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NEWSLETTER

"BY AND FOR ALL ANTARCTICANS"

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*Happy 80th Birthday to Dr. Charles Swithinbank on
November 17th*

BRASH ICE. Well, here we go again, with more trivia from 50 years ago plus some current activities which hopefully will be of interest to some of you. The bad news is that Alan Shapley has died. He was the Vice Chairman of the Executive Committee of the United States National Committee for the International Geophysical Year. He really wasn't old enough to die, being only 87, but the Grim Reaper does not take that kind of thing into effect. That leaves only one living member of that illustrious group, A Lincoln "Link" Washburn, who is 95 (as is his bride, Tahoe). We called up Link to see if he would/could write an obit for us on Alan, but according to a daughter, it seems that Link himself is not able to fulfill our request. If the IGY is not past history, it is damn close to being so. But wasn't it a great run while it lasted????!!

There is a new book out called THE LAST EXPLORER, which we referred to in our last Newsletter when we wrote about Hubert Wilkins going under the ice in the Arctic back in 1930. A group of us have banded together under the false nomenclature of being Old Antarctic Explorers (OAE's). This is not exactly so when you look up the definition of "explorer" in your Webster's dictionary. Probably the closest live Antarctic to being an explorer is Charles Swithinbank, but he doesn't qualify as being old, as he won't even be 80 until this month, in spite of having been in the Antarctic over parts of seven decades. And he is going back again this austral summer to help celebrate part of his legacy, blue ice runways. Finding countless ice runways was real exploration. Can a bird man be an explorer? I guess so, and if that is the case, there is a second legitimate Old Antarctic Explorer, Bill Sladen. He really does qualify as being old, as he is pushing 90, another seven decader. But the rest of us so-called OAE's are pure imposters, whether we want to believe it or not.

This is all sort of a prelude to the book by Simon Nasht on Sir Hubert Wilkins. It is quite a book about quite a man, whose career was unbelievable. Being a combat aerial photographer in World War I was a follow up to being lost with Stef's party for three years in the Arctic. Being the first to fly in the Antarctic, being the first to take a submarine, a real derelict, under the ice in the Arctic was just a continuation of one man's wildest dreams. The whole book is one of true fascination, one that is worthy of all reading. Talk about explorers, here was a true explorer, whose limits knew no bounds.

I am writing about Sir Hubert in this Newsletter, as modesty does not prevent me from saying that I probably knew Sir Hubert better than any of you people. The two of us worked for the same organization for the last five years of his life, the Quartermaster Corps Research and Development Command in Natick,

Massachusetts. When he was in the office, when I was in the office, our desks were separated only by a big sheet of Plexiglas. He went to the Antarctic in the austral summer of 57-58, in part to help me move my instrumentation from Little America V to the South Pole. It may have been during our time together at Little America V and at McMurdo that I got to know him best, as I was with him in his true habitat, a polar region.

But he fell into disfavor with my least favorite admiral, George Dufek, when Sir Hubert gave out interviews to the press at McMurdo, which were published in the States, eventually finding their way back to McMurdo, where Sir Hubert talked about the deplorable conditions at McMurdo. He went on to compare the station with the bases of Scott and Shackleton, saying that the morale at McMurdo was much worse than anything experienced at Scott's two bases and at Shackleton's. And with that, Dufek kicked Sir Hubert out of his flag quarters and pilots were told not to take Sir Hubert to the South Pole. So he never went to the South Pole with me, although previously he had flown over the Pole. But within this Newsletter, you will find some interesting stuff about Sir Hubert, which is not always synonymous with what Mr. Nasht wrote. Sir Hubert was actually a very nice man, one who was described by one polar so-called expert as the only polar explorer without an ego. Could very well be.

Illegal fishing techniques in the waters off Antarctica threaten the stable food for seals, whales, and penguins, according to researchers attending a gathering of the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR) in Hobart, Australia. Ships are vacuuming up krill, and catches are used to feed salmon farms. Pirate fishing vessels are invading the rarely patrolled southern waters to catch Chilean sea bass, known technically by their proper name, Patagonian toothfish. Mark Stevens of the National Environmental Trust said "It is a deep-living, slow-growing, long-lived predator fish found in the Southern Ocean around Antarctica... important for the survival of Weddell seals, killer whales, and sperm whales."

Professor Chris Thomas of the University of York has been studying the migrations of birds for many years, finding that in the UK 80 percent of the 300 species his team monitor have abandoned habitats they occupied for thousands of years to move 40 to 60 miles farther north. Global warming has many side effects, does it not?

Reunions seem to be in vogue. Bill Spindler attended one recently of people from Palmer Station where 100% of the still living showed up! Can't beat that.

