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Dr. Thomas O. Jones
May 13, 1906 - March 7, 1993
Founding Father of Office of Antarctic Programs

McMurdo: Planning for Tomorrow

by

C. James Lawler

Fellow, American Institute of Architects

on

Thursday evening, May 20, 1993

8 PM

National Science Foundation

1800 G Street N.W.

Room 540

Jim Lawler is one of twelve architects who made a highly intensive on-site architectural examination of McMurdo Station in January 1993. The study, sponsored by the National Science Foundation, the American Institute of Architecture Students, and the American Institute of Architects, showed how intelligently applied design and construction principles will increase McMurdo's attractiveness, livability, effectiveness, and efficiency. He is sole proprietor of C. J. Lawler Associates, West Hartford, Connecticut, an architectural firm with experience in design of educational facilities, offices, industrial buildings, housing, health facilities, and, now, a polar scientific support facility.

The team of twelve members who visited McMurdo presented their concepts to an overflow audience in McMurdo last January, and now they will proffer their ideas to the National Science Foundation. Will there be a salt water swimming pool, sunning beds, kitchenettes in the dorms, wooden walkways?

Come to this very interesting, and, perhaps, provocative meeting on May 20th to learn about a proposed new McMurdo which will promote compatibility with the natural environment, while you listen to a lot of Seabees turning over in their graves.

Annual business meeting, not to exceed five minutes, will precede the lecture.

Coffee and cookies for those who indulge, and live in the fast lane.

It's always good to get down to the last Newsletter of the year, as it means that we won't have to worry about fabricating articles for several months, enjoying a respite during which we can live with ourselves with a clear conscience. Ruth and I have been putting these things together for fourteen years, this being our 90th! That's a lot of taradiddling, and, so far, no lawsuits.

Our faces came up with egg on them when we noted in our last Newsletter that Neal Sullivan had been appointed the new Director of the Office of Polar Programs at the National Science Foundation. We made him into a "Neil" when it should have been "Neal." His first name is Cornelius, and we jumped to an erroneous misspelling of his handle. And, in the preceding Newsletter we listed the late Bill Benninghoff as a junior. Another mistake! Oh my!

We also inadvertently gave you the in-state 800 number for Elizabeth Allen Tuttle, the fantastic artisan from Camden, Maine who owns Main Gem, and who turns out beautiful gold and sterling silver jewelry of penguins, seals, and other creatures. Her real honest-to-goodness out-of-state number for orders or her catalogs is 1-800-356-6310.

This past year has been sort of Doomsday for a lot of prominent Ant-arcticans, and in this Newsletter we have the sad announcement that Tom Jones, a founding pillar in NSF's Antarctic office in the post-IGY era, has died, yet another Antarctic victim of cancer. He and the late Bert Crary never got to finish the Antarctic History of the IGY, which they both had worked on for the Haverford College Press. Tom's papers are going to the Library of Congress, so at least they will be available in Washington.

The Navy runs periodically very successful Antarctic reunions, and in late April in Gulfport, Mississippi, Deep Freeze I and II will convene. The following weekend, Deep Freeze IV will meet in Nashville, Tennessee. We of the South Pole, Class of '58, are going to have our 35th reunion this fall right here on Marshall Point in Port Clyde, Maine. As this is being written in early April, we are buried in seven inches of hardened snow, but, with the good Lord cooperating, that will all disappear by late August!

Have a good summer! Please stay out of Maine - we don't need any more cars on our roads.

DR. THOMAS O. JONES: MAY 13, 1906 - MARCH 7, 1993 AS REMEMBERED BY WALT SEELIG. In the northern part of Ellsworth Land along the Eights Coast there is a First-order feature - the Jones Mountains. They were first sighted from the ship BEAR OF OAKLAND in 1940, and later, in 1960, observed by Ed Thiel and Cam Craddock, who proposed that the mountains be named for Dr. Thomas O. Jones.

