



The Antarctic Society

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PRESIDENT

Dr. Anthony J. Gow
117 Poverty Lane
Lebanon, NH 03766
petprotector@comcast.net

VICE PRESIDENT

Liesl Schernthanner
P.O. Box 3307
Ketchum, ID 83340
schernli@hotmail.com

TREASURER

Dr. Paul C. Dalrymple
Box 325
Port Clyde, ME 04855
207-372-6523
pcdal@roadrunner.com

SECRETARY

Joan Boothe
2435 Divisadero Drive
San Francisco, CA 94115
HooDooskr@aol.com

WEBMASTER

Thomas Henderson
35 Cherry Street #701
Burlington, VT 05401
webmaster@antarctican.org

ARCHIVIST

Charles Lagerbom
16 Peacedale Drive
Northport, ME 04849
clagerbom@gmail.com

DIRECTORS

Dale Andersen; John Behrendt; J. Stephen Dibbern; Valmar Kuroi; Louis Lanzerotti; Mark Leinmiller; Jerry Marty; Ronald Thoreson; Leslie Urasky

NEWSLETTER EDITOR

Guy Guthridge
612 South Saint Asaph St.
Alexandria, VA 22314
703-258-4320
gguthrid@yahoo.com

MEMBERSHIP

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Post Office Box 325, Port Clyde, Maine 04855

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THE SOCIALLY DISTANCED ANTARCTICAN SOCIETY

The global calamity of covid-19 has forced unwanted change on just about every facet of our lives and interactions. As Society members, even with the absence of face-to-face gatherings, we still have ways to share information and new ideas.

Some of our readers prefer mailed paper copies of the newsletter, and much can be said about paper instead of a screen. My favorite is to sit at the kitchen table with newspaper or magazine, pen in hand, underlining passages, flipping pages. But I increasingly like using a computer screen or the iPad, especially now.

Most members subscribe to the newsletter electronically, and the trend is in that direction. All have access to the rich web site, <https://www.antarctican.org>, thanks to contributions from members and nonmembers and to webmaster Tom Henderson.

I love ambling around our web site. Click on "Pack Ice," for example, then "Farewell Tribute to R/V *Polar Duke*." It's a hilarious reminiscence about the "infamous 1990 Texas outlaw-Viking raid" on Palmer Station.

Read about everyday life at McMurdo half a century ago, or look at videos of old sledging journeys. There's a mail bag, memoirs and diaries, personal stories.

An underused part of our site is the "Members List" (click on "Members" after signing in). A few of us have taken advantage of the "Biography" feature to write something about ourselves so that other members – and only other members – can learn more about the rich heritage represented by our group. It's easy. Tom provides a guide on the site explaining how. You'll be on a treasure hunt, though, to find a name with a bio attached. Try Kenneth W. Behannon for a good one, or even your Editor if it doesn't put you to sleep. I hope you will add yours!

Another way to participate virtually is to contribute an article (around 500 words) for publication in this newsletter. You've seen a number of such over the years. I think they are the best part.

Fellow Antarctic Society members, we can make a difference. Read and use the CDC Guidelines, <https://www.cdc.gov>. Help to prevent spread of covid-19.

Guy Guthridge

Gathering in 2020 in Maine is cancelled

The Antarctican Society gathering announced in the January issue for 18-19 July 2020 in Port Clyde, Maine, to commemorate the passing of Gracie Machemer and other Society members is cancelled.

Some sixty members had decided to attend. Paul Dalrymple received more than forty cards and letters of sympathy.

Paul has had a setback. Following a stroke, he has moved to Knox Center, a long-term care facility in Rockland, Maine. He may be able to welcome phone calls from friends at Knox Center, 207-301-6800.

The coronavirus pandemic is the immediate cause for us to cancel the gathering. We regret the situation as do so many others. Cancel travel and hotel reservations for Port Clyde that you may have arranged.

The Society's next gathering, announced in former issues of the newsletter and on the web site, will take place at Mystic Seaport Museum in Connecticut 4-6 June 2021. The much anticipated *Discovering Antarctica 1820-2020* exhibition will be on display there during that time, or at least we hope it will. Updates will be provided in future newsletters.

To sign up for the 2021 Mystic gathering, if you have not done so, consult the Antarctican Society web site or contact webmaster Tom Henderson (see page 1).

Covid-19 situation at Antarctica's U.S. stations

The *Washington Post* reported on 24 March that Antarctica had not yet confirmed a case of the novel coronavirus. Nevertheless, the chief medical officer of the Australian Antarctic Division cautioned that, "No continent is immune, including Antarctica."

Australia and Germany, writes the *Post*, have respirators at stations, but British and U.S. stations had not yet stated such when the article was published. Many if not most stations were in winter isolation then, but McMurdo still was getting flights because the operating season was extended for a multiyear station reconstruction program there, AIMS.

