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ANCHORS AWAY

"Just look at the data." Researchers sticking resolutely to that point have (a) developed insights and (b) stayed out of trouble.

Not that that's the only way. The 6 March 2015 *Science* cover story, "General relativity turns 100," celebrates Albert Einstein's eureka moment a century ago that underpins current physics. An Antarctic eureka moment was an early University of Maine model that collapses West Antarctic ice into Pine Island Bay, "weak underbelly" of the West Antarctic Ice Sheet. While weak underbelly became a selling point for more glaciology, only in the last few years have data become available to buttress the argument. Our January issue highlights the point, and new data comprise strong evidence that part of East Antarctica is losing ice mass by the same basic process.

"Just look at the data" also is the principle behind a story examining the sometimes-heard argument that Antarctic Treaty nations have garnered the ice continent to themselves. During my tenure at the National Science Foundation I dug up statistics to refute the assertion. Brought up to date, a summary of the idea is in pages that follow.

Statistics, though, don't tell why a nation got going in the Antarctic. A sidebar breathes life into some recent countries. For more awareness of the Ice's most international region, Steve Dibbern reviews a book-length history of Antarctic Peninsula explorations that our very own Secretary has written.

Whales have an outsize role in the Antarctic. An eye-witness account of a whale-on-whale encounter appears below, and a new study provides statistics on whaling throughout the 20th Century.

Art Ford is editor at large for stories about scientific advances. His ideas and searches are behind several articles you'll find below.

Guy Guthridge

Antarctic Treaty nations aren't all big and rich

by Guy Guthridge

Despite its success in peace, conservation, science, and international cooperation, the Antarctic Treaty has been called an exclusive club of big, rich, greedy nations. In 2014 Vaughan Winterbottom, University of Oxford, said scholars in China have referred to the Antarctic Treaty as a "collective hegemony." Anne-Marie Brady, University of Canterbury, wrote in 2012 that economic limitations "effectively exclude most of the developing world and many middle-income countries from developing Antarctic science programs."

The accusations seem harsh. During my four decades at the National Science Foundation, I watched a variety of nations accede to the treaty. Many became consultative parties, which means they achieved a legal footing equal to that of the dozen original 1959 signatories. They did this by meeting the Antarctic Treaty requirement of "conducting substantial scientific research activity there, such as the establishment of a scientific station or the despatch of a scientific expedition."

Today, beyond those first dozen signatories, 52 countries are members, of which 29 (including the original 12) are consultative.

Using the *World Factbook*, which the CIA updates annually with statistics about nations, I assembled information about how Antarctic Treaty parties compare to the other nations. The exercise showed that big nations and small ones, rich ones and poor ones, are in the treaty. Spread-sheets containing statistics about the individual countries can be provided; email me at the address shown on the cover page.

According to the *Factbook* the world has 239 nations. The 52 Antarctic Treaty members are just 22 percent of that total.

They did it their way

Coming in to the cold. Malaysia, then an outsider, argued in the 1980s that the treaty had three fatal flaws: it was exclusive (not all nations were members), it was total (it covered all activities in Antarctica), and it was unaccountable (it was not subject to review by another body). Scientists, representatives of treaty parties, and representatives of nations not in the treaty (including one from Malaysia) met for a week in, of all places, a Jamesway camp in the Transantarctic Mountains in 1985 to sort through the issues. Even today a 1986 National Academy Press book recording the 1985 workshop's proceedings (*Antarctic Treaty System—An Assessment*) is a worthy read. In 2011, Malaysia acceded to the Antarctic Treaty. In 2016, Malaysia will host the Scientific Committee on Antarctic Research (SCAR) Open Science Conference, which is held every 2 years.

Science again driving a political decision? The Islamic Republic of Iran (not yet a treaty member nation) now is represented by the National Center for Antarctic Research, Tehran, in SCAR, which is international but nongovernmental. Iranian scientists envision a year-round Antarctic station, and accession to the Antarctic Treaty is being studied.