At the end of the International Geophysical Year (IGY) 1957-58, when the U.S. Antarctic science program was transferred from the National Academy of Sciences to the National Science Foundation, Tom Jones was in charge of the Foundation's U.S. Antarctic Research Program, first as Program Director (1958-61), then as Head, Office of Antarctic Programs (1961-65). This office was responsible for the planning, managing, and funding of science, as well as the coordination of the indispensable field support by the U.S. Navy.

Tom wisely chose, for the nucleus of his staff, geophysicist Bert Crary as his Chief Scientist, and a group of enthusiastic experienced Antarciticans, including Phil Smith, Harry Francis, George Toney, and Ken Moulton. Additional program managers and engineers were added to flesh out the required staff. Through Tom's initiative, in 1960, NSF requested that the U.S. Geological Survey loan me to NSF to plan and coordinate an Antarctic mapping program. And I never left.

Those early years of the program were a period of fascinating accomplishments. From the beginning, Tom had the complete faith of the NSF director, Alan Waterman. In addition, he had a natural political acumen and quickly solidified excellent working relationships with Congress. Representative George P. Miller (D-California) was a staunch supporter of the U.S. program in Antarctica. In the academic world, Tom worked closely with Larry Gould, famous Antarctic geologist, college president, and head of the Academy's Committee on Polar Research. The Committee, (now the Polar Research Board) comprised of the cream of Antarctic scientists, has provided continuing advice and guidance to NSF. Notre Dame's president, Father Theodore Hesberg, was a close advisor and confidant during those formative years.

To gain support for the program, Tom invited visitors to inspect operations in Antarctica. With the advice of his staff, individuals who could become influential in the operation of the program were invited: select members of the political community influential college presidents, scientists from many disciplines, media, and foreign officials and scientists. They returned with a new understanding of the research opportunities in Antarctica, and many would later enrich the program through their particular expertise.

When the Antarctic program needed a research vessel, Tom called on Admiral Roy Gano of the Military Sea Transportation Service, and was offered the ELTANIN, an ice-strengthened arctic supply ship. To operate in the Palmer Peninsula area, a second vessel, the HERO, was later built, under the guidance and advice of Jack Crowell.

Tom was especially talented in developing and establishing good international relationships. His active participation in the Antarctic Treaty Consultative meetings earned him the respect of foreign representatives and their cooperation in scientific and logistic projects. Interestingly, all through the Cold War the Soviet Union and U.S. exchanged scientists in Antarctica. It was as though both countries wanted to sustain this open window despite political differences.

The participation in Antarctica by South American nations consisted mainly of a military presence at their stations. To counter this, Tom spearheaded the idea of offering promising Chilean students an opportunity to do advance studies at American universities. The knowledge and experience thus gained would then be applied to upgrading the quality of Antarctic science. State Department and NSF concurred, and a dozen or more students received advanced degrees. For his contribution in initiating this program, Tom was awarded the Order "Al Merito" by the Chilean government.

Tom never said much about his work at the University of Chicago for the Manhattan Project during WW II, but it is probable that his experience there influenced his opposition to the installation of a nuclear reactor at McMurdo Station. He eventually had to yield to Congressional pressure. In time, the unit was found to be unsatisfactory, and was removed, proving Tom to have been right.

The Office of Antarctic Programs proved its value through accomplishment. Its system of the coordination of science and logistics worked well in the South, and could improve the program in the North as well. Therefore, the organization was upgraded to the Office of Polar Programs. Later, it acquired the status of Division. His leadership was very influential in getting the Division off to a good start. During his association with the National Science Foundation, Tom made fourteen trips to Antarctica to observe and direct the U.S. Antarctic Research Program.

In 1965, Tom was appointed Director of the newly established Division of Environmental Sciences into which the Antarctic program was transferred intact. In addition, Tom served as Special Assistant for Antarctic Affairs to the Director of NSF. Although his influence on Antarctic affairs continued, his broadened responsibilities marked the end of his close personal involvement with the Division of Polar Programs.

