



THE ANTARCTICAN SOCIETY

NEWSLETTER

"BY AND FOR ALL ANTARCTICANS"

Vol.04-05

May

No. 5

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WALTER ROY SEELIG

November 14, 1919 - April 29, 2005

"Most Gracious of all Antarcticans"

Memorial Service, June 26, 2005, 1 p.m.

**United Methodist Church
Falls and Glen Roads
Potomac, Maryland**

Mrs. Walter (Josephine) Seelig
8909 Victory Lane
Potomac, MD 20854
Tel. (301)279-7728

WALTER R. SEELIG. *[Some of Walt's many friends contributed to the following obituary of a man known and loved.]* Walt passed away on April 29 at the age of 85 at Shady Grove Adventist Hospital, Rockville, Maryland, of pneumonia contracted after a hip fracture. He was born in Brooklyn, NY, received a B.S. degree in Geology from Brooklyn College, and started graduate work at the University of Nebraska, participating in geological digs. In 1941 he relocated to the Wash.D.C. area, working on maps for the Air Force as an employee of the U.S. Geological Survey, transferring in 1959 to the National Science Foundation to develop a plan for the mapping of Antarctica. Maps were a big issue at that time because the Navy's photography program required accurate control, and Walt knew about mapping needs, costs, and special equipment. Scientists working in the field had to have accurate maps, and Walt provided the go-between at budget meetings at NSF when Bert Crary, Rupe Southard, Mike Linck, Pete Bermel, and Walt discussed both needs and possibilities, all within budgetary limits. . Walt was the essential component who understood all the arguments from his previous experience with trimet mapping. Walt, in his highly professional manner, created an atmosphere where both sides trusted each other, forging a close bond between NSF and USGS that remains today. In his early years at USGS, Walt met a cute photointerpreter named Jo, who worked in the basement of his building. Being a man of action, he proposed on the Staten Island Ferry, and they were married in 1945.

Whereas Walt's 'detailed' move to NSF materialized into a position that recognized his invaluable resources, he eventually achieved a permanent position. Pete's words are some of the best to describe Walt, from their association of 45 years - "a gentleman's gentleman," "always calm, cool and collected," "never heard a cuss word," "a true friend always," and so on. Pete Bermel said that perhaps the greatest tribute to Walt came from his wife, Jo, after Walt died: "It was 60 years of the most perfect marriage." [*Pete Bermel.*]

Ken Moulton, who also worked closely with Walt at NSF for 45 years, mentioned Walt's association with Bill McDonald and others at the USGS to work with Navy pilots who flew the aerial photography missions to develop the long-range planning of the Antarctic continent. Anyone who has worked in the mountainous areas of Antarctica can thank Walt and Bill and associated military support for maps on which field research depended. Walt also represented NSF on the U.S. Board on Geographic Names, ensuring that military and civilian personnel were recognized for their service to the program by having geographic features named for them. It was only fitting that Mount Seelig, the tallest peak in the Whitmore Mountains, was named in Walt's honor.

Walt also served as the NSF representative in New Zealand for 11 Antarctic seasons, highly regarded as not only a scientific representative but also as an unofficial "ambassador", working closely with Margaret Lanyon in greeting arrivals from the U.S., and also after their return from McMurdo. For many years Walt also had the thankless task of developing the annual visitor (VIP) list and schedule for the upcoming austral summer season. Although what might normally be a frustrating task, Walt carried it out in his usual quiet and unassuming way. Many glowing letters in NSF files attest to the hospitality these groups received. Walt and Jo's friendship while he was NSF Rep at Christchurch will long be remembered, as he went out of his way to find time for an outing of some sort, whether it be a trip to Port Lyttelton to see what ships were in port, a walk in the Botanic Gardens and a visit to the museum, or simply encountering friends of his. Walt was indeed a "people person." [*Ken Moulton.*]

Margaret Lanyon's long association with Walt in Christchurch resulted in a warm friendship, laced with countless fond memories, many of which were relative to their "meet-and-greet" assignments. John Spletstoesser recalls the long flights from the U.S. to Christchurch on the way to McMurdo, stepping off the aircraft and seeing the smiling faces of Walt and Margaret with news of the ongoing flight to McMurdo. Sometimes it was the next day, other times there were delays, and hotel rooms in town had to be juggled to make room for

later occupants, or in some cases, spending a night at the airport's military barracks because of a hotel shortage and an early morning flight. Only Walt and Margaret could have pulled that off with their cheerful dispositions and helpful advice.

Walt was a long-time member of the Antarctic Society. As all of us, and anyone else who knew him, can say with feeling, "we will all miss him."

BRASH ICE. The Antarctic Society lost its most faithful loyalist when Walt Seelig checked out at the end of April. He was a plank member of our Society, joining in 1960, and several times turned down invitations to become our president. Yet, he remained in constant touch with our Head Shed, sending us weekly news items and evaluating each and every Newsletter in an effort to keep us on the straight and narrow. He personally introduced our current president, Rob Flint, to the Society, and it was largely due to his efforts and encouragement that he convinced Margaret Lanyon to accept an Honorary Membership in our Society. Ken Moulton of the Moulton Antarctic Clan most rightly described Walt as "the most gracious of all Antarcticans." In many ways Walt's character could be equated to that of our late Honorary President, Ruth Siple, one who was loved by one and all. And he wore that honor with no ego. Walt, you were one hell of a good guy, and we all are going to miss you. Like Margaret has said, "I can't turn on the computer without thinking that dear Walt will be there."