Little nation, big job. Bulgaria, fifth smallest of the consultative nations in population and next to smallest in GDP, will host the XXXVIII Antarctic Treaty Consultative Meeting 1-10 June 2015 in Sofia. Bulgaria established its Antarctic program in 1993 and achieved treaty consultative status in 1998.

Not all big and rich nations are treaty parties. Indonesia, Nigeria, Bangladesh, Mexico, and the Philippines exceed 100 million people apiece. The GDPs of Indonesia and Mexico are greater than a trillion dollars each; the economies of Iran, Saudi Arabia, and Taiwan are nearly that big.

But they represent 65 percent of the world's human population and 70 percent of its economic activity. The original 12 treaty nations back in 1959 held only 14 percent of the world's population (going by today's figures). The inclusiveness achieved in the treaty's first half-century is impressive.

Two-thirds of the world

To round off to an easy fraction, the treaty represents two-thirds of the planet's people and two-thirds of its economy.

But what about the big rich greedy nations claim? The average population of all the world's 239 countries is just over 30 million. The consultative parties range in population from Uruguay, with 3,332,972 people, to China, with 1,355,692,576. Twelve of the 29 Antarctic Treaty consultative parties contain fewer people than the world average.

Gross domestic products tell a similar story. Ten of the 29 consultatives have a smaller gross domestic product than the international average of $383-billion (purchasing power parity).

The treaty's richest consultative party *per capita* GDP is Norway (the third-least-populated consultative nation) at $55,400. India is at the other end of the list with $4,000 per person per year. Both support substantial research and year-round stations in the Antarctic. Nine treaty consultative nations have a per capita GDP less than the world average of $17,511.

The *World Factbook* doesn't have a greed category. Maybe the accomplishments of the Antarctic Treaty itself answer that accusation, along with the annual process that operates on consultation and consensus.

Few excluded; 42 nations could join

How many nations are shut out of the treaty because of their small population or GDP? A way to answer might be to assume that the smallest Antarctic Treaty consultative nation, which happens to be Uruguay in terms of both population and economy, represents the threshold size needed to achieve consultative status.

Of the world's 239 nations, 105 have populations less than that of Uruguay. These nations contain 1 percent of the world's population. Three of them (Mongolia, Estonia, Monaco) have acceded to the treaty: that is, they agree to abide by it, but they do not have consultative status.

And 131 of the 239, totaling 2 percent of the world economy, have smaller GDPs than Uruguay. Four of those nations (North Korea, Estonia, Papua New Guinea, and Monaco) have acceded to the Antarctic Treaty. (Any State that is a Member of the United Nations can accede to the Treaty.)

In conclusion, something like 70 million (1 percent) of the world's more than 7 billion people live in the hundred or so nations that – based solely on national population and GDP figures – are unlikely to attain consultative representation. These figures, I suggest, are far smaller than some might infer from the charge that "most of the developing world and many middle-income countries" are excluded from developing Antarctic science programs and becoming eligible for consultative status in the Antarctic Treaty.

Forty-two of the nations that are not Antarctic Treaty consultative parties have both populations and GDPs that are larger than Uruguay's. If these 42 nations were to achieve consultative status, 91 percent of the world's population and 83 percent of its economy would be represented in Antarctic Treaty consultative deliberations.

The Storied Ice: Exploration, Discovery, and Adventure in Antarctica's Peninsula Region

book review by J. Stephen Dibbern

Joan Boothe's Preface says it all; she began work on this book (Regent Press, Berkeley, 2011, 373 p.) because of her interest in the area as a tourist and the lack of historical perspective offered to acquaintances on similar Antarctic cruises. Those who have experienced Antarctic Peninsula cruises may have had a similar reaction to the concentration of on board history lectures on a few well know subjects, particularly the near religious devotion to Shackleton. Some cruise lecturers are terrific, but some are abysmal. I had one tell me on South Georgia that "nothing happened here in the Falklands War."

Ms. Boothe has set out to remedy the situation with this wonderfully researched book laying out for the reader a comprehensive history of the exploration of the Antarctic Peninsula. I emphasize research because I found that her reference list itself is worth the cost of the book. She also includes several interesting appendixes in the form of a time line, list of firsts and a glossary. The accompanying maps are clear and very nicely done and her illustrations are well chosen and extensively captioned.

