The Antarctic Sun
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Every Two Weeks
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Tragedy at SouthPole:
Skydivers Fatal Jump

by Alexander Colhoun

Three skydivers plunged to their deaths last Sunday while attempting what is believed to have been the first civilian skydiving attempt over the South Pole.

The six-person team was organized by Adventure Network International (ANI), a company that has been assisting private adventurers in the Antarctic since 1988.

All six members of the team jumped from a single Twin Otter aircraft from an elevation of approximately 18,000 feet. The South Pole rests at 9,500 feet above

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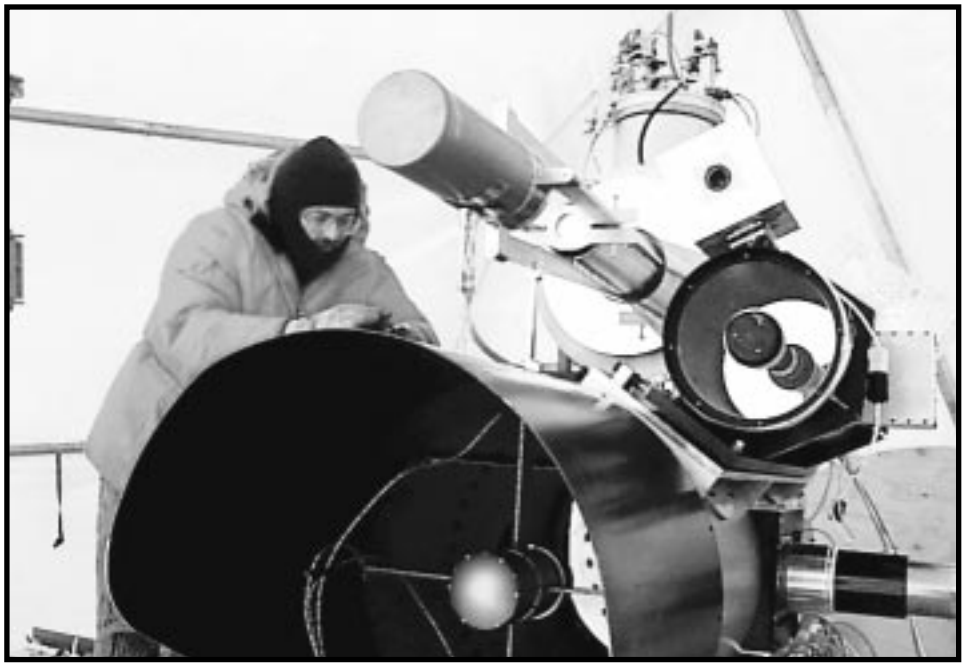
INSIDE

View to the Heavens, View to the Past:
South Pole Astrophysics Comes of Age

story and photos by Alexander Colhoun



Fred Mrozek makes adjustments to the Spirex infrared telescope, which he built by hand. SPIREX is one of three telescopes at the South Pole, a location some Astronomers are calling the next place where astrophysics will take-off.

Amundsen-Scott South Pole Station, Antarctica

Gazing into the 60 centimeter concave mirror of the Spirex infrared telescope, Fred Mrozek's eyes burn with curiosity. Dismantling the telescope he built with his own hands, Mrozek speaks in space-age verse with tales of mapping the Magelantic Clouds in the galactic center and of tiny galaxies being pulled and stretched as if by an ocean current.

Mrozek's world may sound like science fiction, but with the help of the National Science Foundation, they have become science fact.

Just eight years ago modern astronomy made its debut at the South Pole. For astrophysicists like Mrozek, the experiment has been an unabashed success.

"This is the best place in the world for near infrared astronomy," said Mrozek. "The conditions here are close to ideal and better than any other place on earth for this kind of astronomy."

Dr. Tony Stark, an astronomer from the Smithsonian Astrophysical Observatory in Cambridge, Mass., was equally enthusiastic. "This is the next place where astronomy will take off," said Stark. "The observing here is just too good."

Stark should know. A denizen of the astronomical world, he's been probing the universe for a quarter century, the last decade of which has been focused on the South Pole.

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Rebuilding the Pole

story and photo by Alexander Colhoun

Carlton Walker, ASA Construction Supervisor, watches as D-7 bulldozers move thousands of pounds of snow to make room for a new 200-foot long, 64-foot wide, and 34-foot high garage arch at South Pole Station.

Amundsen-Scott South Pole Station, Antarctica

From the sky, the first visible sign of man's presence at the South Pole is a silver dome glistening in the spectral Antarctic light. Up close, it looks like a massive globe, covered to the high latitudes in snow, revealing only its bald, glistening cap.

Completed in 1975 and designed to house 18 men in the winter and 33 in the summer, the South Pole Station has come to symbolize America's presence at the South Pole, a site prized as a scientific platform and a geopolitical stabilizer.

The United States in Antarctica, a 94-page review of the United States Antarctic Program includes a letter from the Department of State which summarizes America's interest in the South Pole. "United States presence at the South Pole Station demonstrates the United States commitment to assert its rights in Antarctica, its basis of claim, and its commitment to conduct cutting-edge scientific research there."

Thus regarded as the most visible symbol of America's presence in Antarctica, Amundsen-Scott South Pole Station, so named for the first two explorers to reach the Pole, has come to the end of its 20-year design life. Several primary aspects of the station's infrastructure, including the fuel system and the power plant, need replacement.

In October, 1997, President Clinton signed a bill authorizing 70 million dollars for the renovation of the South Pole. In addition, Congress has authorized 25 million for the South Pole Safety and Environmental Upgrade currently being carried out. Both projects leave John Rand, the National Science Foundation Project Engineer for the South Pole, with the challenge of a lifetime.

"I can't imagine a more severe construction environment," said Rand, a veteran with more than 20 years of cold-weather construction experience. "There are many constraints to the project. We have a very short building period each summer; we need to finish projects [each summer] for them to survive the winter; and we are at the tail end of a very long logistics train."

Long indeed. The South Pole is arguably the world's most remote outpost. Simply getting there is a battle. Four separate flights, 8,000 miles of ocean and ice and 10,000 feet of elevation separate the Pole from the closest American city. In winter it is entirely inaccessible.

Imagine then, transporting equipment, materials, workers and all their related needs to this isolated, windswept slab of ice. Over the next eight years more than 1600 flights will be made to the South Pole from McMurdo. Every item carried there, from solar panels to toilet seats, must go through a series of hurdles fit for an Olympian, including design, procurement, pre-deployment assembly and disassembly stateside, travel to Port Hueneme and on to McMurdo by ship and finally to the Pole by air.

It is a logistics juggernaut inextricably linked to unpredictable weather patterns.

Despite a twelve-day delay in opening the station this summer, caused by unseasonably cold temperatures at the South Pole (too cold for LC-130 Hercules aircraft to attempt landing), this season's objectives have not been diminished. Besides maintaining a world class science program, the station will build a massive new garage arch, will move a summer camp of ten Jamesway tents to a new location, and will raise the existing garage arch five feet. All of which calls for more personnel than ever before.

Dave Fischer, Antarctic Support Associates' South Pole Station Manager, treats the station like a race car, red-lining the engine for maximum performance while closely monitoring all functions. "I want to push the limit and see what we can do," said Fischer. "But I don't want the system to break."

While Fischer keeps an eye on the big picture, Tom Verville, a New Hampshire native, is keeping a close eye on the front end of a Caterpillar D-7 bulldozer. In the last few weeks, Verville has helped move tons of snow to make way for a new garage arch.

"It's a mountain of snow," said Verville. "The depressing part is that it is a never-ending game. There are days when you think you'll never get it all done."

That's a concern on the minds of many South Pole workers as they race against the weather and time. "We're about 20 flights behind schedule due to the late opening," said Jerry Marty, The National Science Foundation Construction Manager. "But we're still planning to get it all done. Things are moving well."

If anyone has the experience to lead the team, it's Marty, who's been involved in the United States Antarctic Program off and on

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PHI Over Antarctica

story by Terri Watson

The bayous of the south are a long way from Antarctic ice, but that hasn't stopped Louisiana-based Petroleum Helicopters, Incorporated (PHI) from making its mark on this frozen continent.