Tom was promoted to the position of Deputy Assistant Director for National and International Programs in 1969. He served successively as Deputy Assistant Director and Acting Assistant Director of the Directorate between 1969 and 1975. The Directorate was responsible for programs in support of research related to Polar Programs (Arctic and Antarctic), Science Information Service, National Centers and Facilities Operations, Computing Activities, International Programs, the International Decade of Ocean Exploration, and Ocean Facilities and Support.

In 1970 the NSF Director presented him with the Meritorious Service Award for "his inspirational administration of the environmental science programs, particularly his worldwide acclaimed eminence in Antarctic research activities and his development of scientific cooperation programs." Tom retired to private life in 1975. He is warmly remembered by those who were associated with him during those important developing years of the U.S. program in Antarctica.

KEYSTONE WORKSHOP (by John Spletstoeser, International Association of Tour Operators) The Protocol on Environmental Protection to the Antarctic Treaty, signed in Madrid in 1991, is a major step in building upon the original Antarctic Treaty to extend and improve the Treaty's effectiveness as a means for protecting the Antarctic environment. It designates Antarctica as a natural reserve devoted to peace and science, and sets forth a comprehensive, legally binding environmental protection regime applicable to all human activities in Antarctica. However, before the Protocol can be put into effect it requires ratification by the Consultative (voting) members of the Treaty. The U.S. proposals in this regard are presently H.R. 964 and H.R. 1066 bills, each submitted in the House of Representatives in February of this year.

Staff of the Keystone Center, Keystone, Colorado, organized a Workshop on April 6-8 at Airlie Conference Center, Virginia, in order to bring together representatives of the key interests and key Congressional committees that are concerned with U.S. implementation of the Protocol. The purposes were to: 1) identify common goals and objectives; 2) explore potential areas of agreement regarding specific implementation issues; and 3) identify areas of continuing disagreement and discuss options for their resolution. Twenty-seven participants were there, representing NSF, State Department, Congressional committees, environmental groups, NSF grantees, and tourism, among others.

Keystone Center staff moderated the discussion, which was a workshop in every sense of the word. The Keystone people are professionals in leading discussion in order to get the most out of each participant. The Agenda was designed to touch on individual parts of the Protocol and each of its Annexes. An interesting aspect of the H.R. 1066 bill is that another agency, NOAA, would enter the Antarctic scene and be responsible for reviewing permits that would be required for virtually every activity, from the conduct or support of an expedition by a vessel of more than ten passengers, to, from, or within Antarctica; to the operation of an incinerator.

Protection of one's turf was in evidence, as NSF's past record was challenged with respect to its environmental practices, although the Director-Designee of the Office of Polar Programs, Neal Sullivan, defended NSF's role in the U.S. Antarctic Program, and assured everyone that his role as the new Director includes responsible management of the environment. A major concern of both Neal and the NSF grantees in attendance was the possibility of becoming over-regulated by the new legislation, thereby providing a nightmare of cumbersome paperwork and possible threats of liability for

the coming permitting requirements. Tourism received brief mention, inasmuch as it is also a "human activity," as covered by the new Protocol, but details of the permitting remain to be worked out.

Whatever the terms and format of the U.S. implementing legislation turn out to be, things will be different in Antarctica in the future, and, as several of the old hands pointed out, "It just isn't fun anymore." Indeed, it isn't, and it's the first time in my 33 years in the U.S. Antarctic Program that the number of lawyers around the table nearly outnumbered the people who used to have fun doing their research.