On 31 March, the National Science Foundation posted a notice describing changes in its Arctic and Antarctic programs in response to covid-19:

https://www.nsf.gov/news/news_summ.jsp?cntn_id=300302&org=OPP

Restrictions worldwide, it states, challenge supply chains "upon which we rely." An immediate goal is to prevent introduction of covid-19, because medical capabilities are limited.

On 31 March, all three U.S. Antarctic year-round stations were "operating safely. No indications of the virus have been detected and no new personnel have been admitted since February."

- McMurdo is staffed and provisioned for winter. Medical supplies and protective equipment are being supplemented as needed.
- Palmer summer staff were to remain until the winter crew can be deployed without risk. The station is provisioned. Science events and tourist visits have been cancelled for the rest of the winter. Medical supplies and personal protective equipment are being supplemented as needed.
- South Pole Station is in winter status and provisioned for the winter. No flights are planned for the next several months.

For the 2020-2021 summer, the U.S. Antarctic Program is evaluating planned and proposed activities. "From discussions with our international Antarctic partners through COMNAP, we expect significant disruptions to travel routes. We also expect impacts to our U.S. support partners, such as the Air National

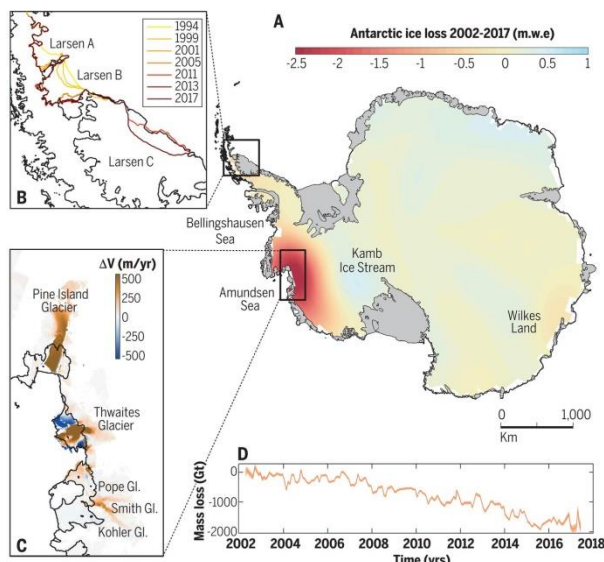
Guard, that are playing a critical role in covid-19 response activities.”

NSF says a goal is to have, by the end of May, a more complete picture of expected impacts on the end of the Arctic field season and the upcoming Antarctic season.

Science Magazine special section

The 20 March 2020 *Science* has an iceberg on the cover and three five-page articles (longer than usual for *Science*) that describe “the formation of the Antarctic Ice Sheet and the geological processes controlling its existence; the ice sheet’s evolution, as affected by its interaction with the surrounding ocean; and how the continent’s ice is expected to change in our warming future.”

A fourth article, by a staff writer, notes that 900,000 king penguins “vanished without a trace” since 2017 from the Subantarctic Ile aux Cochons, south of Africa. The disappearance so far is unexplained despite efforts by French scientists to figure it out.

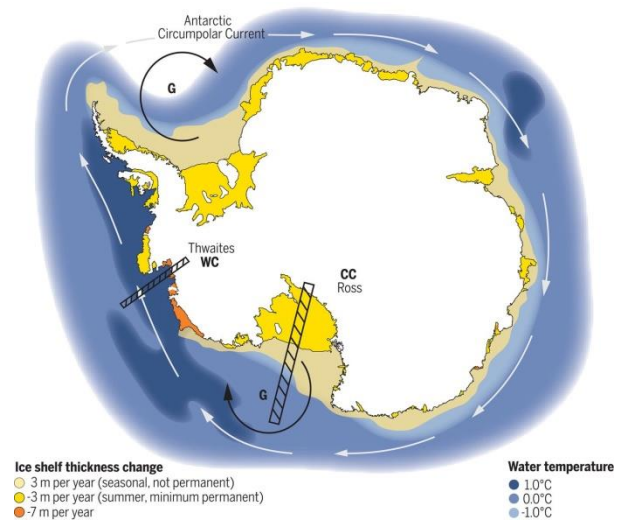


Ice loss has accelerated in the 21st Century, and most of it is centered in West Antarctica.

Copyright 2020 Robin Bell, Helene Seroussi, AAAS.