I had the pleasure of recently visiting another one of our Society's most wonderful persons, Pete Barretta. He has made a career out of sending Antarctic news items to all polar societies, and has been very close to us as he came from Meadville, Pennsylvania and Allegheny College, as did Ruth J. Siple. As far as I know, he is the only member of our Society who rode shotgun back in the halcyon days of prohibition. Now he is living at a Catholic health-care facility at 751 Hillsdale Drive, Apt 225, Charlottesville, VA 22901, where his wife is confined to a bed in their care center and Pete lives upstairs in an assisted living apartment. Each waking hour, with the help of a walker, Pete goes downstairs and sits at the bedside ALL DAY by his beloved Edna. What a loving and devoted guy. As many of you already know, Pete without comparison has the very finest collection of polar aviation cachets ever assembled, and now Pete is about to begin auctioning off his heart. It's ironical that such a devoted philatelist as Pete puts stamps on his own correspondence in a most haphazard way, as if the wind had blown them onto the envelopes. As with Walt, we tried several times to get Pete to run for our presidency, but he

refused, meanwhile doing all that he could to help both Ruth and me. They don't make them any nicer than Pete, and if you want to make his day, drop him a line, or call him in the evening after 7pm at (414), 978-4342. He would appreciate it. He doesn't have fun days any more. I love you Pete, you are a great guy. Not too handsome, still overweight, but you are still as great as you ever were, maybe even more so. Live on!

While in this nostalgic mood, let's reminisce a bit on the late departed Murray Ellis of the British Commonwealth Transantarctic Expedition. He was an important member of Ed Hillary's tractor party to the South Pole in 1957, and as an engineer was responsible for keeping those vehicles moving. What Scott or Shackleton would have given to have had Murray with them! His family owned and operated Arthur Ellis Company in Dunedin, the makers of the very finest down sleeping bag available at the time. After two years on the ice, the day after I arrived in Christchurch, I got on a plane to Dunedin to visit Murray and his wife, Shirley, who continuously brushed her long blonde tresses. Thirty years later, I had the pleasure of visiting them at their summer home in Arrowtown, which resulted in the best New Year that I had ever experienced. Shirley packed a great picnic lunch, Murray and I loaded the trunk with cold beer, and we took off towards Mt. Aspiring, a most beautiful mountain which the whole Ellis family had climbed many times. I wish that I could say that we climbed it, but we went as far as we could drive, then started hiking, fording a stream many times, before stopping and having lunch. Boy, it was fun, and so spectacularly beautiful. Murray had remained a close mountaineering friend of Ed Hillary, and made several trips to Nepal with him to help build school houses. During World War II, he served in the military with us Americans. Murray had a rugged body, was quite a physical specimen, and it is impossible to believe that the guy younger than me is now gone. Curses!

Antarctic Fossils. (1) The oldest known Antarctic fossil has been radiometrically-dated back to the early Miocene, and has been referred to in the literature as *alanormanvaughan*. Said by some authority to be approaching a century landmark this December, he is also looking for both financial and physical support in re-ascending his mountain on his 100th. Is there really any glory in being carried in a gunny sack to the top of a mountain where you have previously stood? (2) Hurricane Ivan did something which Antarctica's worst weather could not do. It tore the right wing and rudder, plus other things, off QUE SERA SERA, the first plane to land at the Geographic South Pole. However, it is rumored that she will be fixed up as good as ever, well, almost as good. (3) The icebreaker GLACIER will go down in history and on June 19 will be shown on the History Channel's program entitled Bone Yard,

which will depict how some of our nations greatest machines are being recycled rather than destroyed. The last segment will present the history of GLACIER, her rebirth, as opposed to meltdown. A program for all ages.

There were a lot of people who contributed to this Newsletter, which is truly "by and for all Antarcticans." To begin with, we would be lost without having the Antarctic guru, John Splettstoesser, for our editor. For the last couple of years he has made certain that everything not only makes sense, but is spelled correctly with the right punctuation. We also continue to get support from Polly Penhale, Jerry Marty, and Al Sutherland in the Office of Polar Programs. It is wonderful to have another great story from Katy Jensen, and to introduce another one of her fellow Polies, Lynn Arnold, in this issue. Billy-Ace Baker sent us the story on *Que Sera Sera*. We are indebted to three of Walt Seelig's closest comrades (Pete Bermel, Ken Moulton, and Margaret Lanyon) for supplying information and stories about Walt's life. We thank you, one and all.

THE ICEMAN COMETH. Lonnie Thompson, Professor of Geosciences at the Byrd Polar Research Center, The Ohio State University, has had an exceptional year in collecting more awards and honors. In April he traveled to the University of Southern California for the 2005 TYLER PRIZE, a prestigious award comparable to the Nobel Prize, walking away with half of the \$200,000 designated, the other half going to Charles Keeling, of carbon dioxide fame. On May 4, AAAS asked Lonnie and three other scientists to give presentations and spend the day one on one with U.S. Congressmen in a Climate briefing to discuss climate change issues. That week, Lonnie was elected to the National Academy of Sciences, perhaps the culmination of a distinguished career of a scientist who collects awards at about the same pace as he collects ice cores for climatic studies. And I'm sure he's not finished yet, with all that ice left in the world to sample. *JFS*

THERE GOES GUY, HERE COMES KIM. On May 2, 2005, Kim Silverman joined The National Science Foundation's (NSF) Office of Polar Programs, stepping into those big shoes left behind when Guy Guthridge retired in February. Kim now serves as the Program Manager for both Polar Information and the Antarctic Artists and Writers Program.