The biggest tragedy that I envision from this is the potential of experienced Antarctic researchers abandoning their long-term projects because the regulatory programs might overwhelm the benefits of doing research in Antarctica. Established academics and others don't really need all these obstacles, and can just as easily transfer their energies to the Arctic or elsewhere in the world. Perhaps the solution is to lock up Antarctica so that no one can visit there and despoil its environment by stepping on a moss bed, but I have seen enough of the continent to think that that is not a solution at all. Somehow there has to be a way for anyone who wants to go there, to simply go there if that person keeps his/her act together, whether in a science program or on a tour ship. Let's hope the new legislation will provide something that everybody can live with.

ADMIRAL BYRD REFURBISHING. Mid-winter Day in Wellington will see the rededication of the restored monument to the late Admiral Richard E. Byrd on Mt. Victoria high above Wellington Harbor. This has all come about through the civic pride of a Midlothian, Virginia business man, John Lenkey III, who just happened to visit Wellington and was aghast at the destruction that vandals had done to the original Byrd Monument. He came home and decided to do something about it. He organized and directed a restoration fund to help restore the memorial to the Admiral, a drive which was conducted in both this country and New Zealand, with the Kiwis coming up with most of the money. The new monument is a thing of great beauty, being made of scratch-proof acrylic tiles, painted to glow blue in the daylight, representing the aurora australis. Mr. Lenkey is still short on funds, so if any of you want to make a contribution, or buy a worthwhile VCR film on the Antarctic, read the following paragraph and let your conscience lead you to your checkbook.

There is a small contingent going down to Wellington for the rededication which includes both of the Admiral's daughters, Boiling Clarke of Media, Pennsylvania, and Katharine Breyer of Los Angeles. Ruth Siple is also going. The New Zealanders and Wellington are placing an additional plaque on the rebuilt monument, citing the late Paul A. Siple, who remained a staunch supporter of Admiral Byrd through his entire lifetime. It is most appropriate, in our opinion, that something honoring Paul should be next to the Admiral's memorial, as if the two were still walking together, the Admiral showing the way, while Paul, the Eternal Boy Scout, protects his mentor's well-being. And as sort of an American Honor Guard for the whole ceremony, Paul Siple's old Boy Scout Council in Erie, Pennsylvania is sending Jeffery Stachera, an Eagle Scout, who, like Paul when he went to the Antarctic, is a student at Allegheny College. And, of course, John Lenkey himself will be there to see the fruits of his efforts for the past two years. The Antarctic community owes John one big round of applause, and we hope he can hear them as he stands on Mt. Victoria on 21 June 1993. And, if you really want to see him smiling, send him your contribution!

THE ADMIRAL BYRD MONUMENT FUND (2121 Castlebridge Road, Midlothian, Virginia 23113) will send a copy of the 82-minute VHS video tape "With Byrd at the South Pole" to Society members at a 10% discount from the published price. Publisher - \$39.94 plus \$2.95 shipping/handling; Byrd Monument Fund - \$35.95 plus \$2.65 shipping/handling.

The purchase price is not tax-deductible, as it is a sale. However, if you contribute fifty dollars, or more, the contribution is tax deductible, and an authorizing IRS receipt is sent to you, along with a complimentary copy of "With Byrd at the South Pole." For those in the 30+ tax bracket who itemize, it's more advantageous to donate \$50 than buy for \$38.60!

ALTON A. LINDSEY GRADUATE FELLOWSHIP IN ECOLOGY AT PURDUE UNIVERSITY. Al Lindsey, biologist, Second Byrd Antarctic Expedition, 1933-35, will be honored by his old faculty members on May 7, 1993 when the Department of Biological Sciences at Purdue University will formally establish the Alton A. Lindsey Graduate Fellowship in Ecology. The date of the award of the inaugural \$1000 Lindsey Fellowship was selected to coincide with Al's 86th birthday! Al is still very active in the scientific community, and without a doubt will remain so until his number is called from Up Above.

