralph's ashes. Scott may have gotten there first, but Ralph's are the first British cremains to remain there.

GREENLANDAIR TWIN OTTER MAKES HISTORIC FLIGHTS. How would you like to fly to and from Antarctica in a deHaviland Twin Otter? Well, it was accomplished during the past austral summer season, when a Greenlandair charter, piloted by Sven-Olof Ahlquist and Jan Friden, with engineer Allan Laugensen, flew 1200 miles from Invercargill on 12 November 1986 to an iceberg. The berg, located at 60°S, 169°E, was approximately 800 meters by 800 meters, about 80 meters high. Then a helicopter from the Norwegian research vessel AURORA flew fuel to the plane so that it could continue its flight to Cape Evans. But on its way back in late December, the same plane outdid itself, flying all the way from Moubray Bay at 72°11'S, 170°15'E (between Cape Roget and Cape Hallett) to Christchurch. Originally the return flight was scheduled into Invercargill, but when they got favorable winds, the pilots decided to fly all the way to Christchurch. The Twin Otter and the AURORA were both in the Antarctic in support of the 90 Degrees South Expedition led by Norwegian glaciologist, Monica Kristensen. The AURORA found a suitable landing strip for the Twin Otter near the Bay of Whales on 12 December. From there the aircraft laid out five supply depots across 1350 km, crossing the Ross Ice Shelf, up the Axel Heiberg Glacier, across the polar plateau past Titan Dome. The last drop was within 120 km of the South Pole.

90 DEGREES SOUTH EXPEDITION DOWNGRADED TO 86 DEGREES SOUTH, ABOUT-FACE EXPEDITION. For the past several years we have been hearing a lot about the 90 Degrees South Expedition, the one where the world's best looking glaciologist was going to follow

Amundsen's route to the South Pole, utilizing his means of transportation, dogs. However, for one reason or another, which are unknown to us, Monica Kristensen, Neal Mclntyre, and two Norwegian dog drivers, plus their twenty-two dogs, were real late in getting underway from the Bay of Whales, not leaving until 16 December - past the date of Amundsen's arrival at the South Pole! She was defeated before she even started. Amundsen required 53 days to go to the Pole, and he came back in 39 days, a total of 92 days. Pretty good statistics. Monica's trail support had been laid out by the Twin Otter, so they hoped to be able to beat Amundsen's overall time. The real bad news was that her ship, the AURORA, was to come by the Bay of Whales about 28 February to pick up her party - only 74 days after her departure. So she had to pick up 18 days from Amundsen's overall trip. When she reached the top of the Axel Heiberg Glacier, she was dead even with Amundsen's time, but had not picked up any time, even though caches had been laid out ahead of her by Greenlandair. Then, for some inexplicable reason, she laid over there for almost ten days while she contemplated what she should do. If she had continued right on, she would have reached the South Pole, some 265 miles away, while we still had flights going there. However, she had no assurance that the Americans would fly her out. She asked the National Geographic if they could supply a rescue plane, probably hoping they would hire Giles Kershaw or a look-alike to bring them back from the South Pole. However, the National Geographic was very affirmative in their negative reply. She deliberated so long at the top of the glacier that it got down to whether she wanted to play Shackleton and forget the Pole, returning on home, or whether she wanted to play Scott and go on at all costs. Not being British, she decided to go home; a valiant warrior is really much better than being a cold dead heroine, particularly when you have most of your life in front of you. Besides, a rerun of Scott would not play on today's stage; instead of being sainted, she would have been looked upon as a fool.

They will be talking about this one for a long time, but we don't think that Monica had a real choice. She had cut her legs off by getting such a late start, and Antarctica is not very forgiving for those who make miscalculations. It will be interesting to see what she tells the press when she gets back to civilization. Let's hope that, as custodian of the South Pole, the United States does not get blamed for the failure of the expedition; after all, it's quite obvious where the blame lies. Let's also hope that she pursues her chosen professional career of glaciology and leaves the adventuring to those who can't make it as scientists. Bergy Bits imagines that folks like Will Steger will now redouble their efforts to go to the South Pole by dog teams. However, let's hope it doesn't become the Iditarod of the South.