JOINT ANNUAL BLACK TIE DINNER MEETING with the Explorers Club, Washington Group, plus Society of Woman Geographers. **SPEAKER:** Dr Martin Nweeia was recently featured on the front page of the New York Times, Science Times, NPR's Morning Edition and Pulse of the Planet and two National Geographic Television stories on recent discoveries made about the narwhal tusk. Dr. Nweeia is expedition leader and principal research investigator for Narwhal Tusk Research, an international, multidisciplinary investigation focused on unlocking the mysteries of this elusive, legendary, arctic whale and the function of its extraordinary spiraled tusk. Dr. Nweeia will present "The Ice Whale: Discoveries and Tales" on December 2nd at the Cosmos Club, 2121 Massachusetts Ave., NW. **TIME:** 6 PM. **CONTACT:** Donald Gerson, (240)-293-6570, Castleleigh Rd, Silver Spring, MD 20904-1713. Dinner reservations: \$65.00 per person. Checks made out to ECWG. No cancellations or additions after Nov 27th.

CALENDARS. We have ordered a supplemental supply of the New Zealand Hedgehog Antarctic calendars to accommodate late orders. Again, this excellent 2007 calendar can be yours for the holidays if you send the Antarctic Society a check for \$14.00 (P.O. Box 325, Port Clyde, ME 04855).

AMERICAN POLAR SOCIETY AND BYRD POLAR RESEARCH CENTER will hold a joint Symposium on 25-27 April, 2007, at BPRC, The Ohio State University, Columbus, Ohio, with a theme on "U.S. Science Policy: Celebrating IGY (1957-1958) and Planning IPY (2007-2009)." Mark your calendars for what appears to be a very interesting agenda, to be announced soon in detail by BPRC and APS. Lynn Everett at everett.2@osu.edu is the point of contact at BPRC, and look for further details as they are known at the BPRC website: <http://www-bprc.mps.ohio-state.edu/>.

ROBERT E. FEENEY DIES. UC Davis scientist Bob Feeney, a world-renowned biochemist and Antarctic explorer who discovered an antifreeze-protein that allows fish to survive in polar seas, died Sept. 21, 2006, at the age of 93. Bob Feeney was known at UC Davis as "professor on the ice" for six expeditions he took to Antarctica during the 1960s to study peptides that prevent ice formation in fish blood, a discovery he made while researching penguin

eggs. He pioneered work in the biology of low-temperature organisms that led to many benefits in food and medicine, from preserving frozen tissue to improving the texture of ice cream. He led a team of researchers who fished through holes in 12-foot-thick ice near McMurdo Sound in Antarctica. He also led research trips to the Arctic. He wrote two books, "Professor on the Ice," and "Polar Journeys", about exploration and life in Antarctica. Feeney Peak is named for him in the Queen Maud Mountains.

ANTARCTIC OZONE HOLE REACHES RECORD PROPORTIONS. (Andrew Darby, Christchurch Press, 21 Oct. 2006, forwarded by **Margaret Lanyon**) This spring's Antarctic ozone hole has been declared the largest on record, an emphatic reminder that humanity's atmospheric harm is set to continue for decades. The hole peaked at 29.5 million sq km, exceeding the previous largest in 2000 by 100,000 sq km, the World Meteorological Organisation said yesterday.

It was also the deepest recorded over eastern Antarctica, at one point leaving a layer of sky above Australia's Davis station with no ozone at all to guard against ultraviolet radiation. The roughly oval-shaped hole, four times the size of Australia, swung over South American towns and the Falkland Islands, and reached its greatest extent on September 25. Its effects on people were limited by the sun's low angle at that time of the year, as well as cloud.

Scientists point to greater potential problems in the polar seas, where there is evidence that excess UV radiation may be affecting the phytoplankton that underpins life there. Recent studies of satellite images show that the amount of chlorophyll in the water, a measurement of phytoplankton, could be reduced by up to 65%. Growth in microscopic marine plant life could be inhibited by 6-12% in waters covered by sea ice and lead to changes in some krill species' abundance. An area of the far South Atlantic, which is known as the breadbasket of Antarctica, was this month exposed to three to six times the normal amount of UV radiation. This is a region with large bioproduction compared to other regions of the globe and is hence particularly vulnerable to elevated UV radiation.

Around this time, the hole's depth reached a low of 85 Dobson units over the East Antarctic Ice Sheet. Before the annual hole developed in July, there were about 300 of the Dobson units, an ozone prevalence measurement. Extremely low temperatures over winter, down to minus

93° in the upper atmosphere, were behind the expansion of this year's hole. An Australian Antarctic Division atmospheric scientist said the cold could be linked to climate change. Some global warming scenarios point to a balancing cooling effect in the upper atmosphere. Bans on chlorofluorocarbons have stemmed the ozone damage, but NASA scientists have said recently that the ozone layer may not recover until about 2068.

HUMAN ACTIONS LINKED TO ANTARCTIC WARMING. (John Henzell, Christchurch Press, 25 Oct. 2006, forwarded by **Margaret Lanyon**.) Antarctica is being warmed by its version of Canterbury's nor'wester in what is being touted as the first proof of human-induced climate change. The Antarctic Peninsula is the fastest-warming place on earth, with average temperatures increasing by nearly 3° in the past 50 years and prompting the sudden collapse of an ice shelf the size of Luxembourg. The collapse of the 3250-sq-km Larson B ice shelf four years ago is being called by a team of British and German scientists the first major world event shown to be linked to global warming.