"I must admit, when I heard that some Louisiana Company got the Antarctic Helicopter Contract, I was a bit concerned," remembers Robin Abbott, ASA's Senior Helicopter Coordinator. "They assured me that these guys had flown all over the world. It has worked out well."

PHI is the world's largest and most experienced helicopter operator. Boasting 315 aircraft, almost 2000 employees, 45 domestic and 11 foreign bases, it currently flies about a quarter million hours a year. Since its founding in 1949, PHI has operated in 39 countries and flown over 8.5 million hours with an enviable safety record. They currently provide helicopter services to the National Science Foundation as a contractor similar to ASA.

photo by Ed Sangurima

PHI helicopters are a familiar sight above McMurdo; but without the unheralded work of a dedicated group of mechanics working on this helicopter, these helos would never get off the ground.

Taking over a mission performed from 1955 until the end of summer 1996 by the U.S. Navy, PHI's contract is the first of its kind awarded to a civilian helicopter company. In their second year of operation out of McMurdo, they provided transport for over 50 projects, 650 scientists and workers, and all of the associated cargo to field camps within 150 nautical miles of McMurdo. They've also provided round-the-clock Search And Rescue (SAR) coverage for the USAP and Antarctica New Zealand.

The transition from civilian to military went smoothly last year despite cutting back on the number of pilots and support staff. Experience contributes a lot. The seven pilots in McMurdo bring thousands of hours of experience along with them.

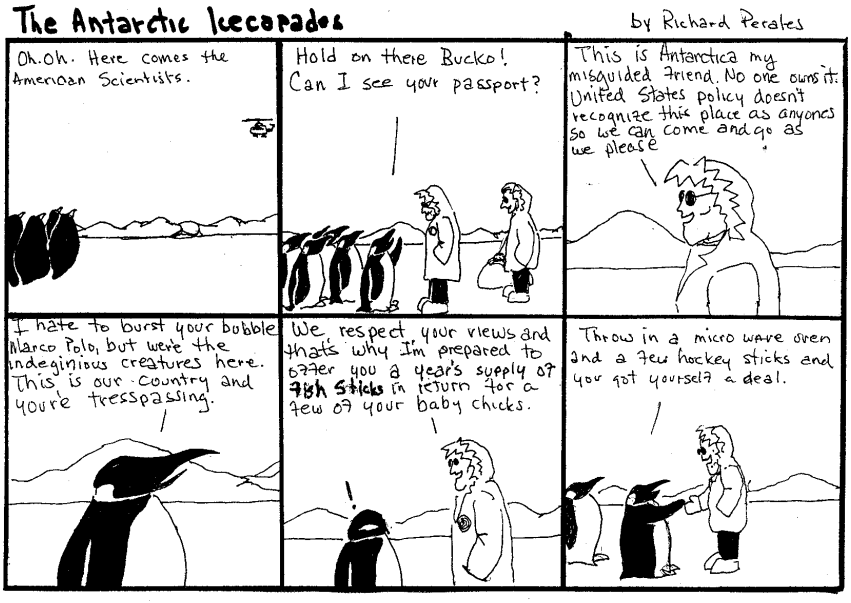
Of seven PHI pilots, four are here for their second year. "It's what we like to do," remarks Jack Hawkins, PHI's Program Manager. "We enjoy it, but its a long time away from home," he continues. "Quite a few PHI pilots were interested in flying here, but the requirements were a stopper for many of them." 1500 hours total helicopter time, 200 of which must be in mountainous terrain is specified in the contract that NSF holds with PHI. "It's hard to find anyone except ex-military pilots with that kind of time" said Hawkins. Six of the seven PHI pilots are ex-military.

Hawkins is also quick to credit the five PHI mechanics that deployed in WINFLY (the first flight period after the winter) and performed all checks and maintenance on the aircraft. PHI holds an admirable fleetwide aircraft readiness rate of 98%. PHI Maintenance Manager Everett Fouts says the key to that success is the support from the company's headquarters. PHI's worldwide maintenance support system handles much record keeping and supply problems. "It lets the mechanic spend his time on what he's supposed to, fixing helicopters," said Fouts. The 5 maintenance personnel boast a combined 87 years of PHI experience doing just that.

Hawkins also compliments the scheduling work of ASA Senior Helicopter Coordinator Robin Abbott for his company's achievements. "It's a real team effort. She matches the right load with the right helo, coordinates a complex series of pickups and drop-offs and keeps the helicopters moving and working." Four other ASA Helicopter Coordinators provide cargo and passenger handling duties, keeping up with the daily details that let the bigger plan work.

Flying in Antarctica has similarities with PHI's home state of Louisiana. "Flying in the hot, humid Gulf summer, power is as much an issue as up on top (on the plateau or high peaks) here," says Hawkins. "Weather is weather wherever you go. It's harsh here, we don't take it lightly, but as long as we adhere to minimums and use good judgment, we always have an out."

It's a job the PHI team seems to enjoy. When asked why he keeps coming back, pilot Richard Dipboye echoes the sentiments of many of us when he smiles an answer: "Adventure." ✹



Women in Antarctica:
Self Health is the Key

by Carol Savage, Nurse at Mac General

photo by Alexander Colhoun

Between her martial arts classes and days spent skiing, Erika Kassop, a McMurdo resident, keeps busy and healthy while living in McMurdo.

Without cooking for ourselves, driving in commuter traffic or even cleaning our own bathrooms, Antarctica can still be a harsh place to live. Many women are aware of stress and its effect on our bodies while living in the United States, but the factors affecting stress levels and how to deal with stress are somewhat different in Antarctica.

Environmental, emotional, and physical stress impact individual health. Acknowledging what is stressful will allow you to make changes toward optimum health. Some stress is unique to Antarctica, including working in extreme temperatures, living with noise of heavy equipment and machinery, and lack of personal space. Work related pressures are compounded by fatigue and potential for injury.

Spiritual and emotional stress may involve taxed interpersonal relationships, isolation and loneliness. In addition, high alcohol intake can affect choices we make and also depress our immune system.

The key then, is working to prevent sickness before it happens.

Impact to body, mind and spirit is multifactorial, and strongly influenced by our nutritional choices. For example, Premenstrual Syndrome symptoms and depression can be affected by our intake of carbohydrates, protein, and fat. Nutrition is just one factor that helps regulate our health. Imbalance of work, play and rest can create susceptibility to cold viruses, muscle tension and sometimes leads to accidents.

The galley offers a selection of nutrients each of which need to be eaten in balanced amounts. While fresh food isn't always available, avoid substitutions with all too easy-to-find sweets.

The absorption of the foods you eat is influenced by exercise, another important

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Did You Know...

by Brenda Joyce

A Scott sledge was used to haul food in a blizzard in New Zealand in 1939. The sledge was used originally on an expedition to the South Pole and was an exhibit for 26 years in a museum in Dunedin. It was used to carry food to a radio station isolated by the worst snowstorm in the city's history. The rescuers got within a quarter of a mile of the station and were met by the station staff on a hill overlooking Dunedin.

Cows came to Antarctica with Byrd. In 1933, Admiral Byrd took three Guernseys aboard the Jacob Ruppert supply ship to provide fresh milk for the expedition. They required sand and straw for bedding and a two-year supply of hay, beet pulp, grain and brand. At Little America there was a Cow Barn complete with an electric milking machine. One cow contacted frostbite aboard ship on the return voyage and had to be destroyed. The cattle returned after 22,000 miles of sea travel with a new bull calf christened "Iceberg", born just outside of the Antarctic circle.

Shackleton trained for Antarctic expeditions in Norway. Camping at Lake Finse in 1914, the explorer tested his air-propelled sledge, motor crawler and round tents on the nearby glacier.

Nathaniel B. Palmer became a trader in China. After 'discovering' Antarctica, the young whaling Captain went on to become a merchant, designer and owner of some of the greatest clipper ships involved in the China trade.

Scott's wife sculpted statues of the explorer. One is in Christchurch, New Zealand and the other is in England at Waterloo Place. She also produced a landmark bronze statue of E.A. Wilson, the Artist and Zoologist who died with Scott on the Great Ice Barrier in March, 1912. Wilson's monument stands in on the Promenade in Cheltenham, his birthplace.