As the Polar Information Program Manager, Kim works with NSF staff and the larger community to meet responsibilities for NSF activities in polar regions, both north and south, while also managing the Antarctic Artists and Writers

Program. Kim comes to NSF with a breadth of experience gained while working for non-profit corporations, private-sector corporations, and other Federal Government agencies. Most recently she worked for NSF's Director of the Office of Information and Resource Management as the Communications Specialist. In this role, Kim was directly involved in the implementation of NSF-wide policy, planning and communications activities. Prior to joining NSF, she managed marketing and communications efforts in the operations support system division of a major telecommunications corporation.

Kim received her Bachelor of Arts degree in Art at the University of Massachusetts and received her Master of Arts degree in International Telecommunications at George Mason University.

U.S. ICEBREAKER FLEET AND A CRUNCH IN NSF BUDGET. (Excerpted from article by Jeffrey Merves, *Science*, 4 March 2005) Haifa century after agreeing to help the National Science Foundation serve up a banquet of polar research, the U.S. Coast Guard is getting up and walking away from the table. And NSF doesn't know if it can pay the bill.

NSF is responsible for U.S. science at the poles, which includes three stations in Antarctica and a growing presence in the Arctic. But it can't do its job without the Coast Guard's help in clearing the sea ice. That's a perennial need at McMurdo Station, the logistical hub for U.S. activities on the Antarctic continent. Although NSF pays for the fleet's deployment—some \$12 million last year—the Coast Guard has shouldered the much greater cost of building and maintaining two aging heavy-duty icebreakers that focus on McMurdo and a newer, less powerful research icebreaker that spends most of its time in the Arctic.

But that relationship seems headed for the deep freeze. Last month the Bush Administration told Congress in its proposed 2006 budget submission that NSF would henceforth be responsible for the ships, two of which are desperately in need of major repairs or replacement after 30 years of ice-crunching. Officials at both the Coast Guard and NSF say the policy shift was presented as a *fait accompli* last fall during budget negotiations.

The White House has tried to sweeten the deal with a one-time transfer of \$48 million to NSF from the Coast Guard. But that's less than two-thirds of the \$75 million the Coast Guard estimates it will cost to maintain the ships this year. And it's little more than a down payment on a possible \$600 million tab

to retrofit the 30-year-old *Polar Sea* and *Polar Star*—and even more to replace them. (The *Sea* is now undergoing an extensive inspection to determine what repairs are needed, and the *Star* is slated for the same major overhaul after next winter.) Not surprisingly, NSF officials fear that the agency's new duties could eventually wreak havoc with its overall budget, which shrank by 3.2% this year and has little chance of growing significantly next year. Three panels have been convened to study the issue from all angles.

"We need to look at the whole system, both short-term and long-term, and figure out what makes the most sense," says Karl Erb, head of polar programs at NSF. But some things—none of them good—are already clear to Sridhar Anandkrishnan, a glaciologist at Pennsylvania State University, University Park, and past chair of NSF's polar science advisory committee. "It's a huge crisis," he says. "And I don't know how we can solve it without additional funding from Congress."

The Administration says NSF should foot the bill because the icebreaking fleet mainly serves the academic scientific community. What's more, enabling science is a lower priority for the Coast Guard, now part of the Department of Homeland Security, than activities such as law enforcement, search and rescue, and fostering economic development. Accordingly, this year's 2006 budget request concludes that "it is unlikely that the Coast Guard could provide funding in future years for refurbishment or replacement of the icebreakers. That, in turn, threatens the research programs that depend on their services."

Indeed, funding lies at the heart of the problem. "We think that polar icebreaking is important," says Cmdr. Thomas Wojahn, ice operations program manager for the Coast Guard. "And we think we should continue to operate the ships. But icebreaking needs to be properly funded." Wojahn notes that soaring fuel bills, bigger repair bills, and recent extreme ice conditions in the Antarctic have boosted the cost of doing business without a commensurate rise in funding.

The new arrangement gives NSF a chance to break that vicious cycle, the White House says. Once the Coast Guard transfers responsibility for icebreaking, according to budget documents, "NSF will have flexibility to pursue alternatives to current operations." Those alternatives could include renting commercial or foreign icebreakers, as NSF did this winter to replace *Polar Sea* (*Science*, 21 January, p. 338 <<http://www.sciencemag.org/cgi/content/full/307/5708/338>>). A more radical approach would be to offload fuel, supplies.

and other materials at a spot that remains ice-free throughout the year and then haul the material over land. But the savings in annual icebreaking might be swamped by the cost of building a new station and extending NSF's supply lines.