The research, published in the *Journal of Climate*, found that westerly winds circling the outskirts of Antarctica have increased in strength in the past 50 years. When the winds cross the mountain range of the Antarctic Peninsula - at up to 2800 m, a similar height to the Southern Alps - the eastern side of the range is subject to warm, dry winds, just as the Canterbury Plains are warmed by north-westerlies. For the Larsen B ice shelf, temperatures were up to 5° warmer when westerly winds blew, leading to the collapse of the shelf which had been stable for 10,000 years.

The British researchers found links between Antarctic warming and a combination of increased greenhouse gas emissions in the troposphere and ozone loss in the stratosphere, which were thought to increase the strength of the circumpolar winds. Professor Peter Barrett, director of the Antarctic Research Centre at Victoria University, said there was concern that what happened to the Larsen B shelf could happen to the 500,000-sq-km Ross Ice Shelf.

Assessing evidence of previous changes to the Ross Ice Shelf is the focus of Andrill, a New Zealand-organised international drilling project that has begun work near Scott Base. However, Barrett said conditions on the Ross Ice Shelf were not similar to those on the Antarctic Peninsula and temperatures there had not risen substantially in recent decades.

The lead scientist of the National Snow and Ice Data Center at the University of Colorado, Ted Scambos, stated in *Nature* this month that the new research was "definitive". The study authors said the collapse of the Larsen B ice shelf could now be pinned down to a specific change in climate, and that in turn was linked to human-induced global warming. It was contended that this was the first event proved to be caused by human-generated climate change.

THE CAT MAN MAKES HISTORY. It was Halloween 1956, and Navy Lt. Cmdr. Conrad "Gus" Shinn was flying to one of the eeriest, most desolate places on Earth — the South Pole. He was headed to a barren, icy desert where no person had landed a plane. That's until Shinn, now 84, landed his ski-equipped, propeller-driven DC-3, *Que Sera Sera*, in the heart of the vast, largely unexplored continent of Antarctica, Earth's "Last Frontier." He was carrying a crew of five and two observers.

On the 50th anniversary of Shinn's pioneering flight, the former Navy aviator was celebrated at a ceremony at the National Museum of Naval Aviation, Pensacola, Florida, where 250 friends, colleagues, scientists and current South Pole explorers and researchers paid tribute.

"He didn't know the hazards," said retired Navy Capt. Bob Rasmussen, the museum's director. "He couldn't even guess at them. When he landed on the packed ice, he had no idea if he would even be able to take off again." Shinn, a Pensacola resident since 1964, shrugged off the accolades. "It wasn't scary at all," Shinn said. "We never thought about the danger. I was in the military and they said 'Go,' so we went."

The historic flight took off from McMurdo Station. Eight-hundred miles later, Shinn guided the *Que Sera Sera* to its icy landing, and Shinn and the crew members ventured outside the plane. They encountered temperatures in the 60-below range but became the first humans to stand at the South Pole since Amundsen and Scott made the trip overland, Amundsen by dog sled and Scott by manhauling, in 1911-12. They stayed only 45 minutes or so before venturing back into the plane to return. "There wasn't much to see," he said. "It was like a desert."

Many scientists and Navy officials worried about the return flight, fretting that the cruel cold would freeze the engines. Officials even ordered a U.S. Air Force C-124 transport plane to circle overhead. If Shinn's plane wasn't able to

Take off, the transport plane would crash-land and serve as a shelter until help arrived. The takeoff was difficult. Shinn needed to fire all 16 of his outboard rockets to lumber the plane slowly into the freezing air.

A few hours later, Shinn and his crew were back at McMurdo Station. The historic flight had ushered in a new era in scientific exploration, opening up the South Pole for future research. The first South Pole Station opened in March 1957, just a few months later.

At Shinn's ceremony, organized by the Gulf Coast Old Antarctic Explorers Association, researchers at the South Pole made a live satellite call to the ceremony to pay tribute to Shinn. "You proved it was possible to land on the South Pole," Brian Stone of the National Science Foundation, said during the call from the South Pole. "And you proved that science was possible on the other side of the world."

After the ceremony, Shinn and other attendees visited the aging *Que Sera Sera*, which is located outside the museum's maintenance facility. But Shinn isn't the only Pensacolian who has served his country in Antarctica. The Gulf Coast Old Antarctic Explorers Association was formed locally in 1999 because of the vast number of retired Navy personnel who were stationed there and now reside in the Pensacola Bay Area. There are 200 members of the association on the Gulf Coast, and about 1,200 nationwide, said retired Navy Lt. Cmdr. Billy Blackwelder who made five deployments to the continent. Blackwelder said there is a close bond that remains for everyone who served there. "It's kind of like the Grand Canyon," he said. "You can't explain it until you see it. And once you see it, you don't forget it."

ANTARCTICAN MAKES IT BIG ON HIS OWN. The largest circulation publication in the USA is the bulletin of the American Association of Retired People, and in its October 2006 issue they devoted a whole page to our own Bob Dale, but nary a word about his Antarctic involvement of some 12 years where he flew R4Ds, Otters, and C-130s for the U.S. Navy. His Antarctic time also included nine years working in the polar office at NSF. Bob now lives nearby in Maine (11 Chamberlain Avenue in Brunswick 04011), but until the past year he had lived a life in another part of Maine that you could not believe, and many would not sympathize with.