Kennels built by Scott for his sled dogs can still be visited in Lyttelton, New Zealand. Quail Island, near the head of Lyttelton Harbor, was used as a quarantine station for dogs and ponies by both Scott and Shakleton prior to departure to Antarctica.

Astrophysics

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"Eight years ago we set up our observatory on the snow, nailed a floor down, set up our telescopes beside a preway heater and took measurements," said Stark. Conditions have changed dramatically.

Today the South Pole boasts a growing astronomical observation platform, enhanced this season with the completion of the Viper telescope observatory, rounding out a team of three scopes situated at the Pole. Viper's quarters, elevated on stilts to limit snow build-up, are the envy of many a South Pole worker. With its carpeted floors, central heating and skylight windows, the new facility is as handsome as it is cutting edge.

Viper's presence at South Pole is an indication of things to come as astronomers worldwide begin to appreciate the potential for ground-breaking research in Antarctica. "A decade ago our goal was simply to prove it was possible to operate a telescope in the winter," said Stark. "We've succeeded unequivocally."

What makes the South Pole so special for astronomical research is as starkly obvious as the Antarctic winter: it is cold, it is dark and it is isolated.

In other words, the atmosphere above the South Pole is nearly transparent, allowing a significantly greater amount of light waves through to earth than most other geographic locations. That doesn't mean Stark and his fellow researchers will be getting a better tan.

The vast majority of this light is not visible. Contrary to popular opinion, astronomy does not always entail a bearded scientist looking through a small viewfinder and panning the galaxy.

In reality, astronomical research is carried out across the electromagnetic spectrum, from shorter wavelengths just above visible light, to longer wavelengths, such as millimeter light, which is similar to a radio wave.

The point is simply that different researchers often look at the same phenomenon, but on different wavelengths, therefore building a greater understanding of the complete picture. At the South Pole, the Spirex telescope searches a band of light in the near infrared zone while Viper and the Astro telescope search the submillimeter and millimeter ranges respectively.

According to Stark, the only rival to the South Pole observatory is located atop 14,000-foot Mauna Kea in Hawaii, and even there, observations can be made only ten percent of the time due to moisture in the air.

That leaves space missions as the only alternative, one that Mrozek dispatches with common sense budget talk. "Working here costs one-tenth of one-percent of a satellite mission," said Mrozek. "You just can't beat that." Other drawbacks to space-born technology are time and size.

Putting a telescope into space can take from 10-15 years, during which time the technology is 'frozen' in the launch vehicle due to payload constraints. At the South Pole, key telescope elements can be replaced or upgraded with the latest technology over the summer season. In addition, telescope size is severely limited on space missions, while Antarctic instruments have few size constraints.

By his own admission, Mrozek considers the Spirex telescope, which fills a canvas covered structure the size of a typical American living room, modest in size. What's remarkable about the instrument, however, is what it can see. "Down here the sky is so much darker, it glows so much more faintly, even a pea-shooter like this can do high quality astronomical research."

Matt Newcomb, a recent computer science and math graduate of Carnegie Mellon University, stands inside the new Viper telescope observatory platform.

Pea shooter or not, Spirex has drawn a talented team of researchers to the desert-like Pole.

With nothing but a tweed jacket and a t-shirt reading 'Data Wranglers' between him and 30 below (Celsius) temperatures, Dr. Nigel Sharp, an astronomer from the National Optical Astronomy Observatory in Tuscon, Arizona, heads outside to speak with his associate, Mrozek, as he dismantles Spirex.

"We should be able to see more stars than ever before," explained Sharp as he made his way up to the roof that Spirex calls home. "But what we're really trying to understand are the details of star formation."

Astrophysical research, while new to the South Pole, has an ancient tradition. Most of the basic structures of the universe are understood, leading astronomers into more and more specialized fields within their own discipline. "The field is so subdivided," said Mrozek. "There are nearly as many objects of interest as there are astronomers to study them. This is a sign of an advanced field of study."

All of which has scientists like Stark, Mrozek and Sharp hankering for a bigger piece of glass. Ten meters in diameter, the mirror of a world class observatory would almost certainly reveal secrets to the origins of the universe.

For the uninitiated, it's not an easy concept to comprehend, but the essence is this: astronomers interested in the creation and dynamics of the universe have to look out into space as far as they can. The further out they look, the further back in time they are viewing. Give or take a billion years, Stark dreams of exploring the first seven billion years after the Big Bang, which occurred 15 billion years ago.

For that he'll need a world class telescope, which he hopes is no longer a pipe dream.

"CARA's (Center for Astrophysical Research in Antarctica) mission was to demonstrate the quality of this site and the feasibility of working here," said Stark. "We've

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UPDATES

from Antarctic stations and ships

McMurdo Station

by Stan Wisneski

The move from the Ice Runway to Williams Field was completed on 6 December –a week earlier than scheduled due to the deteriorating conditions of the transition leading to the sea ice. Moving the buildings took approximately 12 hours to complete.

Preparations are under way for the arrival of the R/V Nathaniel B. Palmer (NBP) on or about 16 December. The NBP will nose into the ice edge as close to McMurdo as possible. All personnel and cargo will be transferred by helicopter.

South Pole Station

by David Fischer

Lots of volunteers helped prepare dinner and desserts all week as South Pole celebrated a traditional Thanksgiving with a traditional dinner, including an elite corps of wineservers who poured wine purchased by the station's grantees.

South Pole is reaching significant milestones in a busy season. ASA completed the control and pump rooms for VIPER, and turned the buildings over to the science group during the week. Despite the late station opening, these projects have been completed ahead of schedule. In addition the VIPER communications and computer installation is complete.

PICO continues setting up camp to drill three more holes for the AMANDA project; CARA's numerous projects are underway; and S-208's effort to analyze halos and ice crystals is in full-swing.

Snowclearing of the existing garage arch and building a pad for the new garage arch is complete. Core samples of the new garage arch area indicated the snow was not dense or uniform enough to begin setting the footers for the new arch, so a good deal more work was needed to build this pad.

Palmer Station

by Ron Nugent

December will be a busy month for the station. We expect visits from four ships this month: one resupply ship and three cruise ships. We are also preparing for the early January arrival of the R/V Laurence M. Gould (LMG). The station will be receiving cargo from the Gould and some of the grantees now working on station will board the ship and continue their research on the Long Term Ecological Research cruise.

The weather in the past few weeks has been outstanding. This has been very favorable to the research community who depend on good weather for boating operations. Along with the good weather there are hoards of new animals in the area. Our snow cover is melting off very fast now exposing a completely different landscape of rock and soil.

R/V Nathaniel B. Palmer

by Janet Barnes and Marian Moyher

The NBP research vessel has been busy towing the Sea Soar in a grid pattern with hopes of examining patterns of the phytoplankton bloom conditions using this type of mesoscale survey.

Several people have been lucky enough to see Orcas recently. Very little is known about the Killer whales in the Antarctic. They, along with the Leopard Seal, are the top predators. They are found all around the continent and tend to follow their prey. Killer whales usually live in groups or pods numbering from 5 -20. Sometimes these pods combine into groups of 100 or more. The pods exhibit a high degree of group cooperation in activities such as hunting. Squid, fish, seals, penguins, birds, and even other whales make up their diet.

Last month, during a cruise of the U.S. Joint Global Ocean Flux Study (JGOFS), the NBP received images from a newly operational satellite called Sea-viewing Wide Field-of-view Sensor (SeaWiFS). From slight changes in the ocean's color as noted in the satellite images, researchers can locate concentrations and types of marine phytoplankton (microscope plants) living in the water column.

When a promising site was located recently, the Chief Scientist on the cruise, Walker Smith, adjusted the cruise schedule to sample these areas. Sampling is carried out to understand the processes and conditions that allow the phytoplankton to thrive. The data will also be invaluable in assisting scientists to interpret future satellite images. SeaWiFS is part of NASA's Mission to Planet Earth, and you can visit their web site to see some of the current images. The address is: http://seawifs.gsfc.nasa.gov/SEAWIFS.html.