RUB-A-DUB-DUB, FOUR MEN IN A TUB --- GOING NOWHERE. A Dartmouth man and three companions were going to row across the Drake Passage this austral summer in something called the SEA TOMATO, but they aborted the trip, and left me holding a lot of funny material absconded from Adventure, Outside, and the Dartmouth Alumni Magazine. They were towed out of Punta Areans on 4 January, and were going to take off for the South Shetland Islands as soon as they got favorable conditions. But something must have happened, as they are all back in Punta Arenas, and the material I thought was so funny doesn't sound so funny anymore. With Monica turning back, with Ned aborting, what is happening to these gallant adventurers?

There's no way anyone could love this guy Gillette unless you happened to be his mother. Some of his critics present him as nothing more than an opportunistic, entrepreneuring fraud, although he was a good cross-country skier, having been on the U.S. Olympic team once upon a time. One of the things he supposedly did was

ski around Mt. Everest between 17,000' and 27,000', but it seems that at the time of the year when he was doing the skiing, there was no snow on much of the mountain. When he supposedly was in the middle of that expedition, he showed up in Las Vegas as a representative of one of his sponsors at a trade fair!

One of his partners in this latest endeavor was Mark Eickenberger, whom many of you Antarcticans know from his employment by ITT around the Antarctic Peninsula. As we go to press, we don't know what Gillette plans to do. He received $110,000 in cash and $80,000 worth of navigation equipment and foul weather gear for this undertaking. He also had supposedly lined up assistance from the Chilean Navy, Air Force, and Hydrographic Office. Bergy Bits believes he will make another attempt next year, as he was quoted in the Dartmouth Alumni Magazine as saying, "This is the grand finale. For this one I've put together everything I've learned over the years. Everything has been focused on this now for three years. How often do you get a chance to really leave your signature on something?" If he really means that, doesn't he have to go back next year and sign off on those waves?

For you boat lovers, the SEA TOMATO has nine watertight compartments and is self-righting (not to be confused with self-righteous). It has a small cabin midships and rowing cockpits fore and aft with gliding seats. It has sophisticated navigation gear, a satellite tracking system, automatic self-steering, an emergency sailing mast, and could carry supplies for thirty days. Gillette was planning to do some skiing in Antarctica, before returning to the islands and flying back to Chile. He was going to do a documentary for television, and was going to write something for the National Geographic. Downstream, he hopes to get into photo-journalism.

GREENPEACE HAS LANDED. Thanks to small donations from its one and a quarter million members, Greenpeace has fielded a $NZ2.6M expedition to Antarctica. They departed Lyttelton, New Zealand on 6 January and arrived safely at Cape Evans on Ross Island later on in the month. Thirty-five men and women were aboard the GREENPEACE, although only four are wintering over. Present plans are to occupy the camp for two years, although an entirely new staff will winter over in 1988. Base leader is Kevin Conaglen, a 26-year old professional guide at Mr. Cook, who was a camp malcontent when he wintered over at the New Zealand Antarctic base at Scott in 1985. He was reprimanded by his employer, the DSIR Antarctic Division, because of his talking with the media. He claims he found it difficult to slot back into life because of government pressures. He was quoted as saying, "What I like about the Greenpeace thing is freedom from government influence. I expect the expedition to highlight such things as the pollution and chemical dumpings at Antarctic bases." So he sounds like just the right man for heading up Greenpeace operations in Antarctica, as he comes already brainwashed. The base scientist is Gudrun Gaudian of West Germany who supposedly "will conduct scientific studies on fish life and pollution." Bergy Bits read in one Kiwi paper that she said relatively little research has been done on Antarctic krill, and that she would be studying them during her year at Cape Evans. That tells a lot about her knowledge of what has been transpiring in Antarctica for the last two decades. Their medical doctor is Dr. Cornelius van Dorp from Holland and New Zealand. He has been very impressed with the medical kit supplied by Greenpeace, and said, "I could perform open heart surgery down there." Presumably this might be required because Antarctica is so badly polluted. The other member of the team, Justin Farrelly, is a New Zealand telecommunications technician who doubles as a helicopter pilot. Telex and facsimile equipment will keep the base in touch with Greenpeace offices around the world, and send out color photographs.