The really impressive thing to me, however, was the text. I must admit that I was wary of a rehash of Antarctic history. Even the most hardened Antarctic aficionado will enjoy this freshly written book. Joan Boothe has a writing style that is very readable and includes a nice balance of historical facts and figures along with a tantalizing number of anecdotes… did you know, for example, that unofficial ownership of Deception Island was decided over a game of darts?

Few visitors will know that some of the most famous expeditions of the 18th and 19th centuries such as those of Cook, Bellingshausen, Wilkes and Ross, though made famous in other areas did work in the Peninsula, South Georgia and the Scotia Arc. Amundsen cut his "Antarctic teeth" here and many early geographic and scientific expeditions took place here in the Heroic Age doing their important work in the shadow of the "Pole Seekers." It was also the area of commercial exploitation with the fur seal and whaling fleets. Finally it was the center of the first permanent occupation of the continent and the political controversies that followed. All of this is nicely recounted in this important book.

This is a very nice addition to any Antarctican's library and a "must read" for anyone going to the Antarctic Peninsula. We have had wonderful books about the flora and fauna of the region as well as a number of beautiful coffee table books. Now we have a beautifully written and scholarly researched book to fill in the history of this most visited but "under-history'd" region of our continent.

The book can be ordered on-line from Amazon.com, Barnesandnoble.com, powells.com, Longitudebooks.com, regentpress.com and direct from the author at Joannboothe@Joannboothe.com. The cost is $34.95 for hardcover, $24.95 for soft cover and $14.95 for e-book.

Port Lockroy: 18,000 visitors

by Liesl Schernthanner

No two seasons in Antarctica are the same. At least that's my story, and this last season at Port Lockroy (64°49'S 63°29'W), Goudier Island, Palmer Archipelago, was yet another new experience.

Port Lockroy, known also as "Penguin Post Office" thanks to a recent BBC/PBS documentary, is a Treaty-registered historic site: Base A, the first permanent British base on the Peninsula, was established in 1944; its research included the first ionospheric measurements and the first recording of an atmospheric whistler in Antarctica. Today, little science is done there, but it is one of most visited sites in Antarctica.

A marketable distance from Ushuaia, Argentina, it is near the beautiful Neumayer and Lemaire channels and in a protected bay surrounded by mountain peaks and calving glaciers. The island, the size of a football field, is home to 600 pairs of breeding gentoo penguins, a museum, post office, small gift shop, and at least four human inhabitants who look after the site during the austral summer. My job was to greet visitors, look after shop finances, espouse history, count penguins, and maintain buildings. It is a lovely place to visit and an even better place to be employed. Over 2,000 individuals applied to work there next season.

Coming from a background of operations and science support in the U.S. Antarctic Program, and progressing to one of maintenance and conservation with the U.K. Antarctic Heritage Trust (ukaht.org), I now was on the receiving end of intense tourism. While excursions to the southern continent are an expensive way to learn about the area's natural environment, history, and wilderness, tourism is growing, particularly along the Antarctic Peninsula. This summer we greeted over 18,000 guests – an average 160 a day. The number accounts for only about half the visitors to the continent. Because tour companies (members of the International Association of Antarctica Tour Operators) have an interest in the longevity of the industry, they manage landings well. The impact appears minimal as indicated by studies on breeding success in trafficked vs. non-visited penguin colonies. Visitors show themselves to be interested in preserving scenery and environment and to be ambassadors for the continent.

Now the season has changed again. Tourists have gone home, penguins chicks have fledged, we've closed Port Lockroy for the season, and winter is on its way. It will be nice to see what next season brings.

Sidenote on *The Storied Ice*: Joan Boothe's book (reviewed in this issue) is the definitive Antarctic Peninsula history. It is a "must have" for lecturers and a satiating pleasure for anyone wanting to know more about places visited or heard about. At Port Lockroy, we sold out midseason.