R/V Laurence M. Gould

by David McWilliams and Dawn Scarborro

The LMG went through it's science sea trials on December 5th and 6th. A total of 36 hours was spent at sea testing all the science equipment aboard the vessel. The majority of the ship's science systems were functional and all the people in Marine Science were quite pleased with how the science suite functioned. There are still outstanding contract issues which are delaying the departure of the LMG to Punta Arenas. An early December departure is anticipated.

Following successful sea trials the LMG will transit southbound to replace the ABEL-J. The ABEL-J is the recently chartered vessel that is transporting scientists, staff, and cargo between Punta Arenas, Chile, and Palmer Station until the arrival of the LMG. To date, the ABEL-J has successfully transited to Palmer Station and has sailed into COPA and Cape Shirreff, thus allowing camp openings.

Christchurch, NZ

by Brian Stone

Dr. Polly Penhale, the Program Manager for Polar Biology and Medicine and the second of the four National Science Foundation personnel acting as NSF Representative, New Zealand, will be returning to Washington, D.C. shortly before Christmas. Christchurch operations will temporarily be without an acting NSF Rep. NZ during the holidays until Bill Bryant from the NSF Division of Contracts, Policy and Oversight assumes the role just after the New Year.

The National Guard Bureau has announced the selection of five additional personnel for Air National Guard Detachment 13, Christchurch, New Zealand, leaving only the Detachment Commander position yet to be named. These additional personnel will be joining LtCol Richard Saburro, the Vice Commander/Operations Officer in Christchurch during the first quarter of 1998. The selectees are: Capt. Dorine LeBlanc, Executive Officer; SMSgt Art Bleich, Aircraft Maintenance Superintendent; MSgt Robert LaFaye, Logistics Plans NCO; MSgt Paul McMillan, Logistics Supply Superintendent, and SSgt Carol Gehm, Information Manager. The seven personnel from Detachment 13 will support OPERATION DEEP FREEZE flight operations in Christchurch following the departure of the US Navy in March 1998.

USCGC Polar Star

by LCDR Steve Wheeler

A handful of researchers will ride the USCGC POLAR STAR down from Hobart to study the population, size and colony distribution of Adelie penguins and the polarization and distribution of sunlight. And then, with helicopters, they will work on Beaufort Island, Franklin Island, Cape Irizar and Cape Roberts. The POLAR STAR is expected to arrive in the Ross Sea to start 1997-98 Antarctic operations, sometime around the day after Christmas and begin work on the ice channel to Hut Point.

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Rebuilding the Pole

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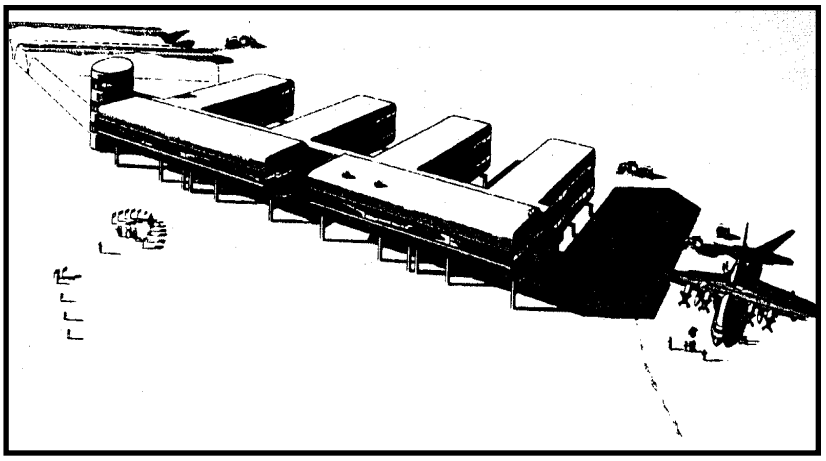
since 1969. "I was part of the team that finished this station," said Marty, tapping his desk. "And I hope to be here when the new one is finished."

The South Pole Modernization Program, which became a reality with Clinton's signature last month, will see the construction of a space age facility, complete with berthing for 110 people (men and women this time), science facilities, a greenhouse, a medical center and an arts and crafts room as well as other facilities.

For now, however, Marty, Rand, Fischer and the South Pole summer staff have more pressing concerns, like finding beds for 190 people as construction and science move forward. With 41 years of South Pole experience to draw upon, the hearty few that accept the challenges of living and working at the South Pole are sure to succeed. ✹



Due for completion in fiscal year 2005, the new South Pole Station facility has a space age design and will be elevated off the ground to minimize snow build-up.

Updates

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ASA, Denver

by Jim Chambers

Much of the emphasis of the Denver Antarctic support staff remains centered on expediting procurements for the annual resupply ship. Loading of the vessel at Port Hueneme remains on schedule to start on 4 January 98 with a scheduled sailing date of 9 January 98. The R/V LAURENCE M GOULD sea trials continue with an anticipated departure date from Louisiana to Antarctica of 8 December 97.

ASA received the first cycle of funding for the South Pole Station Modernization (SPSM) project. The SPSM project follows immediately on the heals of the new power plant, garage, and upgraded fuel storage projects.

National Science Foundation

by Guy Guthridge

The 43 Antarctic Treaty nations contain 66 percent of the world's population, and they generate 79 percent of its economic output, a new NSF tally showed. Of the 43, the 26 consultative ones--those with a vote at Antarctic Treaty meetings--represent 61 percent of the world's population and 72 percent of its economy. Ten of the 26 are smaller than the average nation, and six of the 26 earn less per capita than the world average. These data, updated from time to time, establish again that it's not just the world's privileged few that participate in Antarctic affairs. A country needn't be big and rich to meet the treaty's "substantial scientific activity" threshold for consultative (voting) membership. ✹

Astrophysics

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done that and more. This is a turning point in Antarctic Astronomy."

Clearly turning points have their price tag. A ten meter telescope and its associated costs would run close to 23 million dollars. "We're willing to call it the Bill Gates telescope," said Stark with a chuckle. "It's a bargain at twice the price."

Skeptics may question this allocation of resources, but Stark is well-armed with a reply to those disinclined to support science. "Research pushed the envelope of technology," said Stark. "Work that astronomical researchers were doing 25 years ago led to the development of the World Wide Web and GPS (Global Positioning Systems)," explained Stark. "Now you can buy a $200 satellite dish for your home."

Clearly however, South Pole astrophysical research is driven by a more innate desire for knowledge. "It is the question of the origin of us," said Dr. Jim Jackson, assistant director of CARA. "Where do we come from? It is the ultimate history book. What is in our bodies was once in the stars."

Describing the galaxies as a work of art –an organic and interconnected world– Jackson sounds more like a poet than a scientist, but his vision and desire to understand the universe is one that may eventually turn more of our science fiction dreams into science facts. ✹

SkyDivers

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sea level, putting the parachutists nearly eight thousand feet above the snow-packed surface.

The deceased were found within a mile of the station, two parachutes never having deployed and a reserve chute on a third person only partially opened. The South Pole doctor along with members of the trauma team were able to locate the bodies after a brief search.

Three other skydivers, including two Norwegians and an American landed safely.

Circumstances leading to the accident are still unclear. "The three guys were very experienced, with many hundreds of jumps each, skydived around the world and at the North Pole" said Michael McDowell of Adventure Network, in an Associated Press interview.

Many South Pole workers were distraught by the accident, having watched the tragedy unfold from outside the tent structures they call home through the Austral summer.

"I think more than anything there is a sense of disbelief at what happened," said one Antarctic Support Associates (ASA) employee. "Adventure network's Twin Otter landed at around seven and they were in the air preparing to jump by around nine. By ten the accident had happened, and by two they were gone. Just like a big black cloud drifted over the station."

Adventure Network flew the bodies and survivors back to their base camp at Patriot Hills, located on the side of Antarctica closest to South America.

Remorse among South Pole staff was heightened by the knowledge that one of their own, Steve Mulholland, who worked with ASA for three seasons as a carpenter, had died in the accident.

"Steve is one of those people that will be remembered here in our shop for many years because of who he was, he was definitely one of a kind," said Jay Burnside, Science Construction Coordinator for ASA. " If that isn't enough, Paula Adkins, out at Lake Hoare named the freezer after Steve a few years ago. The freezer is called *the Mulholland* and I suspect that name will carry on as a prelude to one of those great Antarctic stories."