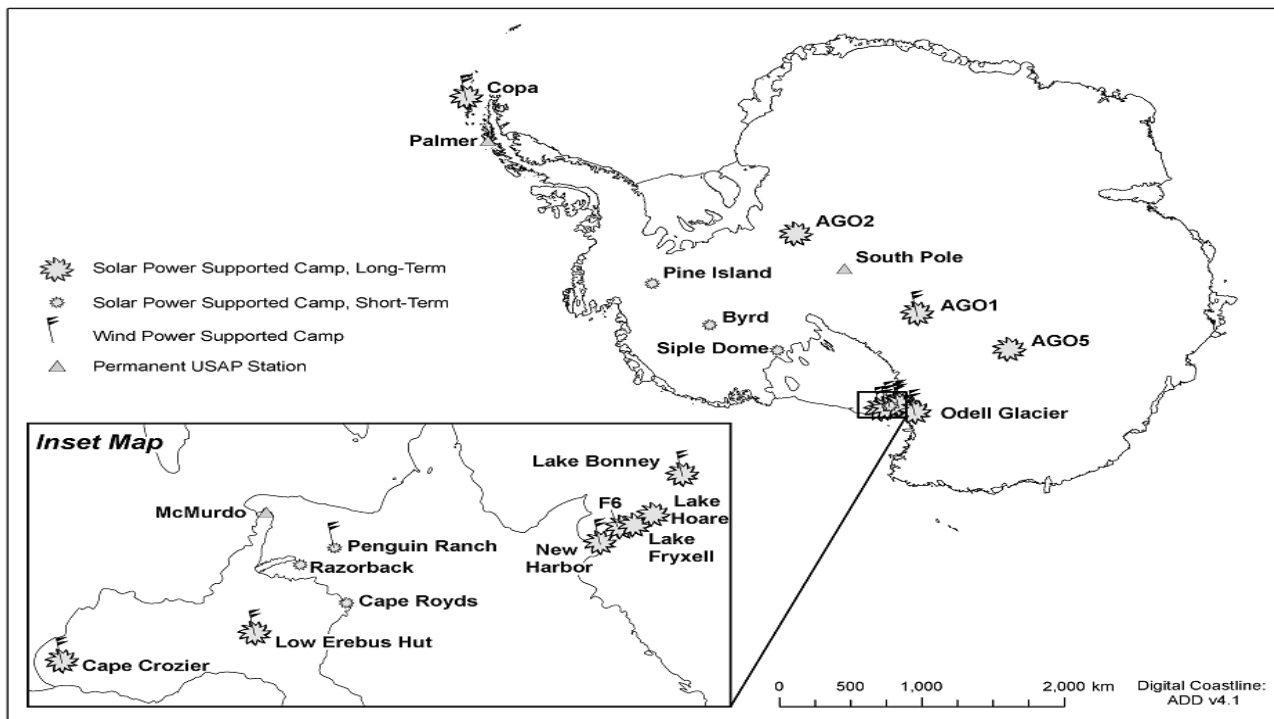
Anandkrishnan agrees that it makes sense for NSF to ensure access to its research assets. But he says nobody anticipated the "perfect storm" that has built up in the past few years. "We've known for a long time that it would eventually come to the point where the Coast Guard would say, 'You want us to do this? Then find the money!' But NSF is also in a bad way, financially." Although Congress could reverse the policy and block the transfer of funds, both the Coast Guard and NSF are proceeding on the assumption that it will take effect next year. A joint working group is drawing up a new agreement on how the three ships will be operated and maintained over the next few years, says Erb. At the same time, the National Academies' National Research Council is beginning a study of how the country's polar icebreaking fleet should be deployed, "including scenarios for continuing those operations and alternative approaches." Although the \$600,000 study will run until the end of 2006, Congress has asked for an interim report by September. Finally, Erb is assembling an NSF task force to weigh the agency's long-term prospects for operating in the polar regions. He hopes the panel will "at least start to narrow down the options" in time for NSF's 2007 budget submission to the White House in September.

FIELD CAMPS IN ANTARCTICA GO GREEN. (Pamela Toschik, Office of Polar Programs, NSF) The United States Antarctic Program (USAP) is moving towards its goal of operating field camps on 100% renewable energy. In the past, 5 to 60 kW generators powered with diesel fuel have supported the USAP's numerous field camps.

In recent years USAP has been experimenting successfully with solar and wind electrical generators of various sizes and with passive solar design for heating research huts.

One of the initial steps in converting field camps to renewable energy was an audit of energy use at the camps to evaluate wasted energy and required system size. In one instance, energy consumption was reduced by 80% by replacing light bulbs with windows and switching from standard desktop computers and monitors to laptop computers and flat panel monitors. This brought the energy consumption at the field camp from 5kW to less than 1kW, a level that could be served by a moderate solar power system. The USAP has implemented renewable energy at almost all field camps (see Figure 1), including those in the McMurdo Dry Valleys, on the sea-ice, on the polar plateau, and at one of the most unique and challenging sites in Antarctica, Mount Erebus.

Figure 1. Field camps operated by the US Antarctic Program in the 2004-2005 field season using renewable energy sources



In field camps, solar and wind systems have been sufficient to operate most camp amenities, including lighting, computers, communications equipment, microwave ovens, kitchen appliances, power tools, and laboratory equipment throughout the summer season. Laboratory equipment in use has included pumps, centrifuges, laboratory hoods, fans, incubators, live video feed to a television, and hot/cold water baths.

Research equipment deployed in the field has also been successfully operated using renewable energy, sometimes with solar and wind combinations providing power continuously through the year. Several research huts have been reconfigured for passive solar heat gain, which generally has worked from late November through the summer season. Success has been achieved for operating in most field camp situations.