A killer whale feeding frenzy

by Christopher J. Wilson

While in Antarctica last season as Naturalist on the Holland America Line cruise ship *Zaandam*, I saw unusual seabird activity on the afternoon of 9 February. Killer whales (*Orca orca*) were feeding on something large and attracting hundreds of the birds. The ship was en route from Paradise Harbour across Gerlache Strait toward Neumayer Channel.

I had taken a break from my shipboard commentary (which I give from the bridge), but knew this was something special. I ran back to the bridge and asked Captain PJ van Maurik if there was any chance of turning the ship around: to see these whales feeding would be a 'chance in a lifetime.' The captain, immediately interested, issued commands. He repeatedly asked me, 'Are they still there?' as he brought the 65,000 tonne ship around and headed toward the action.

Staff positioned the ship to avoid interfering. In excess of 1,000 birds were around the kill: large numbers of southern giant petrels, southern black-backed gulls, and south polar skuas along with hundreds of Wilson's storm petrels. An initial five killer whales increased in number to 12 by the time the ship moved on some 30 minutes later. At least one small killer whale calf was present.

The birds and whales paid no attention to our presence, and I observed no animosity among them. On occasion the larger animals could be seen rolling, rearing up, and flapping tails. They often dove over

the carcass, which came to the surface frequently.

The killer whales appeared to be a larger type 'B' species known to feed on minke and humpback whales, but believed not previously recorded in this part of the Antarctic. Professor Robert L. Pitman of NOAA's National Marine Fisheries Service (La Jolla, California), who studies killer whales in the Antarctic, examined photographs and stated, "it looks to me like they have the lower jaws of a humpback whale there at the surface and they are feeding on the tongue and peeling off the lip. . . . We do not have any confirmed records of humpback kills in Antarctic waters, so we are very interested in following up on this."

The episode became a talking point of the cruise – an amazing wildlife event and a potentially useful observation in the continuing study of whale activity in Antarctic waters.

On http://wildside.ie/ see "Tasting Antarctica and South America . . . ," 16 Feb 15. For photographs, click "Gallery" at the bottom.

20th Century whaling: emptying the oceans

Any whale in any ocean: that's what whalers were capable of taking for much of the 20th Century. Less known, perhaps, is that 1.2-million of the 2.9-million large whales harvested from 1900 to 1999 were taken in Antarctic and subantarctic waters.

Markets for whale oil of course were mostly in the north, but by 1909 whaling south of the equator had surpassed that in the north. That's where the whales were.

A summary in NOAA's *Marine Fisheries Review* (volume 74, no. 4, 2014), the authors state, is the first accounting of the total global catch by industrial whaling operations in the 20th century.

This account and others – based on Committee for Whaling Statistics and other sources – demonstrate that, once factory ships had the capability, they took big whales first, then more or less worked their way down. In the Antarctic, the peak year for harvesting blue whales was 1932-1933, when 18,624 were caught. Antarctic fin whaling had its peak in the 1937-1938 season, when 26,457 were taken; and so on: humpbacks, 4,460 in 1936-1937, sei whales 19,874 in 1964-1965, minke whales 8,900 in 1976-1977, sperm whales 11,834 in 1974-1975.

The three authors of the *Marine Fisheries* report state that, remarkably, no complete accounting has been made of the total number of whales taken by industrial whaling in the world's oceans in the 20th century. A 2008 attempt by others assessed totals for the Southern Hemisphere, including revised catch totals for the USSR to take into account illegal whaling after World War II. New information is added continually to the International Whaling Commission database.

By the time the IWC voted in 1982 for a moratorium on whaling beginning in 1985, many populations had been reduced to fractions of their pristine abundance. Southern Ocean blue whales today are estimated to be at less than 1% of their pre-whaling numbers. Some populations of whales appear to have been extirpated, or nearly so. Whaling management in the 20th century was an interminable debate about the status of stocks until all doubt was removed. And so were most of the whales.

The 20th Century total of close to 3-million animals, states the *Marine Fisheries Review* article, makes it, at least in terms of biomass, perhaps the largest hunt in human history.

For a century whale oil made fortunes and eased folks' lives by illuminating lamps and providing soap and margarine. Today's ethic is captured, maybe, by a recent incident aboard a cruise

ship operating along the western coast of the Antarctic Peninsula. A humpback whale blew so close that a woman on an open deck felt the spray. "Whale snot," she said. "I've been anointed by whale snot. I'll never wash."