Robin Bell of Columbia University and Helene Seroussi of the Jet Propulsion Laboratory are the authors of the paper on the history, mass loss, structure, and dynamic

behavior of the ice sheet. Regions are losing mass, flowing faster, and retreating where exposed to warm ocean. “The Antarctic contribution to sea level rise has reached ~8 millimeters since 1992,” they write. “Our knowledge of the continent has shifted from the notion of a stagnant piece of ice to a constantly evolving continent interacting with the ocean around, the atmosphere above, and the solid Earth under it and affected by human activities.” But a lot remains unknown. With regard to global impact, “changing ocean volume from Antarctic mass loss remains one of the largest contributors to communities’ unknown future.”



The black rectangle WC (warm current) indicates ocean melting of Thwaites Ice Shelf. The CC cold current transect has little impact on the Ross Ice Shelf. G = gyre. Copyright 2020 David Holland, AAAS.

Dave Holland and Keith Nicholls of NYU and Aurora Basinski of the British Antarctic Survey have the story on how the Southern Ocean is melting ice shelves from the underside: a major effect in some places, but not in others. It happens, they write, “either indirectly by its influence on air temperature and winds, or directly, mostly through its effects on ice shelves.” Those winds shove warm water to the south, and the authors see “a century-scale trend in positive wind values that is likely being forced by anthropogenic forces.” The Thwaites Ice Shelf in particular

is melting and retreating faster than it otherwise would.

Belgian Frank Pattyn and University of California at Irvine's Mathieu Morlighem discuss the uncertain future of the Antarctic Ice Sheet. The pace of mass loss is accelerating, they write, "and ice loss will likely continue over the coming decades and centuries. Some regions of the ice sheet may reach a tipping point, potentially leading to rates of sea level rise at least an order of magnitude larger than those observed now." They observe that high-resolution data, high-resolution modeling, and longer time series are enabling increasingly robust projections of future behavior, with its "profound impact on global sea level rise."

Science labels all three papers as "review," meaning they focus on rounding up the latest published research rather than presenting new material. The papers contain excellent illustrations as well as a comprehensive and authoritative look at the topics covered. They are worth a read if you have access to *Science*, which, like most scientific journals, is pricey.

Pirate radio in Antarctica

by Alfred J. Oxton

I never got to work at a radio station when I was 15, but I did put in a year spinning old vinyl on the military's American Forces Radio and Television System (AFRTS) FM station at McMurdo. Mine was the Sunday afternoon classical slot. During the hours of not much commentary but lots of music I had little opportunity to listen to otherwise, I sat there with a laptop cataloguing the collection. Such a task had never been done. The treasure consisted of 30-40 feet of shelved LPs, hundreds of records.

At the same time that was going on, part of the rest of my tasking in Information Systems was to assemble, build, test, and prove the T-1 satellite link to Bellingham

Washington, which would eventually carry the live feeds to replace local programming in McMurdo. The cataloguing was a labor of love, especially knowing that the record library would probably end up in the tip once the live feed came on line. Worse was realizing that I was working at one task, which I found fun and challenging, to assure the demise of the other, which I found fulfilling and purposeful.

My introduction to the radio station came about during an earlier winter at McMurdo through the machinations of an Old Hippy gone NSF Winter Representative who was annoyed at the narrowly selective news AFRTS offered and at the lack of sports feeds. Their news came in via HF RTTY, and their canned programming was from a tape library that had to last the entire winter.

The Old Hippy knew I had access to the HF equipment at the remote receiver site on Black Island and he knew of my own hippie radical background. All I needed was the challenge and the direction, and of course the surreptitious support of the NSF Winter Representative.

Unbeknownst even to the Navy radio people in charge of the FM broadcast station, a second/standby/alternate transmitter was in the rack right next to the primary, at the FM station studio. The carriers of both were on the air all the time, a few kiloHertz apart on the dial, the primary with programming, the other silent: dead air we were about to enliven.

At the satellite receiver site on Black Island, where I did some of my maintenance on the INMARSAT telephone link, were several programmable Icom HF receivers. One was spare. Black Island was 70 miles around the edge of the ice shelf via snow-tractor and required a team of four people in two vehicles to make the usual three to five day regular maintenance run. When everything behaved out there, you wouldn't necessarily have to go out for months. Some outages required immediate response. While we waited for something to happen out there,

we readied the equipment and feed on the McMurdo end.

I was also working for the "telephone company" that winter, so it was an easy matter to patch together a twisted pair from the FM transmitter site through the telco office and over to the Black Island microwave link where a spare phone channel was available. A dry contact relay closure control channel also was available. I can remember grinning with childlike glee and rubbing my hands together as much from the cold in the shack as from the anticipation of the surprise to the community when this pirate radio station came on line.