Various combinations of solar, wind and passive solar have been used at different types of camps based on the needs of the researchers. The smallest system is a fully portable 400W solar and wind combination, often used by mobile research camps on the polar plateau that expect to move camp every few days. Semi-permanent camps in the dry valleys and sea-ice camps on the Ross Sea have 400W to 1kW wind generators, with varying size solar panels. A contractor hired to implement renewable energy systems customizes off-the-shelf products to meet the needs of each field camp. Renewable energy systems have several benefits over diesel generators. The impact on the environment is greatly reduced. The quantity of fuel being transferred from the station to the field camp is far less than required when running a field camp on a diesel generator, minimizing the possibility of fuel spills during transit to the camp and during transfer from storage drums to generators. In addition, emissions of air pollutants are greatly reduced when diesel is not being burned at the camps. Solar and wind systems also have the benefit of reduced noise. Scientists working in camps with solar and wind systems find work at the camp much more pleasant without the constant hum of the diesel generator. Some seal researchers have found that seals are more comfortable using breathing holes at their research camps on the sea ice without the noise of the generator running. For remote field camps, airlift requirements may also be reduced without the requirement for large quantities of diesel fuel to operate the camps.

Remarkable differences in fuel use at field camps have been realized. At one of the sea-ice camps, use of solar and wind power successfully reduced the amount of fuel used by the generators to less than 2% of the fuel used the previous year. Other sea-ice camps and camps in the McMurdo Dry Valleys have been operating on wind and solar, with no need to run the

camp generators at all during the summer. While the specific cost analyses have not been conducted, fuel transported to field camps is very expensive (more than \$US 16.00/gallon, or \$4.22/liter), and so it is reasonable to expect a cost-savings from installation of the renewable energy systems at remote camps. Repair and maintenance of the field camp renewable energy systems has been minimal compared to diesel generators, with only 1 to 2 service calls made yearly for the whole set of systems deployed in the field.

Researchers or camp supervisors operating the systems in the field often only need to turn the system on and off, monitor energy use (in case the backup generator is needed), and rotate solar panels (at some camps). Solar panels mounted flat on the roof of research huts on the sea-ice have been very effective, providing a constant supply of energy, alleviating the need to manually rotate the panels, and making the panel; less susceptible to wind damage. The renewable energy contractor working for USAP has developed an operating guide that is provided to people using the equipment in the field.

Field camps are just one aspect of the USAP's focus on reducing our impact. Energy reduction programs are implemented at all USAP facilities, utilizing technologies such as waste heat recovery and energy efficient design of new facilities. The USAP continues to explore new avenues for integration of renewable energy sources into the program

Additional Information: Yarkin, Joseph. 2005. Polar solar: Renewable energy in the remote camps of Antarctica. *Renewable Energy World*, January-February 2005:87-95.

"MIDWINTER REFLECTIONS". (Katy Jensen, frequent Antarctic inhabitant) As the June solstice approaches, thoughts turn to our southern friends and the ways they are shaping our history on the Ice. Following are just a few examples of how this year's Antarcticans are driving toward the future while retaining close ties with the past.

At McMurdo Station, the 50* U.S. winter-over crew has begun construction of the largest-ever power plant in Antarctica. The upgraded plant's Caterpillar 3516B diesel generators will nearly double the station's power capacity. Nearby, in Scott Base's tiny shop, a team is working with the Antarctic Heritage Trust to restore Vince's cross, the historical landmark constructed to honor a member of Scott's *Discovery* expedition who died in 1902.

Palmer Station's skyline is changing with construction of the new International Monitoring Station (IMS): a tall,

triangular building that will house current T-5 and Clean Air projects in addition to radionuclide sampling instruments for the Comprehensive Nuclear-Test-Ban Treaty Organization Preparatory Commission. Meanwhile, the Marr Ice Piedmont is disappearing at an astonishing rate, receding 500 meters since the mid 1960's and revealing islands that were originally thought to be "points." The retreating glacier offers both clues to Antarctica's geological past and warnings of rapid climate change.

Meanwhile, on the Southern Ocean, long gone are the days of the *Hero* and even the *Polar Duke*. Last month, the *Nathaniel B. Palmer* took on a 43-ton, 80'-high drill rig to bore deep into the continental shelf of Antarctica near the Antarctic Peninsula. At five times the normal load carried by the NBP, the SHALDRIL equipment required extensive stability studies and ballast modifications before proceeding. In addition to testing new drilling technology, this project should provide invaluable information about the Earth's cryosphere and climate history.

At South Pole, this year's winter crew has the dubious honor of demolishing some of the favorite buildings under the Dome. I imagine watching the Dome empty out is a bit like watching the glacier calve at Palmer Station... it's an exciting thing to witness, but it's also a reminder that things will never be the same. Fortunately for homesick Polies, at least parts of the Dome and some relics from the station will soon be on display at a new Seabee museum in Port Hueneme, California. I can just imagine Jerry Marty and Bill Spindler working there as tour guides, their blue sashes festooned with patches and pins.

Raytheon Polar Services is celebrating a milestone of its own, with April 1st marking the beginning of a 5-yr, \$546 million contract extension awarded by the NSF last October. Now comes the hard part: building on the experience of the last five years to ensure continual improvement until 2010...with hopes of successfully bidding on the next opportunity.

Whether you define Antarctic eras by climate, events, buildings, or agencies, it's possible that each new progression will bring a different type of person to the Ice, requiring returning veterans to change with the program or switch venues. Palmer's shrinking glacier may force hikers to become indoor adventurers who thrive on unlimited bandwidth, wide-screen movies, and the best brownies in the universe. Perhaps the connected corridors of the new South Pole station will turn the roughnecks of yesteryear into sandal-shod pacifists who shower *every single day*. With each new contractor, employees will have to reconcile their personal priorities with those represented by the logo on their paychecks.