While Bob was at NSF, the HERO was bring built in a shipyard in Bristol, Maine, I believe, and Bob was the

contract officer for NSF who made periodic inspection of its construction. In the process, he fell in love with the area, and sought a realtor, told the agent just what he wanted, and lo and behold he found this island connected by a causeway to the mainland. He moved there permanently in 1975, and lived a life in keeping with that of Henry David Thoreau. Then a miracle happened, he found an educated, successful, and very good-looking business woman who was willing to chuck it all and move into this primeval estate. Well, it wasn't exactly an estate, as it had no modern toilet with plumbing, but it did have a one-holer near the house with a spectacular view down the coastline, a stretch of more than five miles without a house in sight. There was no refrigerator, but a deep well kept things cool enough to serve the purpose. There was no bath tub, but there was a sort of shower at the end of the living room, where a bucket arrangement would release water on call. Naturally there were no telephone lines, no lights, no modern day heating system. Bob lived there for 29 years and never once had a utility bill. He had solar panels on the roof and an indoor vegetable garden on the south side of his living room. Access to the house could be achieved via a sort of 'road' over the causeway. But within the house, over a sink, was a Bill Thon painting which his wife had bought in New York City prior to meeting Bob. Now Bill Thon may not mean much to many of you folks, even though LIFE magazine gave him a five-page spread once upon a time. But Bill Thon was a legend up here in Maine, and was famous in his late years as a blind artist who painted from pure memory. That was Bob's and Jean's one concession to high culture. I have one of Thon's art works in my house, and I treasure it.

This article in AARP shows a bearded Bob Dale, in fact it's a half-page picture of him. Too bad they did not show Jean, as she is much better looking than Bob (who is approaching 83, but has retained his youthful physique and general appearance). Bob has been very active in the State of Maine with the Green Party, and can be found at state fairs in their booths. He also crusaded for bicycles for downtown Brunswick in an effort to keep cars off the streets. He is deeply into politics, and the annual equinox party at his island retreat in past years brought people from all over the state, including some Antarcticans.

The story above is the real Bob Dale, but the article in AARP Bulletin did not have any of this good stuff, as they covered his transformation from his rural life to civilization at an address in Brunswick, where he and Jean are adapting themselves gradually. As we write this, we have just had a multiple day blackout from power outages (outrages!!)

resulting from high winds. Did that bother Bob and Jean? No, it just brought back memories of living on their beloved Hockomock Island. If you have the bucks, and want to live like Thoreau (or Bob and Jean), give Bob a call at 207 721-0981.

THE LAST EXPLORER, HUBERT WILKINS, Hero of The Great Age of Polar Exploration, by Simon Nasht. Arcade Publishing, NY, 2006, 346p. Review by Paul Dalrymple. Notwithstanding the above about Sir Hubert and his Australian actress wife, this is a book which I can highly recommend for those who want to read about a man who lived his whole life on the edge of danger and raw excitement. All other Antarctic explorers' lives pale into insignificance when compared to Sir Hubert's adventures in war and peace. He lived on the brink of defiance on many of his endeavors, but none more so than when he took a one-dollar (\$1) submarine derelict, the *Nautilus*, under the ice pack in the Arctic. The story of that adventure, as told by the author, will raise the hair on the back of your neck.

Sir Hubert was the only pure explorer who was in Antarctica during the past fifty years, being at Little America V and McMurdo in 1957. Even though he was going to be the naturalist on Ernest Shackleton's last expedition, he was not well known in the U.S., as he led a low-profile personal life. He was a veritable hero in Russia because of his extensive flying over the Arctic Basin in search of a famous lost Russian pilot, Sigismund Levanevsky. Sir Hubert flew more than 70,000 km in a futile search.

Not much has been written about Sir Hubert. His close friend, Lowell Thomas, wrote **SIR HUBERT WILKINS, His World of Adventure**, in 1961, but it did not cover the last half of his life. Elizabeth Chipman, a former member of our Society who lives Down Under attempted to write a book about Sir Hubert, but finally gave up. One came out recently (2004) on Sir Hubert, **THE MAKING OF AN EXPLORER** and the Canadian Arctic Expedition, 1913-1915, but I personally do not think much of the book - more or less another book on hunting with the Eskimos.

However, Sir Hubert is sort of having a Born-Again Renaissance. There is an Australian cruise ship named after him, and now the Aussies are building a state-of-the-art all-purpose aerodrome in Antarctica where giant wheeled aircraft can make landings. This will be named after Wilkins. If Sir Hubert is a No-Name to you, buy this book, and you will be thrilled by each and every chapter.

SIR HUBERT AND LADY SUZANNE. A lot of polar leaders had marriages that were not exactly created in Heaven, being often ones of convenience, and I guess you could put Sir Hubert's marriage into that category. They were certainly an odd couple, to say the least, but Simon Nasht's new book on Sir Hubert portrays their marriage as one of closeness. I will use the rest of this section to debunk that hypothesis.