The story of this tragedy is sure to be carried for many years by staff at the South Pole this season, particularly as they work through the rest of this summer season.

No nation has ownership of the South Pole or any location in Antarctica, thus private expeditions of this kind are entirely legal; however, the National Science Foundation and ASA offer no assistance to these groups.

With no other organizations to turn to in times of crisis, the United States Antarctic Program has, over the years, become concerned about of private expeditions, the rescue of whom cuts into valuable resources, including flight time and risk to rescuers themselves.

"From the point of view of the Antarctic program, [private expeditions] have the potential to hugely impact what we do," said Steve Dunbar, a search and rescue expert. Dunbar sighted the potential drain on resources (already being used at maximum capacity) that rescues often involve.

Dunbar speculates that adventuring in Antarctica will only continue to grow in the years to come, an idea he perceives as a double edged sword. "The more people who get to see it, the more this place will be protected," said Dunbar. "But the more they come, the higher the chance of us getting involved." ✹

Steve Mulholland

was a friend and co-worker to many participants in the United States Antarctic Program.

He will be missed and remembered.

photo by Alexander Colhoun

by Mark Perry

Twenty buildings were hauled six miles from the ice runway to Williams ("Willy") Field on Saturday, December 6th. The ice runway closed about a week earlier than usual this year due to warmer temperatures making the ice weaker and unsafe to hold the weight of the planes.

The operation was completed in one day. According to Don Ferris, ASA Senior Area Manager, many departments throughout McMurdo were responsible in helping with the move, including Fleet Operations, the Vehicle Maintenance facility, Fuels, the power plant, and Information Systems. "Its a daisy chain affect throughout the community" NSFA Deputy Commander Chuck Young said.

Three runways are used throughout the year. The ice runway operates from approximately the first week of October to around the middle of December. Willy field is used from December until the station closes at the end of February, and Pegasus is used in January, February and August.

– EDITORIALS –

Here at the Antarctic Sun we strive for descriptive writing. Whether it be the blonde hair of a woman (Antarctic Sun, Nov. 29, 1997 Pg.7, Paragraph 4); strands of gray hair running over a mans chin (Antarctic Sun Nov.1, 1997, Pg.14, Paragraph 9); or slender ice cores drilled from beneath the ocean (Antarctic Sun Oct.18, 1997, Pg.5, Paragraph 11); we feel powerful writing captures the imagination. We welcome your thoughts at the Antarctic Sun.

[W]hen I was reading the November 29, 1997 issue there were two references that gave me pause. I wish to call your attention to the Nematode article by Alexander Colhoun, page 1, paragraph 1: "...Amy Treonis, a blonde-haired graduate student, ..." Also, the Happy Camper article by Alexander Colhoun, page 7, paragraph 4, "...said Leah Thompson, a red-haired 22 year-old world traveler with an alluring smile."

Now, I wouldn't describe myself as an unreasonable person, but to me these sort of references to women in Alexander's articles seem gratuitous at best and definitely on their way to being condescending or even sexist. Things that made these statements stand out in my mind were that there was more than one occurrence and that none of the men in these articles were described in such physical terms.

Katy Quinn
Cambridge, MA

self health

...cont. from page 4

facet in maintaining your overall health. Exercise provides chemicals to the brain that increase feelings of well being. In McMurdo, hiking or skiing the Castle Rock loop is an excellent way to get outside and revitalize your spirit.

While exercise is vital to good heath, other daily choices can have a strong impact as well. One suggestion is taking vitamin supplements. Alcohol, caffeine and birth control pills each increase your need for B vitamins while cuts and sores may heal faster with additional vitamin C supplement.

Balancing all these ideas with adequate sleep will round out your health on the ice. Sleep will come easier if you darken your room early, an hour or more before you plan to end the day. Finally, exercise earlier in the evening rather than right before bed, and cut down on alcohol and caffeine consumption, all of which can keep you awake.

Illness is a reminder to pay attention to our bodies and create balance in our lives. If you do get sick, medications may relieve symptoms but women can add to the groundwork for health with adequate sleep, diet, exercise and attention to spirit. To a great extent we have control over our body's health.

These suggestions are a place to start to do your part. Sometimes women become ill even with their best efforts to take care of themselves. Remember to nurture yourself with support, not criticism. Take small steps toward change.

The staff at Mac General is available for prevention of illness as well as treatment. If you are having difficulty sleeping, feelings of depression, fatigue, experience an assault, or have questions about menstrual, sexual, or breast health, call or come by the clinic.

Colds are best treated as you would at home in the states. If you have unusual symptoms or concerns about the duration of your cold virus, feel welcome to come by the clinic or give us a call.

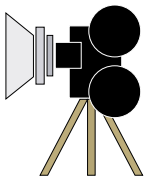
Hours at Mac General: M-F 0800-1100, 12:30-3:00, and 6:00-8:00. Telephone: 2551.

✹

We drown in information while thirsting for knowledge.

–Hugh Arscott

MCMURDO SOUNDINGS:
A locally produced news magazine, covering science and science support will re-air Monday, December 15th at 6:30.



Hunting For Science:

Office Of Polar Programs Director Visits the Continent

story and photo by Alexander Colhoun

At eleven p.m. last Tuesday night, John Hunt found himself sitting quietly in the South Pole library. He wasn't there to conduct research. True to form, Antarctica's unpredictable weather played its hand, delaying Hunt's return to McMurdo for several hours.

No one, not even the acting director of the Office Of Polar Programs (OPP), escapes Mother Nature's grasp in Antarctica.

It was a whirlwind tour for Hunt. On the ice for five days, he ranged as far as the South Pole and as close as the McMurdo Galley to get a first hand feeling for the Antarctic experience.

"The National Science Foundation Antarctic Program is extremely well run," said Hunt. "All the individuals I came into contact with knew their jobs well and did them well."

Though this was Hunt's first visit to Antarctica, he is no stranger to science, having served as an executive officer for the Mathematical and Physical Sciences division of the National Science Foundation. An Arkansas native with a mild mannered voice and a wide, disarming grin, Hunt's career has focused on the complex world of chemistry.

Speaking as a researcher himself, Hunt stressed how fortunate scientists working at American facilities in Antarctica are. "It seems to me that scientists working here really get a lot of help," said Hunt. "I have never seen an operation supporting science that did it better."

Joining Hunt on his tour were three members of the National Science Board: Dr. Diana S. Natalicio, Dr. Vera C. Rubin and Dr. Warren M. Washington. Members of the board are Presidential appointees who serve in an oversight role for National Science Foundation operations.

✹

Stitch & Bitch

story and photo by Chief Jacqueline Kiel

Pickers are picking, throwers are throwing, new folks are learning, and occasionally someone is bitching.

These Wednesday evening gatherings, know as Stitch And Bitch, are an opportunity for folks to work on that special knitting project and spend a pleasant evening chatting with friendly people.

Two methods of knitting, picking and throwing, are a typical topic of discussion. Picking is the European way, and tends to be more difficult to learn, while the American method of throwing is easier.

You don't have to be a knitter to participate, just show up. Someone will get you started. That is exactly what Joel Frank, a cargo handler at McMurdo Station, did, figuring it was time to learn. "Everybody in cargo on the night shift knows how to knit," Frank said.

Frank is learning the European method of picking, a method that tends to be more difficult. "It hurt's," Frank exclaimed. "My arms hurt; my fingers hurt; this is not very relaxing." A standard "bitch" by new knitters.

Dawn Needham gives Joel Frank a few pointers as he learns to knit. "It hurt's," Frank exclaimed. "My arms hurt; my fingers hurt; this is not very relaxing."

Another subject of conversation is knitting lore. One rumor says never knit a sweater for a man before he is yours, because he will dump you.

Knitting has been a part of Kelly Montgomery's life for the last seven years. She learned to knit as an exchange student in Sweden, including learning to read patterns in Swedish. "When I got home and bought a pattern in English, I had no idea what it said," she said, laughing.

In 1991, living in the north woods of Ely, Minnesota, where winters were harsh, Dawn Needham, was an environmental education teacher by day, and a student of knitting by night. Now a knitting teacher, Dawn shares her talents with anyone who wants to learn.