They will be living in a well insulated, prefabricated plywood hut, 16 meters long

by 6 meters wide. Two diesel generators will heat and light the hut, as well as power the video player for which they have 150 films. They will have fresh lettuce and tomatoes throughout the winter, thanks to hydroponics and special lighting - plus no pollutants, no doubt. They aren't going to tide-crack any rubbish, and all of their effluents, except for washing waters, will be returned to New Zealand in drums. Boy, you should be able to smell those drums several hundred miles off Invercargill. It looks like Antarctica's loss will become New Zealand's gain, or are they going to keep carrying those drums around the world to show their supporters that they left Antarctica pure? Greenpeace is hoping that operating a base at Cape Evans will qualify them for observer status in the Antarctic Treaty Consultative meetings. However, is this does not happen, they are going to continue to lobby for Antarctica being declared a world park, which they have been campaigning for since 1982. Their ship GREENPEACE, a converted tug, sported a banner on the bridge deck proclaiming "World Park Antarctica." I read in a Wellington paper that Bob Thomson, Director of the New Zealand Antarctic Division, said something to the effect that Antarctica has been an international scientific park for several decades, that Greenpeace wasn't proposing anything new. Anyway, Greenpeace is finally in Antarctica, for better or for worse. In the meantime, stand by for those colored pictures of how all the bad guys are polluting Antarctica.

DEWITT REVIEWS SHAPLEY'S "THE SEVENTH CONTINENT: ANTARCTICA IN A RESOURCE AGE."

One of the hardest jobs is to find someone neutral to review an Antarctic book. Ruth talked her son-in-law, Hugh DeWitt, into reviewing *THE SEVENTH CONTINENT,* and here it is:

> As Deborah Shapley states in her preface, this new book "...differs from most Antarctic writing ...". Its major focuses are the role the United States has had in the Antarctic, the workings and history of the Antarctic Treaty, and some possibilities and probabilities in the future for both. As such it emphasizes aspects of history not often covered by the standard accounts, which enlarge upon the heroic age and similar aspects of the expeditions of Byrd and Ellsworth, etc. Shapley focuses more on the way science and politics have interacted, the political desires of US Antarctic leaders, the political implications of their expeditions, and the reactions in Washington to the claims made (and made possible) by these expeditions.
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> For example, I was surprised by the number and extent of claims markers left by sledge parties or dropped from aircraft by numerous expeditions from those of Byrd on, and about the debates in Washington over whether the US should make territorial claims based upon American discoveries and activities. I was never made more aware of the predominance of US Antarctic exploration up through at least the IGY. Similarly, Shapley's discussion of the IGY and the manner in which science and national interests were wedded made sense to this naive reviewer. I participated in the 1958-59 season, a transition period between the IGY and USARP (for a brief time called CARP) programs. I remember wondering how my interest in Antarctic fishes justified the cost of sending me down to the Ross Sea and McMurdo. Shapley describes how scientists were able to make agreements between countries for the mutual benefit of their researches (e.g. in preparing for the IGY) which later influenced the politics surrounding the Antarctic Treaty. Her story of how the US fell into the responsibility of Pole Station is amusing.
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> The author also describes how the treaty nations, in responding to pressures created by science activities and using treaty provisions designed to assure the continued access to Antarctica for scientific and peaceful purposes, broadened the treaty's functions and responsibilities through a series of

agreements and conventions. These began with purely conservation measures such as designating areas of preservation or special scientific significance, but were expanded to include regulation of ocean resources in the Convention for the Conservation of Antarctic Marine Living Resources. Thus the original treaty, which concerned itself with land and ice areas south of 60 degrees South and specifically stated that the high seas were under international law, came to regulate, through CCAMLR, a pelagic resource encompassing all the area inside of the Antarctic Convergence and then some!

Shapley's real aim, however, is to present the current status of both the US Antarctic program and the Antarctic Treaty, point out their strengths and weaknesses, and present some possible changes. I agree with much of her assessment of the US program and the problems that our National Science Foundation has had in administering it. The US program is unique in this regard. I think Shapley is correct that some kind of Polar Research Institute should be developed, but I don't agree that it should replace all of NSF's USARP activities. The university/research-institute proposal system has worked well in general and is suitable (perhaps even desirable) for many aspects of Antarctic research. Where USARP has had most difficulties is in long-term programs, such as resource assessment, and in managing the laboratories and logistics, where NSF has no permanent personnel and must rely on contracted services. I am not able to comment on her assessment of the Antarctic Treaty, the signatory nations, and their relations with the United Nations, third world countries, and with each other regarding the problems of mineral resources. The ideas she presents are certainly thought-provoking, however.