The Sir Hubert that I knew was a very inward man, who kept to himself, who lived very humbly, who preferred to be in the field to being in the office, who often turned down his hearing aid so that he would not be disturbed by others. He lived in the worst possible hotel that you could imagine, the Park Central in Framingham, Massachusetts. In spite of being the second highest paid lecturer in the country — he got \$5000 for a gig, Lowell Thomas got 10 grand — Sir Hubert did not need luxury in his life. When the Quartermaster Corps consolidated their widespread facilities around the country into one central command in Natick, Sir Hubert went to a used car dealer and asked the guy, "What is the cheapest car in your lot?" The fellow answered, "\$25.00." Sir Hubert's next question was, "Will it run?" The answer came back "Yes," and Sir Hubert bought the car outright. This was the very same car he was working on the night before he died!

Sir Hubert spent a lot of time on military maneuvers, especially in the Arctic. On another assignment, he was in the Sahara on a camouflage study, and Lady Suzanne called him at the office. When she was told that he wasn't there, she asked where he was, and was told that he was in Africa on official business for the office. Her next question was "How long has he been there?" She was told six weeks, and then she hung up. This is the same guy who Nasht portrayed as always keeping in touch with his wife!

It just happened that I left for the Antarctic late in December 1956, and Christmas was on a Monday as I recall. Sir Hubert and I were the last two in the office that Friday afternoon, and I went into his office to bid my farewells. After exchanging pleasantries I said to him, "Well, I suppose you will be taking the train to New York tonight so that you can spend the holidays with Lady Suzanne", and he replied, "No, I will be staying here in the Park Central, as I got a card the other day from her telling me that she was very busy over the holiday and not to bother to come home." And Nasht thought they were close!

Ten months later, Sir Hubert joined me at Little America \ to help me dig up my cables and pack my equipment. On his way to the Antarctic, he had been on a VIP flight over the North Pole, so had not been home for well over a month, maybe two months. Where I had wintered over at the station, I knew all of the station radio operators quite well, so offered to set up a phone patch to Lady Suzanne in New York. Sir Hubert thanked me for my offer, but said "No, that will not be necessary, I do not have any real reason to talk to her."

Several weeks later, it's early December, McMurdo was full of VIPs, and I was berthed with them in a Quonset hut. Sir Hubert had a reindeer parka made for him by an Eskimo in the Arctic, and he offered it to me to take to the Pole. I graciously declined, saying that we all had excellent bright red parkas from Eddie Bauer, so I would not need it. But late that evening, I found said parka neatly folded on the end of my bunk. Sir Hubert came over and said, "Paul, I want you to take it to the Pole, as I can't get there (Admiral Defect had made sure that no pilot would take him there), there is a possibility that Lowell Thomas will come there, and I would like to have him wear this parka, as it is the same one that he wore in the Arctic. If you want to keep the parka, it's yours, if you want to leave it at the Pole, leave it there, as I have another one just like it at home." Incidentally, later that night, really very early in the morning, Paul Siple came out of the Pole. Defect had made certain there was no press there to publicize Paul's return, as he had taken them out of camp! Paul flew out of McMurdo that afternoon, and I flew into the Pole with Sir Hubert's parka.

About twelve months later, I had completed my year at the Pole, and was catching the Connie out of McMurdo for Harewood. Over my strong protests, I was told by the civilian representative at Christchurch, Eddie Goodale, that I had to go to a press conference. Reluctantly I went, and no one asked me a single question! I walked out on the street, picked up a local paper, and there on the bottom of the front page was this article that Sir Hubert had died the previous night in that old derelict of a hotel in Framingham. What a terrible blow to me, after two continuous years on the ice to come back and find out that this dear friend of mine had died that very day, that I could never tell him personally what life was like the second year at the Pole. I felt that I had to get out of town, so caught the first plane out the next morning for Dunedin where I visited with Murray Ellis and his wife. I had met Murray at the South Pole, as this close friend of Ed Hillary had

come into the station with Ed's party. Murray, now deceased, was a great guy, and I soon felt much better

Nasht's book quoted Lady Suzanne as saying Sir Hubert had died with a smile on his face. If he had a smile on his face, it probably was because he was going to join so many of his old friends, not from memories of her. A friend of mine who spent many months/years with Sir Hubert in the Arctic saw him only two days before he died, and he told me that Sir Hubert looked awful. He certainly lived a very full life, and just wore out. Oh yes, the parka. If you have been in the Antarctic wing of the Canterbury Museum in Christchurch, you probably saw it proudly displayed, and the kind people there were very generous in placing a card with it showing me as the donor. Sir Hubert was the Best of the Best

DEEP FREEZE; The United States, the International Geophysical Year, and the Origins of Antarctica's Age of Science, by Dian Olson Belanger. Boulder, University Press of Colorado, 508 pages, 2006. \$29.95. Review by John Splettstoesser. Whether you were an IGYer or not, this book is of interest because it provides a large amount of Antarctic history during the IGY period 1957-58 and preparations leading to its start. It is timely because of the 50th anniversary of IGY and the numerous projects planned for the International Polar Year, starting in 2007. If comparisons are to be made between the two events, 50 years apart, it can be said that IGY was the beginning of international cooperation in a continent claimed by 7 countries but owned by none, an international treaty was written that smoothed the wrinkles in controversies related to territorial claims, established a major land mass on Earth for the pursuit of science, and made significant discoveries that resulted in follow-up observations and research to benefit humankind. There was some posturing between the U.S. and Soviet Union with regard to a station at the geographic South Pole, if for no other reason than to illustrate to the claimant countries that their pie-shaped wedges that joined at the Pole could essentially be ignored with the presence of a station. The U.S. was there first and never left. A flight that touched down at the Pole on October 31, 1956, settled the issue, with construction of a station for IGY occupancy beginning soon after.