In my luggage coming in for that winter I'd carried along a TRS-80, Radio Shack's second (I think) generation "laptop" computer. It had a pulse dial modem. It didn't take much BASIC to write a short program that would look at the internal real-time clock and *IF* time was such *THEN DIAL* a single digit. The dialer relay went to the microwave control channel, through the ether to Black Island, made a contact close on the switchboard there, and that looped back to blink me a light. Fine. Now we needed to get out to Black Island and set up that end.

Fortuitously, a maintenance run to Black Island became needed. I'll spare you the details of organizing that excursion: a search and rescue person, diesel and oil burner mechanics, an electronics technician (me), a week's worth of food and survival gear, spare parts and test equipment, drums of fuel, a Nodwell, and a Thiokol.

Once we were out there and doing our several tasks, I was able to spend a few days listening to the shortwave to build a schedule of frequencies for the programming we desired. BBC, VOA, Radio Moscow, AFRTS, as well as WWV for a marker so we could tell where in the memory we were. I got inside the radio and finagled a connection between the memory step button and an accessory plug. That went on to the dry contact closure of the microwave. When the button back at McMurdo was pressed, the radio would step

to the next memory. Next was the audio feed. Line Out to an equalizer to the phone line. BBC came out of the monitor at the telco office back in town. Bingo!

Back at McMurdo a week later, I programmed the TRS-80. Within hours, all around town live basketball and baseball games via AFRTS were leaking from portable radios at various work centers. As word spread and the TRS-80 automatically changed the programming—news from Radio Moscow followed by the rest of the story from BBC (this was before the fall of the Berlin Wall)—there was a great rattling of sabers, but the live sports programming calmed everyone and the show went on. All winter long, nobody ever found the "pirate" FM station right under their noses.

Couldn't you just look the other way?

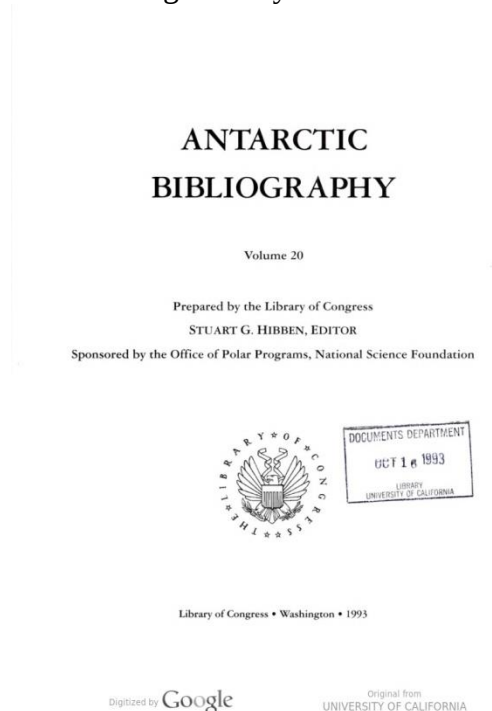
Al Oxtan's reminiscence in the January issue about getting the *Antarctic Bibliography* to work at Palmer Station recalls a meeting, decades ago, to which your editor was summoned at the Library of Congress.

The National Science Foundation and the U.S. Army funded the Library's Cold Regions Bibliography Project, which produced the *Antarctic Bibliography* for NSF and the *Bibliography on Cold Regions Science and Technology* for the Army. I managed NSF's part of the project.

The Library, in addition to bibliographic information, also made microfiche files of the complete texts of the cold regions literature it cited. The Army and NSF had bought the Library an enormous "step-and-repeat" microfiche camera for that purpose.

In the days before the Internet, this was a big deal: copies of the microfiche went to filing cabinets at the three Antarctic stations as well as to NSF, then in Washington, D.C., and to the Army's Cold Regions Research and Engineering Laboratory (CRREL) in Hanover, New Hampshire. So, scientists on the Ice had immediate access to the world Antarctic

literature, something they didn't get even at their home universities. We were proud of ourselves for extending the effectiveness of far-flung Antarctic science by placing the latest findings readily at hand.



Not so long ago, reference works weren't online; they were printed in hardbound books.

In the mid-1990s, decades into this practice, a freshly appointed Register of Copyrights – being an official of the very same Library of Congress – got wind of our project about the time the American Geophysical Union and other publishers sued Texaco for infringing the copyright law's fair-use provision: Texaco was photocopying articles from AGU and other journals and sending them to employees. Texaco lost.

At that Library of Congress meeting, I sat beside Stuart Hibben, director of the Cold Regions Bibliography Project. We were surrounded by the Register of Copyrights and her lawyers, and we were on the defensive.

She was not swayed by my argument that the usage, being noncommercial, was permissible under the law's fair-use provision. As the lawyers circled and the dilemma deepened, Mr. Hibben rose to the occasion,

and he became my hero. "The Library is so huge," he stated with innocence written all over his face, "and our project is so small, couldn't you just look the other way?" The room settled into an uncomfortable silence.