The volume is well edited by Resources for the Future, Inc., and I found few typographical errors (e.g. on page 110 "Marconi" should be Macaroni [the penguin]). There were a few places which showed, I think, that Ms. Shapley is not personally familiar with the Antarctic and its biota. For example, her description of the Antarctic Convergence as an area where "...great water masses.... collide with the cold Antarctic surface water....The resulting turbulence creates an oceanic barrier..." is both inaccurate and misleading (page 2). Again, on page 28, the "...unique ten-legged spider..." found by James Eights is a sea spider or Pycnogonid, not a land arachnid as implied. But these are minor blemishes in an otherwise attractive, well-produced and thoughtful work. Whether or not one agrees with everything Ms. Shapley presents, *TEE SEVENTH CONTINENT* is worth reading by anyone interested in the Antarctic and its future.

PETER WEBB REMEMBERS PHIL SMITH. The last, endless non-newsletter brought several responses into the Nerve Center, and one which we would like to share with you came from the Chairman and Professor of the Department of Geology and Mineralogy at The Ohio State University, Peter Webb.

Here are a few of my impressions of the 1957-58 season in the McMurdo Sound area. In 1957 Barrie McKelvey (now on the faculty at University of Armidale, N.S.W., Australia) and I were seniors at Victoria University of Wellington. Early in 1957 we decided that a trip to Antarctica might be an interesting way to spend an austral summer. We volunteered our services in any capacity during a visit to Transantarctic Expedition headquarters in Wellington. Result, thank you but no thank you. U.S. Deep Freeze Globemasters were droning their way over Wellington the previous summer, and this sparked the idea of joining the U.S. IGY expedition. We presented ourselves at the U.S. Embassy and were received by a kindly if somewhat bemused Military Attache. He

thought our arguments were all very reasonable, said "sure" and said he'd get back to us after sorting out arrangements with the Deep Freeze office in Christchurch. So far so good. This apparent end-run around the Trans-antarctic Expedition and International Geophysical Year authorities was duly relayed to New Zealand administrators by our "patron" Professor Bob Clark, who seemed to relish the prospect of international meddling. In a matter of days we were invited to join NZTAE/NZIGY, as cargo handlers on HMNZS ENDEAVOUR. The catch was, "you will go down on the ship, help unload cargo and come straight home to New Zealand." So in late 1957 we sailed into McMurdo Sound very uncertain of just how long our trip would last. For several days we drove those little kiwi farm tractors back and forth between the ship and Scott Base and were fortunate to run into Phil Smith, George Dufek, Ed Hillary and Harry Wexler. This was a stimulating group of leaders. They were excited about Antarctica and its potential for exploration and science. Strategies evolved by the hour and it was a privilege for this fledgling geologist to just watch them in action. These were heady days indeed. Ed Hillary extracted us from cargo-handling and moved us to Scott Base. One of us joined Ron Balham, Dick Barwick and Andrew Packard on a two-week visit to Wright and Victoria Valleys, an ex-cursion that resulted in the first maps and geologic and biologic details of the northern part of the dry valley system. We used the cumbersome old helicopter "King Pin" (King Pin Nunatak) during these trips. In those days you could actually get lost in the dry valleys and helo pilots were very apprehensive about just where they were going. We were after all using 1910-1913 maps and Wright and Victoria Valleys were then uncharted. Phil Smith had been following our activities and also knew we were being sent home on the TOWLE or GRENVILLE VICTORY. It seemed safer to be living at McMurdo than at Scott Base. So with Phil's help we joined USIGY and took up residence at the far end of a darkened jamesway, filled with Sea-bees. Very educational! While at McMurdo that summer we ran into Troy Pewe and Jim Zumberge. The latter introduced us to the joys of the SIPRE corer during trips onto the ice shelf. I vividly remember Jim shouting down into a deep hole as I labored to dig a frozen corer head out. His abilities to command people were well developed even at that early stage. About this time the McKelvey and Webb names were again starting to emerge near the top of the "repatriate to New Zealand-urgent" list. Phil Smith provided a helicopter and field gear and suggested we "go west" fairly soon. This we did. From time to time New Zealand authorities attempted to retrieve us but Phil seemed to be able to arrange bad weather, poor radio conditions and helicopter problems at will. This allowed us to get a lot of useful geological work done on Beacon Supergroup successions in Beacon Valley and upper reaches of Taylor Glacier. Later this work was to become part of our M.S. theses. Before long it was February and we really did have to go north. As I look back thirty years to IGY I say a big thank you to Phil Smith for teaching me *a* few long-remembered lessons on how to progress and survive in spite of the system.