A new knitter, Anna Meade, a Hazardous Waste worker, learned to knit as a thrower, despite her mother's efforts to teach her to pick, although she didn't realize that she was a thrower. "I just thought I learned it wrong until I came here," she said.

Working on the first of a pair of socks, Terri McLain wasn't sure who would be the recipient of the special gift. "It's kind of like Cinderella," she explained. "You have to go around and find out whose foot it's going to fit."

Not everyone who shows up knits. Carolyn Doe, a courier, spins thread and yarn while she visits with friends. "Because I like to knit, it sort of made sense to make my own yarn," she said.

No one is quite sure when or how Stitch and Bitch started. It seems to have evolved from a group of people who got together some years ago and began sharing patterns, ideas and techniques, and it grew from there.

In 1987, when women lived in three jameways connected with a common area, McMurdo's Knitting Circle, as it was called then, was going strong. This was a time when everyone had a once-a-week liquor ration, and women would get together, drink wine, stitch and bitch. It hasn't changed much. ✹

photo by Alexander Colhoun

"It was beach-eriffic baby," said Brian Sundberg of the annual McMurdo beach party. Despite temperatures well below zero, many partyers dressed for the occasion, clad in bikini tops and speedo swimsuits.

Your Turn–

Your questions and comments are welcome here. We'll publish responses in each issue. Contact us at Sun_News.asa@asa.org.

by Brenda Joyce

Talk about a government waste. Forget about $500 toilet seats. Why do we buy new equipment in the galley, floor dryers for example, when we work on the world's driest continent? And what about the new juice dispensers –the old ones still work fine!

The simple answer to your question on floor dryers and new juice machines is personnel safety. The floors in Building 155 must be swept and mopped several times a day due to the great amount of traffic they receive. Since we can't close down hallways for any length of time, the dryers are used to dry the floors as rapidly as possible to minimize the possibility of people slipping on them while they are wet.

The safety of the food service staff is my first priority. The new Vitality Juice machines were purchased and installed to increase safety among the dining facility staff. They are the latest state-of-the-art juice dispensers. They require no open mixing, a health concern, of juice concentrate and water. A simple plug-in three-liter cartridge of juice concentrate and an empty spigot is back in business.

The old machines, although still operational, require a person to mix the juice in a five-gallon milk can. These milk cans are heavy when full approximately 35/40 lbs. Many of our dining room staff are not used to lifting heavy loads. Handling the old juice cans has caused back injuries to our staff when lifting them to pour the contents into the juice machines not to mention the mess made to the dining room floor and carpeting when they drop one.

The old milk cans also take up too much room in the chill box. This has always been a problem for the kitchen staff to work around. Another side benefit of the the three-liter cartridges is consistency of product. Unlike the old method of free mixing concentrate and water, if handled correctly, you will get the same good tasting product every time.

-thanks to Warren Hoy

Military News:

Navy's Top Dog

by Chief Jacqueline Kiel

He stands 24 inches tall, weighs 65 pounds, is covered head to tail, with black hair and loves bananas. And, he's the top dog of Naval Antarctic Support Unit (NASU).

Sam, a nine year-old black labrador retriever and New Zealand native, is the drug dog for NASU in Christchurch, New Zealand. He has been with the program since he was two years old. "Everybody who goes down to Antarctica goes through Sam and me," said Master At Arms Second Class Richard Eckles, Sam's current handler. "He searches passengers luggage, then cargo on the outgoing aircraft and finally the aircraft itself."

When not working, he is often in training. Eckles and Sam train with New Zealand Police and Customs, because they have the necessary drug training aids. "We don't maintain the drugs here, New Zealand doesn't allow it," Eckles said.

Sam was trained as an aggressive response dog, thus when he detects one of the four drugs he's been trained to respond to, he bites, scratches and barks at the container holding the drugs.

Aggressive response dogs are different from passive response dogs in that passive dogs simply sit when they detect drugs, explosives, or whatever they are trained to detect. Additionally, passive dogs are trained using food as a reward.

As an aggressive response dog, Sam was trained using a rubber tube toy. "We play tug-of-war with it and give him lots of praise," Eckles said. "He comes back for more. We make the job a game."

Sam is so well trained, when Eckles brings out the training harness, Sam raises his left paw to easily slip into it. This trick impresses both children and adults alike when Eckles and Sam do demonstrations for tour groups.

During the time Eckles has worked with Sam, the handler has become very fond of the dog. "He's one of the best dogs I've ever worked," he said. "The Navy's losing a great dog," he added, referring to the dog's retirement when NASU disestablishes in March.

A very gentle dog, Sam belies his docility if you happen by the car he rides in. He'll bark at passersby. "He'll take ten years off your life because of this barking," Eckles said, smiling. "That's his space."

To prove how gentle Sam really is, Eckles describes Sam's banana eating behavior. Eckles peels a bit of the banana at a time, and each time Sam will gently take bite. It takes Sam only three chomps to finish his treat, but they are very careful bites. "That way I keep all my fingers," Eckles said, laughing.

Sam's time with the Navy is winding down, but don't fret, he'll stay in New Zealand where he'll be quite happy. "We have a home lined up for him," Eckles said. "He's going to be spoiled rotten." ✹

Photo by SSgt Marlene S. Barry, U.S. Air Force

Sam, a nine-year old black labrador retriever and New Zealand native, sniffs luggage headed for Antarctica in search of drugs.

Washboards in the Sky

WEATHER

by George Howard, MAC Weather
McMurdo Station, Antarctica

Parallel ribbons of clouds are a fairly regular occurrence in the skies over Antarctica. These clouds are known by several names. Two of the most common are "wave" and "lenticular." The first term relates to how the clouds are formed. The second describes the characteristic lens shape of the clouds' cross-section.

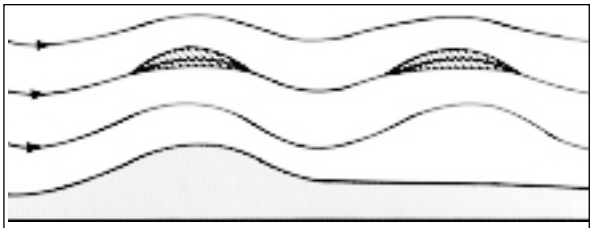
A number of ingredients, in perfect proportion, have to come together in the recipe for wave clouds. Stable air flow, in which parcels of air tend to remain at a fixed level as they move along, is a must. Now add a dash of moisture. Too much moisture yields a solid layer of clouds. Too little generates no cloud at all. The ideal combination is to sandwich a moist layer of air between two drier layers. Now move the alternating dry and moist layers over a mountain at just the right speed. Too slowly, and clouds will just cap the mountains. Too quickly, and the pattern will break down in turbulent chaos.

As the layers move up and over the mountains, the air cools causing water droplets (a cloud) to form within the moist layer. As the air descends on the other side of the mountains, it warms and evaporates the droplets. In its descent, however, the air dives below the level of its origin. As it rebounds toward equilibrium, it once more overshoots to form the next cloud in a pattern that resembles the ridges of a washboard. The distance between successive clouds can range anywhere from 5 to 25 kilometers.

While the up and down drafts associated with these clouds may have aircraft passengers reaching for the air distress bag, those of us on the ground can marvel at the special set of circumstances nature brings together to create these washboards in the sky.

photo by Alexander Colhoun

Caprice Stevenson and Matt Lindell take a break while climbing Castle Rock as wave clouds form downwind of Mount Erebus.

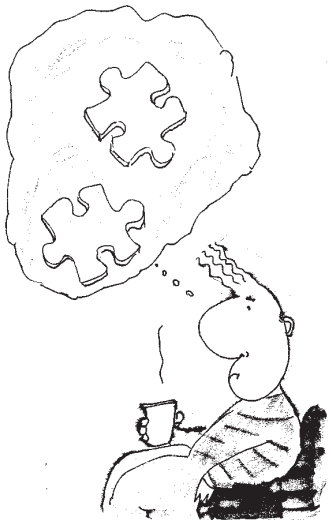


Clouds form at the crest of each wave in the undulating airflow over, and downwind of rugged terrain (cross-section view).