The Crossing of Antarctica: Original Photographs from the Epic Journey That Fulfilled Shackleton's Dream

reviewed by Paul Dalrymple

Don't confuse this book by George Lowe and Huw Lewis-Jones (Thames & Hudson Ltd., London, 2014) with one having the same main title published by Sir Vivian Fuchs and Sir Edmund Hillary in 1958. This new one is by and about New Zealand's own George Lowe (1924-2013), the photographer and cinematographer who documented the 1957-1958 Commonwealth Trans-Antarctic Expedition and who also was an explorer, mountaineer, and school teacher. It's unique, as even though most of it is by George Lowe, it was assembled and put together by his close friend Huw Lewis-Jones. Lewis-Jones in turn invited 14 other polar specialists to write supporting chapters. I'm one of the invited writers, as I was a friend of George. Other guest authors are Felicity Ashton, Ken Blaiklock, Jon Bowermaster, Sebastian Copeland, Klaus Dodds, Sir Ranulph Fiennes, Arved Fuchs, Peter Fuchs, Sir Wally Herbert. Borge Ousland, Jonathan Shackleton, Geoff Somers, and Eirik Sonnerland.

Two of the authors – Borge Ousland and Eirik Sonnenland – are Norwegian, and one – Arved Fuchs – is German. Felicity Ashton is the only woman to have skied alone across Antarctica, 1,744 km (1,084 miles) in 59 days in 2012. Amazing to me, her chapter never once references her being female – so unlike an American Antarctic female skier we all know!

The only Antarctic veteran who accompanied the expedition was Ken Blaiklock, who had wintered eight times in Antarctica, and insofar as I know is still going to the ice in the austral summer as a surveyor. Remarkable man.

Another one of George Lowe's comrades on the 1957-1958 expedition was Ralph Lenton, who could do almost everything. I am happy to say that following their expedition, he married a Canadian school teacher. Who was the best man at their wedding? ME! And where is Ralph now? At the U.S. station at the South Pole. Per his request, he asked that his ashes be taken there. One of his sons, working on the ice for the contractor, fulfilled Ralph's request.

My association with George began in late January 1958 when the Commonwealth Trans-Antarctic Expedition (TAE) laid over at the South Pole station for five days on its crossing of Antarctica. On the evening of the 23rd of January, George Lowe and I played three hours of contract bridge vs. two members of the TAE, Ken Blaiklock and Ralph Lenton. George and I lost two rubbers of bridge that night. Pure folly!

Later in life, after we both had retired, George and his wife number two came by my home on coastal Maine for an overnight visit. I had pulled out a recording that I had made of all members of the TAE when they were at the South Pole. Unannounced to George, shortly after their arrival I played the recording that I had made of George. He had completely forgotten about it, was thrilled to hear it, and asked me to copy the whole tape and to send it to the Scott Polar Research Institute Library in Cambridge, England. It was duly done.

When the TAE pulled out of the South Pole en route to McMurdo they were wearing an admixture of British and U.S. clothing. We Americans had excellent,

well-insulated fur-backed polar mittens. Bunny Fuchs was not happy to see his men accepting them. My journal showed that I left a whole case of Hershey chocolate bars in Hal Lister's Sno-cat!

One of the TAE's dogs was not a sledge dog, but a gift from the London Zoo to the expedition. Name: Beauty. In the transfer of the TAE dogs at the Pole onto a plane bound for McMurdo, Beauty escaped. During the winter, Beauty befriended me. At the end of the year, I sent a message to Fuchs asking him if I could have the dog. The answer came back that we could have her. So she was mine, but the pilot taking me out refused to take Beauty as he had his own dog on the aircraft. So Beauty wintered another year!

This book consists of 239 pages, and it has 154 illustrations, 60 of which are in color. George Lowe's writings occupy 35 pages of the book; his is the biggest contribution. The book has over a hundred full-page pictures. In a way, it resembles a coffee table book. If your forte is reading, there is plenty of interesting exploration material. If you like to just see pictures, particularly of Sno-cats and Weasels in crevasses, you will be in Heaven. Scenery, nyet. Women, forget them, they just aren't there. You probably should buy this book, as overall it is a winner.