"We'll get back to you on that," stated the Register of Copyrights as she adjourned the meeting.

She never got back. The Library of Congress, which had begun the project in 1961, continued to produce the cold regions bibliographies, complete with microfiche copies of the cited texts, until 1999, when it lost the contract to the American Geological Institute (now American Geosciences Institute). By then the burgeoning World Wide Web and online access to journal texts had made the microfiche unnecessary. In 2011, the Army and NSF stopped funding the cold regions bibliography project altogether.

The legacy remains. You can search all the world's Antarctic literature published between 1951 and 2011 online at a site AGI – bless its pure heart – continues to maintain: <https://www.coldregions.org/vufind/>. It's free. Your editor uses it to this day.

And somewhere in the libraries of NSF (now in Alexandria, Va.) and CRREL are gray cabinets containing the outlaw microfiche.

Dive watch: unforeseen link between a Seiko and a 1979 research project

by Justin Couture
couture.justin.m@gmail.com

As a Midwestern man born and raised in the Sunflower State, virtually all my knowledge of the white continent came from the occasional online article or the 1982 John Carpenter film *The Thing*. I had zero awareness of the scientific endeavors that had taken place on the ice for the past sixty years. Despite my polar naiveté, on 19 June 2019 I purchased a vintage wristwatch that sent me headfirst into the intersection between horology and Antarctic research.

Having collected watches for years, I can tell you that a highly active and knowledgeable community of horology enthusiasts exists across the globe. Each collector is unique, but the fascination with watch provenance is shared. Whether a watch has been to the Moon, the bottom of the sea, or across Antarctic glaciers, this history imbues the watch with undeniable intrigue. It harkens to a time when watches were used as tools to accomplish a specific objective.

On a routine Wednesday at work I came across a vintage Seiko dive watch on eBay with unusual text printed across the dial. The text read “MSST 1979-80.” I googled variations of the wording online and came across a reference to the McMurdo Sound Sediment & Tectonic Study, abbreviated as “MSSTS.” This study took place from 1978 to 1980, and the watch was produced in 1979. The pieces seemed to fit (albeit loosely), so I clicked the “buy-it-now” option and never looked back.



While awaiting the arrival of this enigmatic timepiece, I dug into the potential Antarctic connection. I found the study report for the MSSTS program on the University of Wellington Victoria website. The document conveniently listed the personnel involved in the project. I was then able to locate university email addresses for members of the 1979 team. Within a week, I had heard from Alex Pyne and Dr. Peter Barrett, who functioned as core grabber and lead geologist on MSST. Both of these gentlemen remain active in the

Antarctic community; they indicated that these watches were given to key members of the MSSTS program by the late Japanese geochemist and head of the Japan Polar Research Association, Dr. Tetsuya Torii.

The McMurdo Sound Sediment & Tectonic study was a venture of New Zealand, Japan, and the United States doing deep drilling to obtain core samples that would allow scientists to learn more about Antarctic glacial history. Although Dr. Torii passed away in 2008, my research put me in communication with many titans of Antarctic research. Dr. Peter Barrett, Dr. Peter Webb, and the family of Dr. Barrie McKelvey were more than willing to share stories and information that further validated the significance of this watch and, more importantly, the science that has been and continues to be conducted in Antarctica. Dr. Torii once stated that Antarctica “is the only continent where all people work together and investigate important scientific items for the benefit of future humans.” This watch, a gift from Torii, is a tangible expression of that notion.

Review of *Symphony Antarctica*

by Tom Henderson



Composer Valmar Kurol, a long-time Antarctic Society member, and his musical

collaborator and arranger Michael Stibor have released the third album of Valmar's Antarctica trilogy, *Symphony Antarctica*. Valmar's first album, *Antarctic Arrival*, was released in 1999 and might be described as New Age in genre. The second album, *Ross Sea Suites and Other Antarctic Tone Poems*, released in 2016, is more cinematic. *Symphony Antarctica*, as the name states, is a symphonic treatment of what has inspired all of the albums: the majestic Antarctica.

This latest album is in three movements. The first, The Seasons, is a musical interpretation of the four seasons as experienced in Antarctica. Summer is energetic, reflecting the compressed active season for both nature and man. Fall is mellow, a slowing of the pace in anticipation of the coldest season. Winter opens ominously and continues the appropriate somber mood of the long, dark period. The tempo rises in Spring as both animals and people prepare for the furious activity of Summer as it approaches again.