Ask Aunt Arctica

...advice for staying healthy on the Ice

Aunt Arctica is written by a clinical psychotherapist from Washington state with eight years experience working in individual counseling, specializing in cognitive and transpersonal psychologies for personal growth. Please write with any questions you may have. You need not include your name. All queries will be confidential.



Question: *I feel life's challenges are so much more intense down here. In talking with friends of mine last night –we are all in our late 30's and 40's– I find myself somewhat confused about my direction in life. You'd think, as mature adults, we would have it figured out already. Here I am in a seasonal job, not sure where to go from here, no kids, no "career", I'm ambling as if I'm in my twenties and fresh out of college! I've recently come out of a divorce –finding myself with a freedom I'm not sure what to do with. In part, it's exciting, but it's also at times overwhelming.*

I like to think of life as a series of beginnings and endings. Before you can successfully move forward, it is important to contemplate what your past has taught you –what worked for you and what didn't. This reflection will bring greater clarity about where you want to be heading in the future.

It's helpful to acknowledge that you are moving through a major life passage that requires a crashing down of the structure you built to contain your dreams. This period of transition is one of great vulnerability. It's not uncommon to feel confused about what to do next. Realizing this makes it possible to be kinder to oneself while stumbling through this process.

Living on the 'ice', surrounded by people living more transient lifestyles, who have all left something of greater permanency back home, it is no wonder these feelings of instability are intensified. Creative new movement in your life will emerge as you explore the foundation that your life's choices arise from. This is the place where your 'core self' resides.

Take some time to explore the values that have dictated this deepest part of you and recognize this may be very different from the direction someone else has led you to believe is 'correct'.

One way to better understand the nature of your own 'foundations' is to write out a narrative of your values. This exercise of assessing your own beliefs will help you separate your own characteristics and those of the transition. This will help you to assess how much the transition has altered your roles, relationships, and life assumptions.

It is important that you write down what you would value if there were nothing in your way. Explore what you care about and what you would want in the best situations –imagine that magic happened and that anything is possible.

Bearing these thoughts in mind as you complete the value questions following should help you find the foundations of your spirit and lead you to greater clarity in your life.

1) Marriage/couples/intimate relations. In this section write down a description of the person you would like to be in an intimate relationship. Focus mostly on your role.

2) Friendships. Write down what it means to be a good friend. Describe how you would treat these people if you were the ideal you in these relationships.

3) Employment. In this section, describe what type of work you would like to do. What is it about this work that appeals to you?

4) Education. If you would like to pursue an education or specialized training write about how this would effect you.

5) Family Relations. Write about the type of brother/sister, son/daughter, father/mother you would want to be.

6) Spirituality. I'm not necessarily referring to organized religion. This might be as simple as communing with nature, or as formal as participation in a group.

7) Physical well-being. Write about maintaining your health through sleep, diet and exercise.

Snow Jobs by Ben Mann

Me and the boys have been talking... and until we see winter-over contracts, you're stuck in Jersey.

Chapel of the Snows

Sundays:
Catholic Service 9:30 AM
Protestant Service 11:00 AM
Wednesdays:
Prayer and Praise at 7:30 PM

The Traverse That Didn't

story and photo by Chuck Kramer

Departing McMurdo for Black Island in two massive Deltas vehicles, our three-person team felt invincible. In just a few hours we would be humbled by fate and gain a new appreciation for the toll exacted by the Antarctic environment on these seemingly indestructible vehicles.

With tires standing five feet tall, Delta 6x6 flatbed trucks are considered reliable beasts of burden, capable of traversing through conditions few other land vehicles can muster.

Our mission called for just such a vehicle. We were headed for Black Island, McMurdo's satellite communications site 30 miles across McMurdo Sound. The trip by land, however, is a 70-mile loop which goes behind Black Island to avoid dangerous sea ice.

An exposed traverse, no matter how you slice it, the flags en-route were stripped bamboo poles with remnants of flags tied to their tops. Many were splintered and bent over due to the 100 plus mph winds that blast through the area. I was glad to be safe in a Delta.

A Delta is steered by hydraulics that link the cab and bed of the truck. All six tires have power to them, but they are not moved by the steering wheel, the cab is. In deep snow, this steering makes the Delta move like a crab.

After four hours and a mile of climbing up the Ross Ice shelf, we hit snow that made us look like a pair of very lost, over-sized sea creatures. Another 30 minutes of crawling passed before it was apparent something was wrong.

We got out and realized the rear left wheel didn't have power, causing the right side to dig in and get stuck. We pulled the lead Delta around and tried to tow it. No sooner had we towed it out than it got stuck again. We were in a bind.

After a group huddle and a radio talk with MacOps, communications central in McMurdo, we decided to leave the troubled Delta behind and continue on in the other, nicknamed Flipper. We loaded our survival bags and Extreme Cold Weather gear onto the working Delta and trekked on.

A half hour later we entered the Dark Zone. This is an area where there is little to no radio communications with McMurdo because it is on the opposite side of Black Island. We checked in one last time before heading into radio silence. At that point, though down to one Delta, things seemed fine.

At 3:30 p.m. Flipper hit deep snow and we started 'crabbing out' when we looked back and saw that the back wheels weren't engaging. I climbed out to take a look. The drive shaft from the first set of rear wheels to the second set was hanging unattached from the rear axle.

Now this was a pinch: no communications and no vehicles.

We'd have to wait at least ten hours for another traverse to come get us. MacOps wouldn't send out a search and rescue mission until we failed to report in as scheduled in two hours time. Then it would take another eight hours to reach us in a slow moving bulldozer called a Challenger.

It could have been worse. With nice weather, a box of peanut butter and jelly sandwiches and survival bags, we weren't concerned about freezing or starving.

Eventually we contacted MacOps, and after 20 minutes of repeating our messages, they finally understood our situation and told us to hang tight for further instructions.

I had replaced the drive shaft on a Triumph Spitfire so, I took a close look and decided to give it a try on a 20-ton Delta. There was a tool box on board so, we climbed under and in about 30 minutes had removed the drive shaft and reattached it to the rear axle. We were feeling pretty proud of ourselves as I tightened the last of the bolts. I crawled out from under the Delta to find grimacing faces.

I had replaced the drive shaft on a Triumph Spitfire so, I took a close look and decided to give it a try on a 20-ton Delta.

Shaena Muldoon and Terry Billings take stock of their predicament as they realize one of two Delta's they were driving to Black Island is unable to continue.

"I think we have bigger problems," said Terry Billings. He was right. The weld that held the axle in place was broken off. If we tried to move, the drive shaft would just pop out again.

Another 20 minutes of garbled transmissions followed and we patched together their message, "Hello... you.... 30 minutes... you.... McMurdo..." A helicopter was en route.

This was a much better alternative than spending the night and waiting a long time for a ride home. We staged our bags and equipment about 100 meters from the disabled delta and laughed that we had sabotaged two Deltas to get a helicopter ride.

Forty minutes later we loaded into a helicopter and enjoyed a very scenic flight across the Ross Ice Shelf, Black Island, the Ice Runway and back to McMurdo. It was 5:45 p.m. The drive to where the last Delta broke down took seven hours, the flight took 20 minutes. Put me on a helicopter any day.

Follow up: Both Deltas delivered their cargo to Black Island and have been returned to McMurdo. Radios in the all Deltas have been reprogrammed to a radio repeater which eliminates the Dark Zone behind Black Island.

Perspectives

Tragedy Unveiled

by Laurell Toeppen

Last Sunday I woke not to my alarm, but to the sound of excited voices outside my door. A group of six skydivers and their staff had arrived to make a jump over the South Pole. Through my window, I could see them removing excess weight from their plane and doing a photo shoot.

My heart raced with excitement as I put on all my extreme weather gear, I knew at –25F it could be a long, cold wait. I jogged out to the plane just as the final hero shots were being taken. I almost called out for them to wait, but assumed I would take photos of them later, after the jump. In the shadow of it's wing, I could just barely see their smiling faces.

A crowd of 30 people had formed by now and we made our way across the runway to a bright orange tarp they had laid out as a target. We were given some brief instructions, and then we watched.