Frazil helps sea ice stay thick

by Anthony J. Gow

Frazil ice is a mix of water and ice that forms in bitterly cold water – supercooled water. On a cold March or April morning, you might see hundreds of tons of it slushing down Yosemite Creek in California (NPS has a video about this).

In the Antarctic, frazil ice in large amounts was observed for the first time in 1980. American researchers examined the internal structure of ice floes in the eastern Weddell Sea. Frazil was prevalent, averaging 72% of the thickness of 13 multiyear floes and 37% of 49 first-year floes.

The frazil ice may have started out as tiny crystals that floated up to the underside of existing sea ice and frozen in place. Later observations by American and German researchers pointed to *rafting* of frazil-rich pancake ice created initially by wind- and wave-induced turbulence in leads and polynyas – open areas in the pack. Rafting, the overriding of one or more sheets of pancake ice, is now regarded as a major contributor to frazil ice production in the Weddell Sea. Frazil is estimated to constitute at least 50% of the ice production in the Weddell Sea embayment. This widespread occurrence has resulted in exceptional thickness, with up to 5 meters growth in less than 2 years. Large amounts of frazil ice also are encountered in the Ross Sea and in the Indian Ocean sector of the Southern Ocean. Frazil formation in these seas is primarily due to turbulence in the near-surface water column.

In striking contrast, frazil ice in the land-fast ice embayment of McMurdo Sound was found to constitute less than 3% of the thickness. It was limited generally to the upper layers of a congelation type ice that is formed by direct freezing of sea water, which on average is more than 90% of the thickness of ice in McMurdo Sound. The near absence of frazil ice probably can be attributed to the bay-fast nature of the sea ice and to the rarity of leads and polynyas.

Substantial thicknesses of frazil ice have been observed accreted to the undersides of ice *shelves* – that is, fresh water ice that originated on land. Drilling revealed in excess of 300m of frazil ice frozen to the bottom of the Filchner-Ronne ice shelf in west Antarctica and at least 150m of frazil ice frozen to the bottom of the Amery ice shelf in east Antarctica. Nucleation of frazil crystals must have

occurred at considerable depths in the water column beneath both ice shelves.

A new study by New Zealand researchers adds another complexity. Plumes of supercooled water beneath the ice shelves, called Ice Shelf Water, can stimulate the growth of both ice shelves and sea ice. The existence of a plume depends directly on the size and concentration of the frazil ice crystals within it. The scientists modified an existing one-dimensional plume model to focus on the interface of sea ice and ocean water. Oceanographic stations in McMurdo Sound provided the data. They concluded that the Ice Shelf Water plume contributes a tenth of a meter of growth to McMurdo Sound sea ice each year—accounting for about 5% of the total average thickness. The model predicts that the plume increases thermodynamic growth of sea ice by approximately 0.1 m yr^{-1} (~5% of the average growth rate) even as far as 100 km beyond the ice shelf edge.

An East Antarctic ice shelf joins the mass-loss crowd

Totten Glacier, which drains a substantial portion of the part of East Antarctica that's south of Australia, has joined the half dozen West Antarctic outlet glaciers mentioned in recent newsletters whose ice shelves are losing mass at an accelerating rate.

A 16 March 2015 paper in *Nature Geoscience* by eleven authors from eight institutions in four nations finds that Totten Glacier, which is the primary outlet of the Aurora Subglacial Basin, has the largest thinning rate in East Antarctica. Warmer ocean currents – the same modified Circumpolar Deep Water that has been linked in reports over the last 2 years to glacier retreat in West Antarctica – are a suspected cause.

New sea floor bathymetry from gravity and magnetic flights, as well as ice-thickness measurements, provide the new data that led to identification of entrances to the ice-shelf cavity that could allow intrusions of warm water. Radar sounding revealed a previously unknown inland trough that connects the main ice-shelf cavity to the ocean.