LC-130 LOOKS GOOD. As we go to press, NSF is about to issue a press release on the reclamation of an LC-130 damaged in 1971 near the Adelie Coast. They have already salvaged four engines and three struts which have been sent back to California for overhaul, and they will soon be back in the Navy's inventory. The fuselage was inspected by representatives of the manufacturer, and found to be in good condition. It is now sitting on top of the snow surface, and next year will be flown out. There are two great benefits in getting the plane back - one monetary, one supply. The

total cost will probably run between $7.5M and $9M; the cost of such a plane today would be on the order of $28M. Since the planes are only made on order, getting one back is a big plus on the inventory side.

SNOWBALLING. Congratulations to two of our Society members, *Thomas N. Taylor* and *Edith L. Smoot* who were married recently. Edie has left Hope College in Holland, Michigan and has joined TNT in the Institute of Polar Studies at The Ohio State University ..... Also our heartiest congratulations to our whale spotter - someone said it was real sexist to call her our whale spotteress, so whale spotter it will be - *Dotte Larsen,* who for years has been dreaming of becoming a poster girl. She finally has made it with The Center for Environmental Education printing a large 17"x24" colored poster from one of her pictures of two King penguins. She previously made a Sierra calendar, I believe, and she has some photos in that worldwide travel ing Antarctic art exhibit. Dotte has been having some arthritis problems this winter, so may be forced to stay home occasionally with The Professor. That will cramp both of their life styles ..... *Franklin Dukes*$_t$ who was a member of the 1967 State Department Antarctic Treaty Inspection Team, is an active ham (KB4MUF), and he would enjoy a QSO with any Society member who is a ham. He says he can be found most days on 21.385 Megahertz at 1430 hours EST. Franklin lives outside of Charlottesville, and apparently is none-the-worse for having sailed on that inspection trip with my old buddy, *Admiral Mike Benkert .....* There's a new book out, *WOMEN ON THE ICE,* by *Elizabeth Chipman.* It's a history of women in the far south, and was published in Australia, where it sells for $A28.50. A woman I met on my trip suggested that perhaps Ms. Chipman picked the wrong title, that it might have been more realistic if she had entitled it *COLD WOMEN.* Anyway, it's out there if you want to buy it. .... If you haven't already, you all will be getting a flyer on *Stephen Pyne's THE ICE: A Journey to Antarctica.* I like the way Steve writes, so hope to write a review of it for the next Newsletter. Guy *Guthridge* says it's a great book, and it has gotten excellent reviews. Bergy Bits hopes someone buys the book so Steve can come up with six bucks to pay his delinquent Society dues. ... A lot of people in the Division of Polar Programs were extremely unhappy with *Charles* Welder's *OVERFLIGHT,* but The Washington Post found a sympathetic reviewer in *Dennis Drabelle* who gave it a good review in its 9 January 1987 edition *Mildred* Crary, an aspiring novelist and Guardian Angel of First at Both Poles, *Bert Crary,* is reviewing it for our next Newsletter . . . The *David W. Canham, Jr.* Library and Conference Room was approved by the University of Texas System Board of Regents on December 4, 1986. They have received about $2500 to date, and the funds will be used to improve the existing facility and add materials to the library. Additional contributions will be most appreciated. Contact *Dr. Robert H. Rutford,* President, University of Texas at Dallas, P.O. Box 830688, Richardson, Texas 75083-0688 . . . Argentine scientists have discovered the first fossils of dinosaurs ever found in Antarctica. ... The fossils, found by an expedition under the direction of *Eduardo Olivero,* consist of part of the skull, a scattering of other bones and parts of bony plates that armored the dinosaur's back . . . Newly unsealed papers of the late Sherman *Adams* provide an inside look at the Eisenhower administration, ... and even on Antarctica policy. . . *Murray Hamlet of* the Army Research Institute of Environmental Medicine (and an occasional, illuminating speaker on cold weather clothing and injuries at the USAP September Orientations) has done it again. In an article in The Washington Post on 22 January 1987 on how to dress for the cold, he was quoted as saying, "Clothing is like sex - the first part and the last part are the most important." .... *Franklin Dukes* has suggested that we change the name of this column from Bergy Bits to Brash Ice. I only wish that I had been clever enough to have thought of that back in October 1978. Bergy Bits was used because back then we wrote real short paragraphs. In it, Franklin writes, "Brash seems to describe your style!" Love it . . . .