



Searching the snows for space rocks

By Aaron Spitzer
The Antarctic Sun

With a glimmer of pride in his eye, researcher Ralph Harvey gently lifts the lid of a wooden box, revealing a fist-sized, fractured black stone. Harvey found the rock earlier this season in Antarctica, but it came from 200 million miles away.

The stone is a meteorite, which traveled to Earth from the vast asteroid belt between Mars and Jupiter. And Harvey, a geology professor at Case Western Reserve University in Cleveland, is a meteorite hunter.

Ever since he was a graduate student in 1987, Harvey has been coming south on what he calls an "Easter egg hunt" for space rocks. Now he's the head of the project dubbed ANSMET—the Antarctic Search for Meteorites.

According to Harvey, Antarctica is the best spot on Earth to search for meteorites. More than 16,000 extraplanetary stones have been found here, including half of the Mars rocks ever discovered on Earth.

It's not that more meteorites fall here than elsewhere. It's just that in Antarctica, they're easier to find.

On the Ice, there's no soil or vegetation to hide space rocks, no running water to wear them down, a plain white background to see them against, and few other stones to confuse them with. In many areas of Antarctica, any rock in sight is a meteorite.

Of course, most meteorites that fall here become buried in snow, carried along by glaciers and, after eons, discharged amid icebergs in the sea. But in certain places, especially where the polar

See "ANSMET"—Page 2



Break on through

The U.S. Coast Guard icebreaker Polar Star cuts through fast ice in McMurdo Sound. The ship began clearing a channel last week to allow resupply vessels to dock at McMurdo Station's ice pier—the southernmost port on Earth. Photo by Bob Zook.

Going with the flow

By Josh Landis
The Antarctic Sun

Standing on the bank of the biggest river in Antarctica, the other side looks little more than a running jump away. It's tempting to try to make the leap, but the water is too cold for a slip in the stream, and nearby rocks serve as convenient stepping-stones.

Doctoral student and researcher Mike Gooseff, however, is up to his boot-covered ankles in the icy Onyx River. He balances a long, shiny metallic instrument on the streambed and calls out numbers to fellow researcher Ethan Chatfield, who's perched by the water's edge recording the data in a notebook. The instrument, which looks like a golf club, measures the depth and velocity of the water at intervals across the stream. When all the numbers are crunched, the stream's volume and flow will be determined.

"Listen to that raging," exclaimed Gooseff upon hearing the river at its strongest, swiftest part. The sound of gurgling and rushing is strange for a place where water is most often locked in place by the cold.

Gooseff and Chatfield, along with hydrologist Jon Mason, are the Stream Team, and it's their job to monitor 18 gauges set up at numerous streams in the Dry Valleys.

See "Stream"—Page 5

"ANSMET"—from Page 1

plateau meets the Transantarctics, ice flows into mountain cul-de-sacs and, unable to advance further, evaporates or blows away.

In these areas of "blue ice," glaciers can be worn down by up to three inches a day. The meteorites are left behind and, over thousands of years, they start to pile up.

The researchers don't have an elaborate system for determining where these pileups might be. Though they use satellite images to identify areas of blue ice, "It's a rare blue-ice spot where the meteorites are actually concentrated," Harvey said. "You've just got to go out and look for them."

And that's what ANSMET has been doing, for the last 23 years. The program started in 1976, shortly after a group of Japanese scientists happened upon a remarkable concentration of meteorites near Antarctica's Yamato Mountains. Today, ANSMET is the best and cheapest source for scientists to acquire extraterrestrial material.

Hunting for meteorites in Antarctica is less romantic than it sounds. A group of Harvey's researchers, currently conducting a transect search in the Foggy Bottom region of the Beardmore Glacier, has spent the last several weeks driving snow machines at a snail's pace, back and forth in a parallel line, systematically sweeping the area.

Harvey likens the process to mowing a lawn, only with more overlap on each pass. Because of the comprehen-

siveness of the hunt, he said, "You end up with a really representative sample of what's coming down to Earth."

When a meteorite is spotted, it's assigned an identification number and its location is recorded by GPS. Then it is placed in a sterile bag and kept frozen until it can be shipped to the Johnson Space Center in Houston, where all of ANSMET's specimens are collected.

The Beardmore researchers have already found several hundred meteorites this season—most of them walnut-sized rocks called chondrites. According to Harvey, the stones are chemically comparable to the sun. They are leftovers from the time when the Earth and the other planets were formed.

Almost all meteorites found on Earth begin in the asteroid belt, where an enormous ring of dust and debris hangs in limbo, pulled in one direction by the Sun's gravity and in the other by Jupiter, the solar system's largest planet.