The second movement is Telescopes to the Stars. It is inspired by the huge astronomic telescope in operation at Amundsen-Scott South Pole Station. This instrument is located at one of the most atmospherically clear locations on the earth, and it has contributed immensely to the knowledge of the universe in just a few years. Seeking Galaxies reflects these scientific discoveries. Beginning of Time is inspired by Stephen Hawking's work, starting with the Big Bang and the vast dispersion of stardust. Cosmic Strings simulates a starship ride through the cosmos on uplifting strings. By contrast, Quiet Nights is a gentle contemplation of the eternal night of space. Finally, the wonder of the unlimited universe is the theme of The Unfolding Universe.

The final movement, Icescapes and Landscapes, focuses on two lakes. Lake Vostok is a contemplation of the secrets hidden in Antarctica's largest subglacial lake 2.5 miles below the surface in East Antarctica. Listeners are treated to mysterious, melodic,

and sometimes fanciful passages. Erebus Lava Lake is the polar opposite – pun intended. Forceful and dynamic, it reflects the restless molten cauldron of Mount Erebus, the active volcano on Ross Island.

Symphony Antarctica is a beautifully rendered musical interpretation of our favorite continent. Those of us who have been there can sit back, close our eyes, and revisit, through the compositions, those magical places we have seen. For those who have not been there, relax and let your imagination trace the landscapes in the music. Either way, *Symphony Antarctica* is transporting.

For more information, or to listen to samples, go to www.symphonymantarctica.com.

Remembering Edward Bransfield

In November we heard from Jim Wilson in County Cork, Ireland, about a monument unveiling that would take place in January 2020. He thought Society members might be interested.



The new stone in Ireland, dedicated 25 January 2020

The unveiling on 25 January had some 400 people in attendance. Edward Bransfield, who charted the Antarctic mainland on 30 January 1820, now has a handsome stone, 80 inches in height, on Lower Road at the entrance to Ballinacurra village, a dozen miles east of the town of Cork.



Back side of the stone

Bransfield's work came at the beginning of Antarctica's age of discovery. "Within less than a year," writes Society member Joan N. Boothe in her book *The Storied Ice* (2011, Regent Press, 373 p.), "from the end of January 1820 to November of the same year, those aboard ships led by three men – Bellingshausen [Russia], Bransfield [U.K.], and Palmer [U.S.] – had almost certainly sighted the Antarctic continent."

That period likely will be part of the *Discovering Antarctica 1820-2020* exhibition that Mystic Seaport Foundation in Connecticut is developing. Originally scheduled to be ready for the public in November 2020, we can wish that it will be open by the time of our (now hoped for) Antarctic Gathering there on 4-6 June 2021.

The new Bransfield memorial in County Cork gives due tribute to the brig *Williams*, which Bransfield used for the 1820 charting expedition. Joan writes that, in addition to the three men above, "There is one other man to consider – William Smith, the British merchant captain who had discovered the South Shetlands in 1819."

Smith commanded the *Williams* delivering cargo from Buenos Aires to Valparaiso when he ran south to dodge heavy

weather. On 19 February he saw the South Shetlands. When he reached Valparaiso 3 weeks later, the British naval office was skeptical. Insulted, Smith headed south on purpose, on his cargo journey back. But ice was forming, and he did not see land. Westbound and passing Cape Horn a third time in less than a year, this dogged young captain, 28 years old, detoured south once again and on 16 October put a party ashore on what now is King George Island.

Back again in Valparaiso, the navy believed Smith this time, chartered the *Williams*, made Smith the pilot, and put Bransfield, Royal Navy, in charge as commander. It took almost a century, though, for Bransfield's historic achievement to receive full attention. William Speirs Bruce finally uncovered Bransfield's chart in 1917.

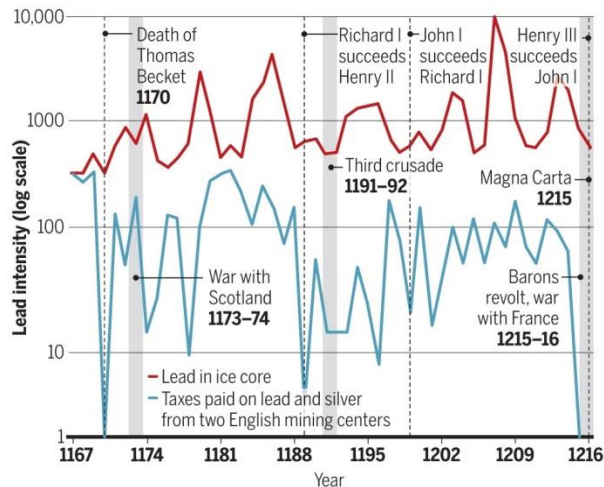
Now, another century having passed, Bransfield has a handsome commemorative stone. It's near the old harbor of Ballinacurra, where he would have sailed as a young man fishing with his father.