And no matter how you remember the "good old days", there's probably someone older who thinks you had it easy in Antarctica. Yet we all share a common nostalgia for the place, leading some folks to spend more time on the Ice than anywhere else. Buildings, ships, and contractors come and go. I believe it's the inexplicable magic of the place, and the people who are drawn to it, that make Antarctica such a cool place to call home. References: *P.S. News*, vol. 5, issues 1, 2, and 3; *Raytheon Polar Services Company*; *SHALDRIL web site* <http://www.shaldril.rice.edu>

SOUTHERN HOSPITALITY. (Lynn Arnold, Recent Polie) The South Pole is full of surprises, from the medical use of super glue when curing the problem of dry, cracked fingers, to the simple procedure of coating eggs in vegetable oil to ensure their freshness throughout the winter. Even the Dome's "refrigerator" brings a wry smile to a person's face as it actually requires a *heater* to prevent its contents from freezing. But one of the most pleasant and wonderful surprises of all is the social aspect that develops when living in this frosty, remote landscape. Living in close quarters in isolation can bring out the best and the worst in people. It can make or break you. There exists the opportunity for either tapping into one's creativity and resourcefulness or succumbing to lethargy and depression as one undergoes sensory deprivation. One former "Polie" described winter like this: *"You will see the darkness in the hearts of men, but it will be the best year of your life"*. With the absence of color, smells, plants, animals, children, elderly, sunshine, and heat, it is a very bizarre existence, indeed. As the temperatures drop to unbelievable lows, ferocious storms churn out walls of snowdrifts that may barricade everyone indoors. Katabatic winds form sastrugi (waves of snow), which in turn become a magnificent ocean of ice. And the heavens above are a constant sea of spectacular stars routinely graced by the presence of magical auroras. The extreme barrenness possesses an intense natural beauty that must be experienced to be understood. And yet, it is truly an uninviting, "harsh continent", not meant for humans, thus finding the familiar is a comfort of the utmost importance. In short, group dynamics and occasions for distraction play major roles in combating the challenges of a South Pole winter. Just as the crew relies on each other in emergency situations, they rely on each other to provide social activities to live a *somewhat* "ordinary" life in the land of midnight.

Explaining the social life of Antarctica to anyone who has never deployed to this location is multi-faceted. People tend to have preconceived notions about sequestering the long, dark winter with nothing more to do than read, write, work,

eat, and sleep. Many do not realize that a library, a gym, a store, and a bar all exist at 90 degrees south. With work the only real obligation (i.e. no errands, no bills to pay, no children to watch over, no pets to feed, etc.) recreation actually becomes a significant part of life. The types of leisure activities actually available are largely based upon the passions of each crew to create the social atmosphere. When all is said and done, they are the ones who will dictate what occurs on station (and since all these folks have been told by a psychologist that they were "crazy enough to winter" the options are wide open©.) Therefore, it is up to each individual to contribute (or not) towards the greater good of the polar community.

The types of recreational choices available are largely based upon the USAP participants' interests combined with their willingness to donate their own time and energy. For example, classes may be offered in martial arts, aerobics, social dance, and knitting, and weekly calendars may include science lectures, movie nights, volleyball games (softer than volleyball), and radio darts (with other Antarctic stations) just to name a few of the unexpected opportunities provided by former staff. Within the social fabric of any society, special occasions are also planned to provide highlights that mark the passage of time. Casino Night, the Midwinter Celebration, Fourth Of July BBQ, Sunrise Party, Oktoberfest, Bingo Night, and the Art Show are just a few samples of past morale boosters.

The midwinter milestone on June 21 is quickly approaching. As the threat of winter monotony continues, one can rest assured that the current crew is doing their best to bring some degree of normalcy into the frigid wonder world they call home. The polar plateau is like no other place, but what truly makes the journey exceptional are the people who share in this glacial adventure. In the midst of a most astonishing existence, each crew rallies to provide entertainment and help each other survive the long dark night. The South Pole winter creates a deep bond amongst those who share it. If it's a good winter, they will discover the extraordinary in themselves and each other.

THE MAGIC OF ANTARCTIC COLOURS; David Abbey Paige (1901-1978), Artist of the Byrd Antarctic Expedition, 1933 -1935, by Reinhard A. Krause and Lars U. Scholl. Bremen, H.M. Hauschild GmbH, 2004, 126 p. \$29.50 plus tax (if applicable) and shipping. Available from Laura Kissel, Polar Curator, University Archives, The Ohio State University, 2700 Kenny Road, Columbus, Ohio 43210 (Review by John Spletstoesser)

This book reminded me of the wonderful water colors produced by E.A. Wilson on Scott's expeditions in the early

20th century, and is an excellent record of talent by the artist who accompanied Admiral R.E. Byrd on his 1933-1935 expedition to the Antarctic. An additional Antarctic artist of note was George Marston, who accompanied Sir Ernest Shackleton on his Nimrod and *Endurance* expeditions. David Abbey Paige (1901-1978) was not to be deterred when he applied to Byrd's expedition as an artist, even though he was at first rejected by Byrd because a major requirement for participation was a background in science. He was not discouraged, however, and then approached other members of the crew and expedition members, including Paul Siple. Eventually Byrd agreed to Paige's official role as expedition artist.