Al Lindsey was a college pal of the late Paul Siple at Allegheny College, and had the opportunity to go with Paul on the Second Byrd Antarctic Expedition. The Lindseys and the Siples were very close, and to this day there is a close bond between Ruth and Al and Elizabeth. Ruth received a letter from two professors in Al's department at Purdue telling of the establishment of the fellowship, and we will quote from the letter of March 22nd from Professors Morris Levy and Dennis Minchella.

The Lindsey Fellowship honors the career and lifework of our colleague emeritus and friend, Al. The fellowship is designed to continue his legacy of contributions, now in their seventh decade, to the understanding, appreciation and conservation of natural environments and communities. The fellowship will be awarded annually to provide research support for Purdue graduate students conducting ecological studies. Most of these studies require the students to be involved in off-campus field work, for which support has become increasingly limited. Al is pleased to have the Lindsey Fellowship provide additional opportunities for these students.

To the best of our knowledge, this is the first U.S. living Antarctic person to have a graduate fellowship established in his name. The Ohio State University annually awards a Byrd Fellowship to the Byrd Polar Research Center. Recently it was in the form of a post-doctoral to Paul Berkman, who is now at the National Institute of Polar Research in Tokyo, Japan. The late Tom Poulter had a laboratory named after him in Palo Alto; and the late Bert Crary had a Chair in Geophysics named for him at the University of Wisconsin. The Antarctic Super Star, Larry Gould, had a building named after him at the University of Arizona, and they even presented him with a key to the men's room at the dedication. One of my very favorite Antarcticans, the ailing Fred Milan, who has succumbed to a nursing home, was honored for his lifetime dedication to circumpolar health with the establishment of the Albrecht-Milan Foundation in 1991. The late Bill Benninghoff saw the Nature Conservancy honor him in 1990 with the establishment of the Benninghoff Tract. And the late Paul Siple is remembered annually at the West Point Science Conference when they present the Siple Medal to the presenter of the most outstanding paper. But it seems, on the whole, that it is a small community of Antarctic OAEs who have been honored, and it is just great that Al gets honored in his own lifetime. Our congratulations, Al!

Anyone with any money left over after 15 April who may be looking for a place to deposit it, can write a check payable to the Purdue Foundation/Biological Sciences, attaching a note specifying the donation to the Alton A. Lindsey Graduate Fellowship in Ecology. Contributions are tax deductible. Mail to Purdue Foundation, Purdue University, West Lafayette, Indiana 47907-9988.

FIRST WITH PONIES, LAST WITH DOGS AND WOMEN WINTERING OVER. It is our understanding that the Brits don't want to loan the octogenarian Norman Vaughan any of their dogs on the ice so he can dog-sled to Mt. Vaughan for his 88th birthday party on its summit next December. It seems the Brits want to be known as the last to use dogs on the ice. I guess this is supposed to make up in part for their reluctance to use dogs to go to the South Pole, opting for Siberian ponies.

Norman Vaughan, who in reality is a very polite gentleman who likes to live life to its fullest, is up against it. The first thing against Norman is that he is a good old boy, and nothing is as dead in Antarctica as yesterday's hero, especially someone connected with Byrd, as that is just too much ancient history. Anyone who has wintered over knows that the new people coming in aren't interested in hearing how it was done last year; they just want the old guard out of there as fast as possible. And when you find some guy from the 1928-30 Byrd Antarctic Expedition still living, hey, he is about as welcome as the plague.

I think there is a fear that old Norman might die, or worse yet, might have to be rescued. But he has his own support system in place - Adventure Network, plus an experienced mountaineer, Vernon Tejas, who will see Norman to the summit, and a wilderness doctor, Peter Groth, who is as good as expedition doctors come. The chances of Norman dying are slim, as his most recent marriage, number four, to a dynamo in her forties, has just rejuvenated the old buck. He has finished the Iditarod, and has been to the bottom of a small hole over 200 feet deep into the Greenland ice sheet, both when he was in his mid-eighties. How old are you, and what have you done lately? Norman burned his birth certificate the same time that women were burning their bras.