A station in the interior was something new, however, inasmuch as early explorers all had their bases at the coasts and trekked or sledged inland. No one had been to the South Pole since Amundsen (Dec. 1911) and Scott (Jan. 1912). The flight in 1956 included Admiral Dufek, in charge of Deep Freeze and IGY, and a handful of other

individuals. It is significant, as the author notes, that there were no civilians or scientists on that flight, and no meteorologist. Sparring for command and leadership is apparent with that statement, as there was to be no doubt who was in charge.

Snow conditions were basically unknown except for information from journals of the two expeditions in 1911 and 1912. Trigger Hawkes, co-pilot on the 1956 flight had calculated from the depth of Scott's footprints and his estimated weight in full gear in the famous 1912 photograph, that the snow at the Pole would support the ski-distributed weight of a fully loaded R4D aircraft. A more ominous unknown, however, was whether takeoff could be made in the rarified atmosphere at 9,200 feet (2745 m) and low temperature, even with the use of JATO (jet-assisted takeoff rockets).

To review briefly the content of the book in the 12 chapters, the planning aspects of IGY are detailed in full, with key individuals responsible for making decisions and authorizing the event. The U.S. gained its foothold by establishing the construction at McMurdo Sound, at the site used by Scott in his 1901 expedition at Hut Point. The ice conditions were favorable, it was nearly as far south as a ship could go, and gateway ports in New Zealand were reasonably close, to say nothing of flight distances that could be made nonstop. Logistics became everything at an early stage. Succeeding chapters cover the location and construction of Little America, then the surface trek to Marie Byrd Land to establish a station at 80°S, 120°W (Byrd Station), South Pole, which could not have been without numerous airdrops by C-124 Globemaster aircraft, which delivered construction material, and other chapters cover the remaining stations for the U.S. — Hallett, Wilkes, and Ellsworth, each of them having its own difficulties in getting started, and also (for some) problems in operations during IGY.

About half the book discusses what was done during IGY, and what resulted. Geology and mapping were not included as official IGY disciplines because of the prospect of finding mineral deposits of economic quantity, and with the continent under its 7-nation claimant situation, it was decided to sidestep that discipline. Mapping indicated that perhaps further claims might be forthcoming, and boundaries could be mapped. However, if you have geologists on traverses in the IGY, geology is carried out whenever mountains are accessible, so some very useful geology was indeed conducted.

The Epilogue chapter discusses in detail the Treaty process, which is in effect today and will hopefully continue. The human aspects of IGY personnel are also discussed, such as navy and civilian leadership issues, behavioral aspects (religious services, drinking, compatibility), and ham radio being a life-saver in contacts with the outside world. A major discovery was that of the origin of cosmic rays, unknown until IGY, when the relationship with solar flares was made, leading to the discovery of the Van Allen radiation belt.

How much did it cost? It is estimated that a total of \$ 1 billion was spent on IGY, but \$2 billion if logistic support is included. It is believed that the success of IGY was due to its organizers, and without government intervention. Lesson learned.

The author has done us a big favor by carrying forward where Ken Bertrand stopped with his book on "Americans in Antarctica, 1775-1948," and emphasizing how the IGY developed and was carried out, including the origins of Antarctica's Age of Science, as her subtitle indicates. She has done it with numerous interviews, researching archives and diaries, and blending it all together in a very readable account in some 500 pages. The interviews she carried out in order to research background for the book complement the interview program that Brian Shoemaker has done and archived, a very valuable effort to document personal accounts before the OAE's aren't around anymore, or can't recall much of what happened. How many of us of IGY era can recall all the details of what happened, and who did what to whom?

NSF provided the funds for Dian to carry out her work for this book. Many photographs are included, plus maps, and an index. Some might ask whether it is complete and comprehensive. Unless you actually participated in IGY, knew some of the scuttlebutt behind the scenes, and had your own opinions of individuals, personalities, and the like, the author probably did not include everything, but it is also difficult to define everything, in this case. If the details were not archived or in diaries or published accounts, or if interviews did not reveal all salient aspects of IGY, then the author was unaware of the gaps, and no, it is not complete. Given another 100 pages or so, she might have been able to fill some of those gaps. But I doubt if anyone can add to what is here and change the overall contribution made by the author. I recommend it for all readers of Antarctic literature, particularly those interested in IGY.

PLATEAU STATION - THE BEGINNING. 40th Reminiscence, by Rob Flint.