The researchers argue that if thinning trends continue, a larger water body over the trough could enable more warm water to get in the cavity, leading to eventual destabilization of a low region between Totten Glacier and a similar deep glacier that flows into Reynolds Trough. They figure at least 3.5 m of eustatic sea level potential drains through Totten Glacier, so "coastal processes in this area could have global consequences."

Richard Alley, Penn State, says the paper may solve a long-standing puzzle. Around 5.3 million years ago, Pliocene sea levels were as much as 40 meters higher than today's. This new research hints at a possible source. "The sea-level indicators from the Pliocene have suggested that an important amount of ice came out of East Antarctica into the ocean," he told the *Washington Post*. "Sedimentary records offshore pointed in the same way, and recent modeling…shows the strong potential for this to have happened. This new paper adds to the evidence — the pieces are fitting together."

James Barry Burnham, 1934-2015

by Paul Dalrymple

I was not only lucky to spend my second Antarctic winter at the South Pole, but to be with a great bunch of young scientists.

One of the youngest was the ionospheric physicist, Jim Burnham, who not only wintered over at the South Pole in 1958, but who came back for a second year, 1961. He also spent a summer with his buddy Mario Giovinetto at Camp Michigan on Roosevelt Island. I loved old Jim, as he was a real character in the truest sense, but he was destined for hard times; a son got run over as a child and had to have a leg amputated.

One of the good things about Jim's life was meeting his second wife, Joan, at a sky diving event – no doubt the best thing that ever happened to him. But at the same time, he discovered he had Parkinson's. He fought this tooth and nail, and after thirty-five years he succumbed last month.

He was told when he had only a month to live, and he invited his whole family to come to his bedside in Tampa. According to Joan, that visit of a week or more was one of extreme pleasure for Jim.

Several months before Jim passed away, he willed all of his slides from the Antarctic to the Antarctican Society, where they now rest in the capable hands of Chips Lagerbom to be preserved for posterity. Several years ago, confined to a wheel chair, he had Joan bring him to Port Clyde where an Antarctic Gathering was going on. There he met with past buddies from the South Pole (Red Jacket Art Jorgensen, Charlie Greene, Johnny Dawson, and myself). And I think Jules Madey, K2KGJ, might have been there, too. Kirby Hanson, our chief meteorologist that year, had just passed away, another victim of Parkinson's. Polies are usually a close group, but we lost track of Jim until many years afterwards.

Charlie Greene was flying from Hartford to Washington, D.C. As people were claiming their seats, Jim looked at Charlie and said, "Do I know you?" And that is how we all got back together again. I had the pleasure and honor of visiting with the Burnhams several times in Tolland, Connecticut, and they were here in Maine another time.

Joan is a sweetheart, a true blessing for old Jim. She was a raving beauty of a redhead when they got married. She is not quite so red of hair nowadays, but she is still beautiful. Jim was lucky to have had her. She was lucky to have had Jimbo, too. God bless them both.

Membership-Treasury report

Notices for members owing dues for the CY 2015 were sent out in early March. To date we have responses from 71 per cent of our membership, which means that we are awaiting returns from 99 of you folks. Make us happy: when you send in your dues, make payments for multiple years.

Treasury-wise, including our checking account here in Maine, the Society holds $65,616.22. Our aim is to operate so that we will always be solvent. We operated on a shoestring until the late 1970s, when Ruth Siple took over as our treasurer. Then we had less than $2K, but during her nearly 25 years as treasurer we built our bank accounts up by over $50K.

Our Society consists essentially of scientists and support people who went to the Ice as early as the beginning days of Deep Freeze and the U.S. Antarctic Research Program. Even today we have 24 members who wintered in the Antarctic during the IGY. Another dozen went to the Ice on summer programs in the late 1950s. And another half dozen widows have continued their husbands' memberships, so our base goes back to our foundation in 1960. Our longest membership goes back to 1960 when Ken Moulton joined up. I don't know who our oldest member is. It might be me, as I am 91 and hopefully still adding years. The youngest IGYer has to be Eagle Scout Dick Chappell. The mostest at the South Pole could well be our vice president, who spent 13 summers at the South Pole.