<http://rememberingedwardbransfield.ie>

English history written in ice

If you are an English history scholar, your go-to glaciologist is Antarctican Society member Paul Mayewski. Paul heads the Climate Change Institute at the University of Maine. Over the years, working usually with ice cores from the Arctic and Antarctica, he developed a variety of means to extract historic and prehistoric information about prior climates and atmospheric constituents.

A new study by Paul and others uses those skills and more to show lead pollution in ice from the Colle Gnifetti glacier in the Swiss Alps. "We have improved the sampling resolution in ice cores from the previous standard of 100 samples per meter to 10,000 samples per meter, meaning that even in old, compressed ice at depth, high-fidelity data are emerging that remained masked or smoothed out in lower-resolution records," says Paul.



Events influenced the amount of taxes paid on lead from English mines (blue). They also had broader effects, shaping lead pollution deposited 1,500 kilometers away in a Swiss glacier (red). Credit AAAS.

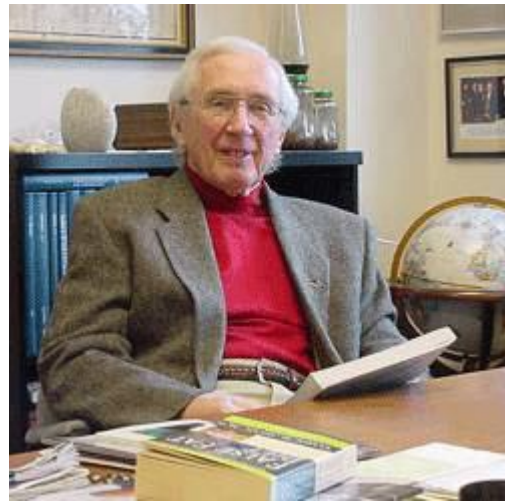
A dramatic finding is that atmospheric lead spiked to the highest levels before modernity between 1170 and 1219 C.E. Globally, atmospheric lead did not again reach that level until 1890 and, higher yet, in the 1970s with peak use of leaded gasoline.

The new study tracks historic wind data and concludes that the Colle Gnifetti lead came from mines in England. Historians pinpoint where: Castleton, 150 miles north of London. Ten years after King Henry II had ordered the killing of Thomas Becket, the archbishop of Canterbury, he made up with the pope and started bankrolling the building of abbeys. Lead was needed for roofs, cisterns, and gutters. Mining surged. There's more to the story, published 30 March 2020 in the journal *Antiquity*. See also a 2 April news release on the University of Maine site.

The glacier preserves a detailed record of medieval lead production. The newly developed method can track deposition over a few weeks or even days, states a news article by Ann Gibbons in the 3 April 2020 *Science*.

Castleton is in the Peak District, home of the U.K.'s first national park. Hikers dominate the place now, but 800 years ago farmers mined and smelted so much lead it left toxic trace in their bodies, and winds blew lead dust 1,500 miles away to the Swiss Alps.

Harold W. Borns Jr. dies



Dr. Harold W. Borns at the University of Maine

Harold (Hal) W. Borns Jr., long-time Society member and the founder of the Institute for Quaternary Studies (now the Climate Change Institute) at the University of Maine, died on 17 March 2020. He was professor emeritus of earth and climate sciences. Specializing in glacial geology, he spent 28 field seasons in Antarctica. His many publications resulting from that work range in date from 1969 to 2007.

Hal's B.S. in geology from Tufts (1951) was followed by M.A. (1955) and Ph.D. (1959) degrees in geology earned at Boston University. He was the first Maine scientist awarded a grant from the National Science Foundation (in 1960), and he held Maine Registered Geologist License #1.

Paul Mayewski, the current Climate Change Institute director, said, "I was fortunate to serve as a field assistant to Dr. Borns many years ago as I was starting my career."

Hal was expert in the glacial history of Maine. He produced the 1985 State Geological Survey map of Maine's Surficial Geology that synthesized previous work and remains the standard reference. In 2006, Hal and Michael Hermann produced Maine's *Ice Age Trail: Down East, Map and Guide*.

He did geological fieldwork on all continents except Australia.

The Climate Change Institute annually holds the Harold Borns Symposium, which features scientific presentations by present and former graduate students, faculty, and staff.

University of Maine President Joan Ferrini-Mundy said Hal was “an educator at heart, widely sharing his expertise for glacial and ice age geology with students of all ages, colleagues, and the community.”

Former CCI director George Jacobson noted, “His own great enthusiasm for science continued to the end, and even in the last few months of his life Hal mentioned plans for next summer’s fieldwork in gravel pits in Downeast Maine.”