The big to-do is that the United States is adhering to the terms of the new Antarctic Protocol, even though it has not been ratified by Congress, and, in all likelihood, will not be ratified in the time period when Norman would like to take dogs to the ice this coming austral summer. Is this much ado about nothing? After all, haven't dogs been in Antarctica for most of a century, and what harm have they really done? Why have people gone ape over the environment in Antarctica when they put up with most anything back home in their own backyard? I live in a very environmentally conscious state, Maine, one which gets very high national ratings for its efforts and programs, but raw sewage is being blatantly and openly dumped into our rivers and the ocean. I guess we should import penguins so we could have change, as anything in a tuxedo is environmentally sound, right? Right! And to fall back on one of my old horse chestnuts, take the Metrorail from Washington to New York City, and try to stomach what you see along the way, particularly Newark. How come we can literally turn our backs on our own backyards where we live and work and grow our food, yet put the strictest of environmental controls over Antarctica where there is no human indigenous population, and no food products, per se? It makes no common sense at all!

Norman wants to fly down to Patriots Hill with Adventure Network, fly over to the Ross Ice Shelf, make a dog sledging trip to Mt. Vaughan, climb the mountain, and come on home. But the cards are stacked against him, and it doesn't look good as we go to press. We wonder how much is because he is a good old boy, and what would have happened if his name had been Susan Butcher?

ENVIRONMENTAL DETERMINISM. About a century ago there was a school of thought among European geographers that there was such a thing as environmental determinism, and this country had a leading exponent of this theory in a Clark University geographer, Ellen Churchill Semple. Antarctica would almost make you believe in environmental determinism. Is there any other continent which is ruled as much by the environment as Antarctica? I think not. It certainly was not created for mankind.

Antarctica polices itself more than any other continent. Everything, eventually,

goes to the sea. The snow on the Polar Plateau will be part of the ocean of tomorrow; it's just a matter of how much time it will take for that snowflake to reach some glacier or some ice shelf, then calve off to sea. The interior of Antarctica tries to protect itself from the invasion of mankind by inhumane temperatures, but mankind has outfoxed nature by invading that privacy with clothing and equipment oblivious to the most extreme environment.

Antarctica is the only continent which has an annual seasonal protective shield around most of its periphery, as the wintertime sea ice extends outwards for hundreds of miles and is almost impenetrable. And should you violate the shield and approach the continent, you can be buffeted by some of the world's cruelest and strongest katabatic winds pouring off from the interior of Antarctica. Storms around Antarctica prowl offshore like attack dogs, seldom penetrating very deeply into the continent.

In my one year at the South Pole, there was only one frontal passage which could be traced from upper air soundings from the Weddell Sea over the Pole to Vostok and on to Mirny. The South Pole, itself, is Antarctica's heaven; once you get there, you are rewarded with the finest climate in the whole world, foolproof weather not complicated by daily cycling. A year with one day, one night, with no storms!

And the Southern Ocean really precludes permanent offshore oil drilling stations, as tabular icebergs silently drifting along the coast can overpower anything built by man. They are marine policemen. Antarctica wasn't really supposed to approach other continents, but something went askew with those plate blocks in Gondwana, and the Andes overextended onto the Antarctic Peninsula. The only thing left then for the Almighty was to do one of those Wall Street fixes, so he created Hell in the Drake Passage in an effort to keep people away from this supposedly Forbidden Continent.

This whole master plan looked just great on paper, but one thing screwed it all up. It was New Zealand. People started to go to Antarctica not because of the excitement of discovery and the opportunity to get away from the humdrum of married life, but for the opportunity to visit en route a beautiful country with friendly people, some of whom happen to be women, and some of those, just by chance, were beautiful. New Zealand is Antarctica Valhalla. If there hadn't been a New Zealand, would the United States be in Antarctica?