Paige decided against watercolors and oils because of the potential difficulties encountered in the cold, but instead did his work in pastels and pencil drawings. About 100 pastels were returned from Little America, forming the basis for exhibitions in California, where Paige lived following the expedition. Correspondence between Byrd and Paige evolved around the content of the exhibitions and lectures by Paige, because Byrd insisted that the subject be strictly about the art and nothing else related to the expedition. Eventually, those issues ended in 1939, and the pastels languished until the time of a SCAR meeting in 2004, hosted by the German Maritime Museum and the Alfred Wegener Institute in Bremerhaven, and most of the 100 pastels were placed on exhibition for the first time outside the U.S. The authors, Dr. Reinhard Krause of the Institute, and Dr. Lars Scholl of the Museum, assembled the book of 70 pastels, 13 sketches, and 24 photographs, a number of them rare, of the 1933-35 expedition into a book with high-quality paper and text. A four-page section on Admiral Byrd and the expedition is followed by the photographs, then eight pages of Paige's life.

The remainder of the book consists of the sketches and pastels, with labels for each at the end. Sixty of the pastels and other polar memorabilia of not only the Byrd papers but also those of Sir George Hubert Wilkins and the Frederick Cook collection, are housed at the Byrd Polar Research Center Archival Program at The Ohio State University. For further information contact Laura Kissel at the Archives and the web page at <http://www.lib.ohio-state.edu/arvweb/polar>.

THE NINTH CIRCLE. (Review by Rob Flint) John Behrendt's latest book, *The Ninth Circle: A Memoir of Life and Death in Antarctica, 1960-62* (the title is a reference to *The Divine Comedy* in which the ninth circle of Hell is the region of ice) opens with a hair-raising incident which took place on November 22, 1960, when John, as a graduate student, was the scientist in charge of an airborne geophysical survey operating out of Byrd Station in the area

of the Crary Mountains. Not to give away too much of the plot, he and everyone aboard his R4D-8 (military version of a DC-3) miraculously survive, which is a good thing, because without him the Antarctic and the world would have lost a distinguished scientist, a world-class explorer for over five decades, and, as the present volume again shows, an accomplished author. This book is John's memoir of his experience as leader of geophysical surveys of West Antarctica during the austral summers of 1960-61 and 1961-62. For the first summer, he was based at Byrd Station and during the second summer he led the Camp Minnesota to Antarctic Peninsula traverse. I very much like the format, which John also used on his earlier book, *Innocents on the Ice: A Memoir of Antarctic Exploration, 1957* (story of Ellsworth Station during IGY), in which he intersperses quotations from his journal kept at the time with comments from the perspective of forty years later. John brings a great deal of perspective to this work: he had leadership responsibility at a young age, and is one of the few people who have had involvement with Antarctic research in every decade from the 1950's to the present. The cast of characters include many well-known names in the history of Antarctic research — Bert Crary, George Toney, Charles Swithinbank, Ed Thiel, Ken Moulton, Charlie Bentley, Eddie Goodale, Bob Rutford, Campbell Craddock, Phil Smith, Sir Charles Wright, Art Ford, and others whose names will be immediately recognizable to those who worked on the continent in the decade after IGY or have read the literature on that period.

John describes his initial visit to McMurdo, and subsequent trips to Hallett, to Byrd Station, where he was based for the summer, and later to South Pole. At this time, all of these stations were essentially the same stations as had been built for IGY. He also describes the aircraft used at the time - the Constellation for the flight from Christchurch to McMurdo (one crashed at McMurdo when he was there), the C-124 for cargo drops at Byrd and South Pole, the P2V for remote sensing, the C-130 for trips to Byrd and South Pole, and the R4-D8, used for remote sensing and for open field landings at remote sites. By the end of the 60's, only the C-130 was still in use in Antarctica (as it is to this day). The main workhorse for his program was the R4-D. It was still a pioneering time: "Many of the flights we made during this and the following season were over totally unexplored terrain. There was no GPS or even inertial navigation available in the 1960's". During the 1961-62 summer, John was the leader of a traverse that began at Camp Minnesota in the Jones Mountains and continued to Camp Sky-Hi and thence on into the southern end of the Antarctic Peninsula. We get a feel for life on a traverse -the constant worry about crevasses in some areas, the continual challenge of equipment breakdowns and failures, periods of

frantic activity and nights without sleep to take advantage of good weather, and intervening periods of frustration and boredom when bad weather prevented movement and activity. And behind it all is the thrill of discovery, of being the first person to see certain mountains and the new understanding of the geography, geology, and geophysics that come with collecting data where none had been collected before. For instance, this traverse established that there was no subglacial ridge connecting the Sentinel Range to the Antarctic Peninsula, as had been suggested before.

The safety record of VX-6 was poor. The accident rate was eight times the rate of U.S. Naval aviation elsewhere in the world. In addition to his near miss and the Connie's crash at McMurdo, John talks about several non-fatal accidents involving the R4-D's and the horrific P2-V accident in 1961 that killed his friend and mentor, Ed Thiel. I am not sure how John was able to carry on and accomplish so much that summer after that tragedy. Safety was treated more casually in those days: dynamite for seismic work was frequently handled without extensive controls. Avgas, used in the R4-D's was very dangerous to handle. JATO (Jet-Assisted Take Off) rockets, used on many of the aircraft in open field or rough runway conditions were handled almost casually.

This book fills an important role in describing the life of a researcher in Antarctica in the period after IGY, but before the modern era of permanent stations, rigorous safety procedures, modern navigation tools, and women on the ice. I found this memoir especially interesting because it is about a time just prior to my first Antarctic winter, which was at new Byrd Station, just two years after John had been to old Byrd (which I also visited). I saw traverses come and go and did fly in an R4-D on a med-evac flight out of Byrd, and also spent some time at Old Pole. His descriptions of the planes and places are full and accurate. The book is illustrated with 66 black and white photos and eight maps and has a good index and bibliography.