Charles A. Bevilacqua, 1930-2019



Charlie at South Pole Station, 1 December 1956. Photo by Dick Prescott; courtesy usap.gov

Charles A. "CB" Bevilacqua, a treasured member of the Antarctic Society, died 25 November 2019. He was born in Woburn, Massachusetts, on 8 June 1930. When he finished high school in 1948 he joined the U.S. Navy Seabees. Serving in Korea, Vietnam, and elsewhere, he earned the rank of CWO4 (Chief Warrant Officer Grade 4). His Navy career spanned 30 years.

Charlie was part of the construction crew that in the mid-1950s built the original McMurdo and South Pole stations. At Pole, he was designated as Chief Builder.

Charles regaled attendees at some of the Society’s Gatherings in Port Clyde, Maine. A particularly memorable one in 2014

included his comments on the initial arrival and first weeks at the South Pole in 1956 to start erecting the structures that would house 18 men during its first (1957) winter, isolated more than 6 months from the rest of the world.

“You’re talking to one of the guys that painted the South Pole,” he told interviewer Dian O. Belanger on 3 August 1999 (the full interview is on the Ohio State University web site). Admiral Byrd and Admiral Dufek wanted a symbolic red and white candy-striped pole. “I came up with the idea of painting it orange and black, which were my Woburn, Massachusetts, high school colors. . . . We painted the pole in the garage, orange and black, and it took a long time to dry because it was oil-based paint.”

The question came up from officials, why was it orange and black and not red and white? “My answer was that was the only paint that wasn’t frozen. Well, lead paint and oil-based paint don’t freeze. But they were worried now about dog food and wrenches and hammers and panels, and the pole was an insignificant thing to worry about.” “I put a sign on it at the South Pole, ‘Woburn, Massachusetts, City Limits.’ I took pictures of it and sent them home to the local newspaper.”



Charles Bevilacqua, recent photo. Courtesy currentobituary.com

On his first deployment, in 1955, Charlie was with fellow Seabee Richard T. Williams, an early casualty when a tractor broke through the sea ice. Charlie headed the campaign that raised money for the memorial to Williams that stands at McMurdo today.

Charlie was a dedicated, focused, and gifted individual whose unending hours of punishing and innovative work in often grueling conditions helped to start the U.S. Antarctic Program on its trajectory of unexcelled polar science.

Bill Cassidy, 1928-2020



Dr. William A. Cassidy

William A. Cassidy, 92, died 25 March 2020. Bill, a professor of geology at the University of Pittsburgh for 30 years, in 1976 founded the Antarctic Search for Meteorites (ANSMET), a continuing program that has collected more than 25,000 meteorite specimens, an almost

incalculable influence on the study of meteorites.

Ralph Harvey, Case Western Reserve University, who with James Karner of the University of Utah heads ANSMET today, writes that, “when properly recovered and curated, these specimens serve as a uniquely representative sample of the extraterrestrial material accreting to our planet.”

Bill earned the B.S. in geology from the University of New Mexico in 1952 and his Ph.D. in geochemistry from Penn State in 1961. From 1995 to 1998, when he became emeritus professor at the University of Pittsburgh, he was an advisor to the Field Robotics Group at Carnegie Mellon University, which developed robotic collection methods for meteorites in Antarctica.

The Antarctic Bibliography lists 39 publications with Bill as author or co-author. Cambridge University Press published Bill's book, *Meteorites, Ice, and Antarctica, a Personal Account* (2003, 349 p.), giving the project's history and implications from study of the Antarctic meteorite collection.

Meteorites from Antarctica represent the greatest repository of meteorites on Earth.

Bill was vivid and warm. A memorable day came in 1982 when he was to be the featured speaker at a meeting of the Antarctic Society at the National Science Foundation.

Paul Dalrymple, then editor of this newsletter, reported the prelude to Bill's appearance:

“Dr. William Cassidy was enjoying the serenity of a peaceful afternoon working in his laboratory at the University of Pittsburgh on February 16th when the quietude was broken by a call from Ken Moulton of NSF checking with Bill's office to see what time he would be arriving in Washington to give the evening lecture. Imagine Ken's surprise to find that Bill was still at the University. Disdaining the airlines, Bill hopped into his Audi and sped through the countryside, driving madward towards the Washington Monument.

Four hours after departing his laboratory, 'Hopalong' pulled up in front of the National Science Foundation, having successfully outrun all cops along the 250 miles from Pittsburgh to Washington. He arranged his slides in a tray in the men's room."

Corrections

In "Women in Antarctica: 50 years of exploration," by Kelly K. Falkner, in the January 2020 issue, the photograph on page 2 is not of Kelly Falkner's classroom, but rather a generic picture from the internet. Also, member Bruce Dewald points out that Richard E. Byrd was awarded the Medal of Honor for his 1926 North Pole flight, not for Antarctic accomplishments.