JOHN SPLETTSTOESSER REVIEWS "THE CRYSTAL DESERT: SUMMERS IN ANTARCTICA" (the winner of a Houghton Mifflin Library Fellowship Award, by David C. Campbell, 1992). I have lost count of the endless stream of books written about Antarctica, by those who have been there, and those who have not. I find it impossible to keep up with them all, much less to read them. Appealing titles to attract customers are also becoming difficult. "Crystal Desert" is not just another Antarctic book, a travelogue, journal narrative, or somebody's derring-do heroics. The title, "Crystal Desert," is explained early, on page 2, as is the subtitle, "Summers in Antarctica," so you know upfront that you are going to read about somebody's account of personal experiences. It turns out to be mainly on King George Island, off the Antarctic Peninsula, and as a guest of the Brazilians at their station, Commandante Ferraz, where the author conducted research on parasites in fish and invertebrates. Doesn't sound like much of a start for a good book, but the content is more than that. The author brings Antarctica alive, in descriptions of life at the station, collecting specimens (he's also a diver) and dissecting them, and opening up his mind and thoughts about a continent that obviously had quite an effect on him. Campbell's expressions and expertise at delivery to an interested audience came out for me when we were both naturalist/lecturers on a cruise ship to Antarctica in 1987.

The usual facts and statistics are there, as needed, but the primary benefits of the

book are in the way that not only his personal experiences are portrayed, but also the bits and pieces of tangential subjects – the geological history of Antarctica in a chapter on "Memories of Gondwana"; sealing and whaling industries; and the importance of krill in the whole food system. One of the more delightful chapters deals with the author's visits to the large chinstrap penguin colony at Bailey Head, Deception Island. Descriptions of the sounds and smells make you feel as though you are in the rookery. The chapter starts with the early part of summer, when penguins begin to come ashore and start nest-building, courting, etc., followed by later visits to the same colony, and ending with the chicks fledged, adults molted, and the site abandoned for the summer. Winter takes over and the cycle is complete.

Humans are humbled in expressions like "There is a greater biomass of *E. superba*—about 600 million tons—than of any other species of animal on earth". In a scene of collecting plankton with a simple hand-held net, Campbell describes the net contents "a living bouillabaisse." Although nearly all discussions reveal the author's biological background, there is a wealth of everything Antarctic. Even tourists, who visit the Brazilian base, are given some space, though none of it complimentary. Tourists, like the plethora of national stations and their personnel, are intruders in this continent known to humans only within the last 175 years. The book ends with Campbell's departure from Ferraz Station, flying to Punta Arenas on a Chilean C-130, then taking a short trip to Puerto Natales and Torres Del Paine, north of Punta Arenas. The ending is suspended a bit, but the author has provided the moral to the story in many ways throughout the book. Antarctica is not to be trifled with—it can be dangerous and unforgiving, but it also needs some help in protecting its creatures. Only people have the wherewithal to guarantee Antarctica's future.

It is possible, if Campbell has another book in him, to provide a logical sequel to his time in the "Banana Belt." As a guest of NSF's Office of Polar Programs Antarctic Artists and Writers Program, he could do a book version of the Ross Sea side of the continent. With "Crystal Desert" on his resume, whether on a research project or on the Writers Program, we would be treated to another good book.

WUGA ON ALAN CAMPBELL. For the past five years researchers with the National Science Foundation have been sending Alan Campbell to Antarctica. The 42-year old native of Athens, Georgia has been helping the NSF study everything from penguins to global warming and the ozone hole. But Campbell isn't a scientist. He's an artist. Researchers with the NSF are using Campbell's paintings to document landscapes and wildlife in Antarctica. They say his watercolor and oil pictures are more accurate than photographs, that is, his paintings reveal subtleties in light and color that are not always captured in photographs.

Guy Guthridge, Manager of the National Science Foundation's Polar Information Program says scientists began using Campbell's art because they wanted to show people what it's like to live in Antarctica. Guthridge says Campbell's paintings do this by getting beyond the surface of the environment and interpreting how the landscapes and wildlife affect people. He says Campbell's art translates complex research to a human experience people can relate to.