University of New Mexico Press \$29.95 (hardcover). Book may be ordered by calling 1-800-249-7737.

BIRDS & MAMMALS OF THE ANTARCTIC, SUBANTARCTIC & FALKLAND ISLANDS, by Frank S. Todd. Temecula, California, Ibis Publ. Co., 2004. 138 p. \$29.95. (Review by John Spletstoesser.) This is the latest of the author's many books on mainly birds, but also a variety of wildlife species that Frank has worked with over the years in the field and also in zoos. It consists of a handy guide to what it says, all in color photographs plus a few paintings, each species with brief descriptions of its characteristics. There is little text, as the major benefit of the

book is to assist both amateurs and professionals to identify what is seen in the far south. Frank is an authority on penguins and waterfowl of the world, has worked more than 30 summer seasons in Antarctica, sub-Antarctic, and the Arctic, and is also a first-class photographer. He also is recognized as an authority on controlled-environment breeding of penguins, collecting their eggs in the field and returning them to Penguin Encounters at Sea World in San Diego, his proud creation several decades ago. As the eggs hatched, the penguins and other birds thought they were at home, so to speak, and breeding and further generations resulted successfully. This book also has a supplement, a plastic-laminated flip-chart (at \$17.95) of some of the book's content, that folds the 12 pages into a convenient size slightly smaller than that of the book. This book is a must for anyone planning visits to Antarctica, sub-Antarctic islands, and the Falkland Islands (Islas Malvinas), particularly aimed for passengers and staff on tour vessels. Realizing that other nationalities are included in those cruises, the last pages include the English-language equivalent names of wildlife in Spanish, German, and French. A short index completes the book

IAATO's 16th ANNUAL GENERAL MEETING IN GERMANY. (John Spletstoesser, Advisor to IAATO.) The International Association of Antarctica Tour Operators (IAATO), founded in 1991, held its 16th Annual General Meeting in Hamburg, Germany, 2-5 May 2005. The organization started with seven tour operators in 1991, and as of 5 May consists of some 78 members based in 13 countries plus the Falkland Islands (Islas Malvinas). IAATO's objective is to promote safe, appropriate and environmentally sound private-sector travel to Antarctic destinations. Its membership comprises a large segment of the Antarctic travel market, including ship operators, ship agents, land-based operators, travel agents, and one government office. The IAATO office is based in Basalt, Colorado, and is managed by Denise Landau, Executive Director, with assistance from an Advisor, plus many others who work on the day-to-day operation, and special projects that require specific expertise, mainly by several committees. Detailed Bylaws specify various types of tourism activities and their management, which operates under the umbrella of the Antarctic Treaty Parties plus self-imposed Guidelines compiled by IAATO for the protection of the environment.

The meeting in Hamburg illustrated its growth over the years since 1991 by its attendance of more than 100 representatives from members plus governmental organizations. The meeting was held in the offices of Hapag-Lloyd, one of the IAATO member companies. The growth of tourism can be seen by comparing visitors in the 1992-93 austral summer (6,700

individuals) with the 2004-05 season (some 30,200). The numbers must be qualified, however, to illustrate the varieties of tourism now available, including mainly shipborne (22,300 with landings), but also overflights with no landings (2,000), cruises with no landings (5,000), and a combination of air/land-based tourism (900). The major advantage of seemingly large numbers of visitors to Antarctica in summer, when compared with Treaty Party numbers in summer (5,000 or more) is that nearly all tourists arrive by ship and there are no land-based infrastructures, the ship providing the hotel, as it were. Tourism does not operate in winter, whereas a large number of stations are operated year-round.

IAATO sends a delegation to the annual Antarctic Treaty Consultative Meetings (ATCMs) in order to report on statistics, table relevant papers for discussion, and also respond to issues posed by the Treaty delegations from nearly 50 countries. One of the major issues discussed in Hamburg in May revolved around an accreditation and auditing system, whereby IAATO members are in the process of documenting the detailed guidelines compiled for safe and environmentally sound tourism (such as wildlife protection, ship operations, safety, communications, etc.). The objective, in a way, is to show Treaty Parties that we do what we say we do, and in an environmentally safe manner. The 2005 ATCM is scheduled for 6-17 June in Stockholm.

Because most tourism is conducted in the Antarctic Peninsula area, south of South America, numerous sites are visited by a large number of vessels from early November through mid-March, the period of summer tourism. In order to manage proper conditions for these visits, IAATO has developed a series of Site Guidelines for use by the members so that sites are not over-visited or visited in vulnerable parts of the summer (breeding time, e.g.). Land visits are conducted by use of air-inflated Zodiac boats from the vessels to transfer passengers ashore, where staff members provide guided tours to interpret what is there, and at safe distances from wildlife (penguins, seals). A staff to passenger ratio of 1:20 provides adequate control over the number of people ashore, which totals no more than 100 passengers at any one time.

IAATO has developed a sophisticated data base to keep track of annual records of visitors, sites visited, and nationalities of visitors. An attractive website at www.iaato.org provides detailed information on annual figures, directory of members, papers tabled at ATCM's, and a recently printed Newsletter, among numerous other entries. The IAATO Newsletter is listed under Information Papers, and references activities conducted in the 2004-05 season.