The plane climbed in a wide circle above us, through the clear sky. As it climbed I thought back to my own experiences of jumping from a perfectly good plane.

As I was waiting to jump, I thumbed through a skydivers magazine and with shock, studied the largest obituary section I had ever seen. Later, I followed my friend out of the plane, for her first jump.

Not until I was safe on the ground did I learn that her primary chute did not open properly. She had to pull her backup chute. She had sprained her ankle, and we felt no need to pursue that sport again.

These thoughts filled my head as the plane climbed higher into the sky. I was not very attentive to the planes progress. It still seemed too far south and downwind from the target. I was waiting for what I thought would be the right position, but then someone called out that they saw a chute.

Slowly, a billowing blue chute came towards us. As it approached we could see two people –it was the tandem jumpers. They landed about 400 ft. south of the target and about 50 ft. from our housing. I watched with concern because there was no movement. Slowly they righted themselves. We saw no other chutes and assumed they had not jumped yet.

It was then that the radio calls began. A voice from the communications center asked, "Where are the chutes? There should be five." Someone answered, "There is only one." Now frantic, the voice exclaimed, "But there should be five!" After a number of these exchanges, a stern voice said, "If there are any other chutes, me and about 50 other people are blind!"

A third jumper was found. His backup chute had self-deployed at 800 ft., but the others were still missing. A search began and the trauma team was summoned, so I went to the appointed meeting place in the dome.

While waiting for instructions, communications made *the* announcement, "We have confirmed three dead."

I decided to return to the staging site, to offer my assistance. I assumed the jumpers would have heard the news via the radio by now. I was wrong.

Arriving back at the site was surreal and time took on new dimensions. The three jumpers were standing, looking outward at a scene in the distance. Their twin otter had landed about a mile away with a spryte, and snowmobiles beside it.

The silence was broken by occasional conversation. Deciding to let the scene unfold by itself I said nothing. I was integrated into the scene and found myself involved in small talk.

How odd. In time, the question I dreaded came from the American, "Do you have any information?" Slowly, considering how to word the news, I regretfully said, "Yes, I do." The Norwegians turned and the three formed a semi-circle facing me. "Comms has confirmed three dead".

The American quickly responded, "We expected that". What more can be said at times like this? They turned from the scene out in the snow field and broke off into their own worlds. None of their eyes were skyward now.

The moment was broken when the jumpers were invited into the dome for warmth and food. Solemnly, as they walked, they drew one another close, until they were walking arm over shoulder, in a hug. Their lives now having a tie that was quite unwelcome.

Less than five hours after their plane arrived, it left our home.

Our home. Most people who have heard of this station don't think of it as someone's home. It's a station, or a research facility, or a work camp, or just a tourist attraction, but we were home, and our home had been hit by tragedy.

We spent the rest of the day working through what had happened. We talked about the emotions, we asked those who responded for details, we theorized why the chutes didn't open, and we cried.

Another valid emotion arose, anger. A plane had come to our home, let six passengers out at an altitude of 18,000 ft. and three fell to their death. Friends responded, dug broken bodies out of four-foot graves of snow and then placed the remains into body bags. These friends lives are now altered, and our community is in pain.

A small group of friends decide to purge our tears by watching the move, "Into Thin Air, Death on Everest". Following the movie we discussed the value of adventure. Although adventure is a big part of our lives, I couldn't help thinking of how thoughtless it can be. Not only to loved ones, but to bystanders, as well.

A quote of Tom Robbins fit my mood at the moment: "You risked your life, but what else have you ever risked? Have you ever risked disapproval? Have you ever risked a belief? I see nothing particularly courageous in risking one's life. So you lose it, you go to your hero's heaven and every thing is milk and honey 'til the end of time, right? You get your reward and suffer no earthly consequences. That's not courage. Real courage is risking something that you have to keep on living with, real courage is risking something that might force you to rethink your thoughts and suffer change and stretch consciousness."

In time this will be another memory of my home at the Pole. In time we will pass through all the stages of grieving. In time I will be doing grand adventures. But for now I am pausing and considering my values, responsibilities and mortality. ✹

photo by David Martin

Just moments before their fateful flight above the South Pole, members of the Adventure Network South Pole skydiving expedition pose for a hero shot. Ray Miller, top left, Hans Rusack, second from left, and Steve Mulholland, front row center, did not survive.

Profile

Holding Down The Pole

story and photos by Alexander Colhoun

Spending three consecutive seasons at any United States Antarctic Program station is frowned upon by Antarctic Support Associates and The National Science Foundation. Issues of extended isolation and mental well-being are primary concerns. Occasionally, however, a few individuals are called upon to assist the program and continue offering their services. Most recently, five South Pole workers completed three consecutive seasons: Summer 1996, Winter 1996-97 and Summer 1997.

One thing you recognize rather quickly when speaking with these people is their easy-going, accepting nature. With so much time spent on the ice, they seem to have adjusted to a polar rhythm of life. In addition, they are, one and all, full of good cheer and smiles -- all one can speculate is that the Pole's rarefied air has touched their spirits deeply.


J.P.


Brian


Dawn


Lisa Ken

Dawn Laprete. Despite a bank account in Vail, Colorado, a storage locker on Orcas Island in Washington and having grown up in New Jersey, Dawn Laprete is happiest calling the South Pole her home. After 13 consecutive months there, she has the right to do so.

Laprete worked as a cook through the entire experience, feeding all 29 people throughout the long, dark winter. "My favorite was chocolate decadence," said Laprete. "Chocolate, sugar and cream is all you need, plus a special event, like the sunset party."

Each night after work, Laprete would head out into the darkness for walks. Those walks seem to have a special place in her spirit. "The sky here is one of the most beautiful things I've ever seen," says Laprete. "I felt like I was on the moon. It was so isolated and desolate outside the station. But in the end there isn't much to look at, its just the little things which are beautiful, like patterns in the snow."

Lisa and Ken Lobe. Lisa Lobe and her husband Ken Lobe, hailing from Cordova, Alaska, passed their silver wedding anniversary at the South Pole over the winter. "It was just great," said Ken. "I'm from a small town, we live in a small town. This is no different."

"I'm always looking for a new challenge," said Lisa Lobe, a communications worker by summer and inventory control specialist in winter. "The winter sky is so spectacular –the auroras, the stars– they're always changing. The moon is so bright. It just chokes me up thinking about it."

The two were the only married couple that spent the winter at the South Pole and are quick to add they'd do it all again. "Come back again?" inquired Lisa. "Of course, in fact I'd stay the winter if I could."

John Paul McMullan. John Paul McMullan, better known as 'JP' is an Antarctic veteran with five working seasons under his belt before his latest run. Like many long-timers, JP started as a general assistant, or GA, and worked his way through the system, from Palmer Station and eventually to the South Pole.

For McMullan, like many people who winter at the South Pole, the experience is difficult to incapsulate in a few words. "You can only describe the winter so far. There's nothing to relate it to, just stars, darkness and the auroras. I hiked the Appalachian Trail for 2,200 miles over seven and a half months, and that experience is tough to describe, too. Really, so few people have the opportunity to experience this place, it's little things like that which are important to me.

Three consecutive seasons on the ice have done little to curtail McMullans passion for this world which has become his home. "On Saturday, I went out for three hours, North of the ski-runway. The warmth of the sun was on my face and it was dead quiet. Even after a year here, I thought about my relationship to other people on the planet. It's still powerful."

Brian Ellspermann. Raised amidst the heat of Nashville, Tennessee, the South Pole seems an unlikely home for Brian Ellspermann. A glimpse at his ranging beard and contented smile confirms, however, that the polar extreme matches Ellspermann's character.

"The winter is an unforgettable experience," said Ellspermann. "The full magnitude of my winter experience has not really had time to sink in, but little things hit me everyday, and I think often of the friends made during the long dark night.

"One of my favorite things was the night sky. The polar night is a truly magical time. I'll miss the dark sky full of stars, aurora's, and the full moon lighting up the area and the walks outside to see all the new drifts around summer camp and the station.

"This winter brought me for the challenge, and it was. Would I do it again? Hell yes, if it seemed like the trail I should follow! I'm still living the dream." ✹