Antarctica is the most desolate place on earth. But Campbell's paintings of the continent are anything but lifeless. Many of the pictures are strange and hallucinatory. At first glance, they seem simple and realistic. But the longer you look at them, the more illusions you see, like the floating colors in Claude Monet's water lily murals or the inverted images in M.C. Escher's drawings. At his studio in Athens, Campbell recalls his visits to Antarctica and describes a surreal environment with brilliant colors and dream-like landscapes. "I had been following a

pattern or staying up and painting between midnight and three o'clock in the morning because that's when these magical things would happen. There would be mirages, holes would appear in mountains, tops of mountains would pop off and float in the air and you'd get inverted mirror images of things floating over them. And I remember watching Mount Erebus, the big snow-covered volcano that sits on the ice across the Sound, go from lemon yellow to bright gold and then to a silver blue, all within about 20 minutes."

To capture these rapid changes, Campbell painted with watercolors, which he says are more flexible and responsive than oils. But because of Antarctica's sub-zero temperatures, Campbell's paints often froze or crystallized on the paper. To escape the cold, he painted inside a small pup tent while looking through a plexiglass window. Often, a helicopter would drop Campbell off in remote locations where he'd spend several days in total isolation. Because daylight in Antarctica can last for months, he sometimes worked 48 hours without sleep. When he wasn't painting, Campbell wrote in a journal and searched for ways to turn his feelings about Antarctica into art. "I am writing at 3 AM on the shore of Lake Fricksal where I've been walking about, looking for what I might find and listening to the silence. I want to get these thoughts down and out before they change and become something else. What is it that makes a place more than what it is? Or should I say, reveals it for what it is? A place like this, so silent and beautiful, makes me aware of what I don't know."

Campbell says some of his most successful interpretations of Antarctica were done by combining elements of scientific research with art. In one painting, he altered a sheet of graph paper that had been used by researchers to chart high and low temperatures. "This piece of paper was being discarded and the meteorologist said I could have it, and I was just looking at it and then looking out the window at this sweep down the valley of these glaciers and mountain peaks, and all of a sudden I just started playing around with the watercolor on this chart paper, and I turned it into landscape of the Wright Valley with the image created by both my hand and thoughts and looking at the landscape. But it was a landscape that also depended on the winds and the temperatures and the cycles going up and down those valleys. So it was a perfect merging of art and science."

Alan Campbell intends to use other scientific images in his paintings of Antarctica, like maps or satellite photos. He also plans to incorporate garbage found on the continent, which he hopes will show people the importance of preserving Antarctica and other fragile ecosystems. "As humans, we can screw up just about anything, and some examples I can give you - I would go on hikes with scientists and we would go to places where literally no human had ever set foot before. And then all of a sudden come across a piece of trash. It was pretty sobering."

Campbell says the National Science Foundation has invited him to make the WINFLY trip this coming summer, and he hopes to be able to arrange his busy schedule so that he can take advantage of the invitation.

LOOKING BACK, LOOKING FORWARD. This Newsletter has been a doozy to do, as our window was only a crack. My rationale for living seems to have been caring for aging family. My 96-year old mother died last year, and as we write this, my 102-year old aunt is on her deathbed in a hospital, finally struck down by brain hemorrhaging. And Ruth has a marriage in her family, plus a visit from a daughter at this time, so-o-o But we staggered through. All Newsletters this year were written from the shores of Maine, thanks to our fax machines. However, better days must be ahead, and I know I'm looking forward to some downstairs teeth and some real eating after almost a year and a half of dental surgery and waiting and waiting and waiting. But people tell me implants are worth it, while my checkbook keeps quizzing me, "Are you sure?" Polly has been a dear as our president, and I hope I can give her some support next year.