Like many first time Antarcticans, when I boarded the C-130 for Christchurch on Valentines Day in 1965, I assumed that I had seen the last of the continent, and it was time to get on with "real" life. I had been at Byrd Station for fifteen months, maintaining equipment, collecting data, and building antennas for Stanford's VLF (Very Low Frequency) program. It was a good experience: it was my first job after grad school, a relatively harmonious winter, and the third winter group at comfortable and spacious New Byrd. I gained a lot of practical experience and new friends. After a "decompression" tour of New Zealand, Australia, Singapore, Thailand, and Japan, I returned to Stanford to debrief. Almost immediately, my boss, John Katsufakis of Helliwell's VLF group at Stanford put me to work on helping to design equipment for a proposed new Antarctic Station to be known as Polar Plateau Station.

This station, I learned, was to be air transportable so that it could be relocated after a few years. It was therefore necessarily very small - it would accommodate just four scientific personnel and four support from the US Navy. The first location of the station was to be on the high polar plateau of east Antarctica. Being slightly higher than Vostok, this location was expected to have the coldest temperatures in the world. Stanford would oversee the upper atmosphere geophysical programs. Other programs were to be meteorology - especially micrometeorology, aurora, and geomagnetism. John asked me to be a consultant for the design of this new station from the perspective of one who had wintered in Antarctica. So I was sent to ATCO (Alberta Trailer Company) in Calgary to discuss the design of the new station. I am not sure if I contributed much, but I did persuade them to make all the bunks extra-length - and I heard later that my shorter winter-over colleagues would have preferred to have more closet space instead! I still had not committed to wintering at this new station, and my diary does not reflect any specific decision date, but after a couple of months of working on equipment for the station and design of the station, I came to realize that I would like to see how this station would really work, and agreed to return to Antarctica as the first Station Scientific Leader of Polar Plateau Station.

So the summer and fall of 1965 were filled with all the preparations for another year on the ice: equipment design, construction, and testing, physicals, seeing lots of friends to make up for lost time, training on equipment at NBS Boulder, the Skyland orientation meeting, another trip to

Calgary to see a test assembly of the station modules, and a lot of dating to compensate for another celibate year to come.

The plan was that the station would be constructed during the warmest part of the austral summer. Therefore the initial fly-in was scheduled for mid December. There were conferences and planning sessions at McMurdo, and more at South Pole where those of us on the initial flight were sent to acclimate for six days. On December 13, 1965 we took off for... for where? . .for a somewhat indeterminate point on the high plateau of East Antarctica. The intention was to find the high point along longitude 40 degrees east. Since the winds on the high plateau are largely katabatic or downhill-flowing, this point should be a point of minimum wind. The C-130 seemed to take forever to get off the runway at Pole, even with eight JATO. But finally we were airborne for three hours over the completely featureless plateau. The initial party consisted of Lt. Jim (Doc) Gowan, who was to be the first winter-over Navy leader, Charlie Roberts - a meteorologist who had extensive Antarctic experience, Ed - a radioman, Art Weber - the Navy architect who had designed the station, a photographer/reporter, and myself as Station Scientific Leader. There was a mail bag for Plateau on the plane, and Jim and I decided to have a look. The loadmaster saw us and started to chew us out: he said that he had to deliver this mail bag TO THE STATION. We explained that if there was any station, it was probably embodied in the two of us! (Included in the mail was a box of slides for me, which I had mailed for processing from Byrd Station the previous year, had been lost in the mail, and somehow made its way back to the Ice for the Plateau flight!)

At about 79 degrees south, the radar altimeter indicated that the elevation was beginning to decrease; so we flew a grid pattern to try to find the local high point in the area. There was very little elevation change, but we finally agreed that we had done the best we could to find the local elevation maximum. We descended to a few feet above the snow, then made a "feel" of the snow, dragging the skis - ready to add power and take off again, and finally settled down for a landing in the soft snow. The doors were opened, and there we were, at the site of Plateau Station - 79°15'S, 40°30'E! The first impression was the soft snow - it was unlike any snow that I had seen at Byrd or Plateau Stations - it was almost powdery. A second and surprising impression was the warmth: it was -15 degrees Fahrenheit, making it warmer than Pole when we had left. We had timed the landing to be at the warmest part of the day - about 1 pm local time. It was windless and sunny, and

shortly we were stripping off parkas as we unloaded the plane. Another first impression was the utter lack of features: the only disturbance of the snow surface or horizon in any direction were our tracks where the plane had landed. The Navy quickly planted the flag and had the photographer take pictures of the plane and the Lieutenant and a representative of the admiral. Meanwhile the radioman was trying to set up the portable radio and make contact with South Pole. Charlie Roberts had his thermometers and barometer out to measure temperature and attempt to estimate elevation. The elevation was later established as 3625m (11,894 feet) above sea level (from an article by Michael Kuhn).

The plane crew were attaching fresh JATO rockets to the side of the plane. The rest of us were unloading fragile equipment so that the rest of the cargo could be dumped out the back of the plane. It took about two trips from my pile of belongings to the plane to remind myself that we were at high altitude, and I needed to move more slowly. We quickly erected a couple of Scott tents to serve as emergency bivouacs in case anyone came down with severe altitude problems. Then we went to work on our 16 x 16' Jamesway which would be our first home. While we were working on the Jamesway, the plane was attempting to take off. With the soft snow and no wind, they had to keep taxiing back and forth until they had burned off enough fuel to lighten the load. Finally, after an hour they were able to get off in a roar of JATO, and we were left in our new home.

We had all been warned about the typical problems of high altitude acclimatization - frequently people are afflicted with nausea and headaches after a few hours. The doctor himself was the first to succumb and retired to a tent with an oxygen bottle. The rest of us continued to work on the Jamesway. At this point, we discovered that the stove pipe for our heater had been forgotten; so even if we DID finish the hut right away, we could not heat it. With this news, progress became less enthusiastic. And we realized that we were quite hungry: on Pole Station time, it was seven AM, and we had been up and working throughout the night (on our body time). A small gasoline stove was located along with some cans of soup and chicken. We had gotten the ribs of the Jamesway up, but not all the blankets over them: so the first meal at Plateau was served under the bare ribs of an incomplete Jamesway. Revived by food, we finished the Jamesway, and at least we were able to get out of the slight wind that had sprung up for a cold, but welcome, sleep.

Breakfast consisted of more chicken and soup. I had entirely recovered from headache and exhaustion, brought on, I think, as much from hard work and long hours as from altitude. Someone forgot to tell Charlie that we were at high altitude, as he never slowed his pace. Art, the architect, likewise bounced back quickly. Ed the radioman just couldn't seem to get warm: I think he was simply exhausted. The doctor and photographer stayed mostly in their tent - they were slow to recover. I think that if they had gotten out and moved around a bit they would have been happier, but I could not tell them that. The little generator quite objected to the altitude and was very slow in starting. It finally ran just long enough to make a contact with Pole Station, and Ed repeated "stove pipe" several times before the generator died for good. Later we heard that this transmission had been garbled and was interpreted as "please help please" - this must have really upset the receivers at Pole Station. At this point, Charlie decided what the Plateau really needed was a decent outhouse. He went to work with a few packing crates and nails and soon the Plateau had its second and welcome building.

Believing that our requirement for stovepipe had been understood, when we heard a plane come on the second day, we assumed that we would soon be warm and snug. But alas! There was a brand new shiny stove for us, but no stovepipe! Our radio problem had, however, been correctly diagnosed, and there were several new generators in case any of them reacted better to the altitude than our original one. Later in the day, another plane arrived with stove pipe (hurrah!), but also, amusingly enough, crates and crates of movies - enough so that there would be one for every night of the winter-over. But at that point, of course, we had no electricity, no building, no projector, and no inclination to watch movies.

With the camp straightened up and organized, the outhouse built, there was suddenly not much for me to do. It was the last time for a year that life would be so leisurely. I read some Christmas present books, and did a local survey by walking two or three miles away from the Jamesway, then made a quarter circle around it to see if it would stay exactly on the horizon, which it did - indicating that the area was very flat. I also dug a thirteen foot glaciology pit to look at the layers and take a snow temperature reading as an estimate of the annual temperature average. I thought that this pit was well out of the way, but a few days later, the camp tractor backed into the hole, which was thereafter known as "Flint's tractor trap". Our estimates for

temperature averages turned out to be correct within five degrees.

On Christmas Eve, the flag had been flying at Plateau for ten full days. We had been short of cots; so had shared beds in the Jamesway, taking turns sleeping. There was always someone stirring about, running into your cot, or coveting it. I decided to move out for Christmas Eve, and slept in a tent which was cold, but peaceful. Art, the architect, had volunteered to be our camp cook, and did an excellent job. Wanting to reward him, I played S.Claus and sneaked a stocking full of goodies over his bunk. "What the hell is this?!" were Art's first words on Christmas morning - but I could tell that he was pleased. We hung Christmas cards from the ceiling and Art did an excellent job of Christmas dinner, including an eggnog made with frozen eggs, frozen milk, and medicinal brandy. We agreed that we may have had more pleasant Christmases, but none so memorable.

On December 30, the Seabee crew who were to build the station arrived with their larger Jamesway. I saw in New Years 1966 repairing my motor toboggan - I worked on it all night and turned in at 7:30 am. The Seabees were forbidden to drink on New Years Eve, but Art ran a speakeasy for the rest of us in the Jamesway. I don't think that all the Seabees were deprived, however, as a bottle of brandy that I had hidden away disappeared during the night! The camp became a hive of activity as the station was laid out, and starting January 2, the vans arrived one after another. The station was quickly assembled and by the 16th of January, I was moving electronic equipment into our laboratory. I enjoyed my first shower in weeks, when the bathroom van was activated. The rest of the month was taken up with stringing antennas, digging pits for various detectors, installing equipment, and generally moving in. As soon as the buildings were complete, fuel flights started to fill the fuel bladders for the winter. In all it took about 45 flights to establish the station and about half of these were fuel flights.

The Queen Maud Land traverse arrived on January 29. In the days before GPS, they had a little trouble in locating the station, but were able to find us due to "looming" - they could see us even when we were nominally below the horizon. Needless to say, they were very happy to be in the relative "civilization" of Plateau Station, and we enjoyed the infusion of eleven visitors. They went right to work in disassembling the three Sno-Cats for shipment back to McMurdo. The last plane left on February 10.