These opposing forces send the asteroids pin-balling into one another. Sometimes, one will ricochet out of the

belt, hurtling on a trajectory toward Earth.

But not all meteorites come from the asteroid belt. According to Harvey, about one in 2,000 comes from elsewhere. At least six rocks found in Antarctica have been determined to have arrived from Mars, including one which excited a frenzy of scientific curiosity three years ago when it appeared to bear evidence of Martian life.

According to Harvey, it's not surprising to find bits of other planets in the snows of Antarctica. "You've got this transfer of material between the planets going on at a fairly steady rate," he explained. "I'm sure there are bits of Earth flying around in space."

The week in weather

Palmer

H/ 46 F

L/ 29 F

Min Wind Chill: 3 F

Max Wind: 58 mph

South Pole

H/ -18 F

L/ -27 F

Min Wind Chill: -76 F

Max Wind: 41 mph

McMurdo

H/ 37 F

L/ 21 F

Min Wind Chill: -13 F

Max Wind: 22 mph

Contribute to McMurdo's Millennium Time Capsule!



Seeking small mementos, images, journal entries, etc., to commemorate the millennium and to be opened in 25 years. Bring to the McMurdo Historical Society meetings, Sundays at 6:30 p.m. in the Library, or contact Ed Anderson at andersed@mcmurdo.gov. Deadline is January 20.

THE ANTARCTIC CENTURY

The last hundred years in Antarctica have transformed our understanding of the continent and its interaction with the rest of the world.

While it's impossible to chronicle every achievement and accomplishment that occurred below 60 degrees south, the following are highlights from the last hundred years on the Ice.

Carsten Borchgrevink and nine men ring in the new century at Cape Adare after becoming the first to winter on the continent.

1900

Scott and a small party ascend Ferrar Glacier, becoming the first to travel on the polar plateau.

1903

1902
Robert Scott makes his first attempt at the South Pole, reaching 82 degrees south.

1904
Modern Antarctic whaling begins when first whaling station on South Georgia Island is established.

Letter to the editors

Don't dump on Navy

What is this, a pick-on-the-Navy newspaper? The Antarctic Sun in the December 12, 1999, article "Re-claiming the Ice" mentions the Navy in connection with a dump area on the Ross Ice Shelf. In the following week's issue, the article "Testing tainted waters" again mentions the Navy, this time in connection with pollutants in Winter Quarters Bay.

Neither of the comments are derogatory, but both portray the Navy in a less than complimentary way. It's as if fingers are being pointed at the Navy for doing something that was standard practice and would have been done by any agency at that time. Hey, after all the NSF was there, so why didn't they put a stop to the dumping and pollution?

If there had been environmental regulations in effect during the time when the Navy managed McMurdo for the NSF, you'd better believe the Navy would have followed the regulations to the letter of the law.

My point is that no single agency or country is responsible for the pollution of Antarctica. Until very recently every single participating country, and every private party that has had expeditions, bases or camps, has had a dump of some sort.

The Navy has played an important and long role in Antarctic history and culture. If the Navy is to be remembered, don't let it be for management techniques that are unpopular or politically incorrect for today but were the accepted norms for that period in time.

—Chief Radioman Billy-Ace Penguin Baker
U.S. Navy, Retired

The Antarctic Sun, part of the United

States Antarctic Program, is funded by the National Science Foundation. Opinions and conclusions expressed in the Sun are not necessarily those of the Foundation.

Use: Reproduction and distribution are encouraged with acknowledgment of source and author.

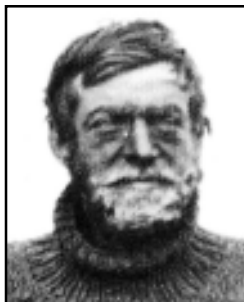
Publisher: Valerie Carroll, Antarctic Support Associates.

Editors: Jeff Inglis
Josh Landis
Aaron Spitzer

Contributions are welcome. Contact the Sun at sun_news@mcmurdo.gov. In McMurdo, visit our office in Building 155 or dial 2407.

Web address: <http://www.asa.org>

Antarctican of the century poll



Sir Ernest Shackleton
1874-1922

"It has to be Shackleton, of course. No one else has gone through close to what he experienced, without ever losing a man. He loved this place. It haunted him, and he came back again and again."

The above sentiments, submitted by Dale Lynn Gardner, were shared by many of the respondents to the Antarctic Sun's informal Antarctic Person-of-the-Century poll. In all, 17 of the 50 votes cast by press time were for Sir Ernest Shackleton, the indomitable Irishman who first came south with Robert Scott in 1902 and returned with death-defying expeditions

of his own three times after.

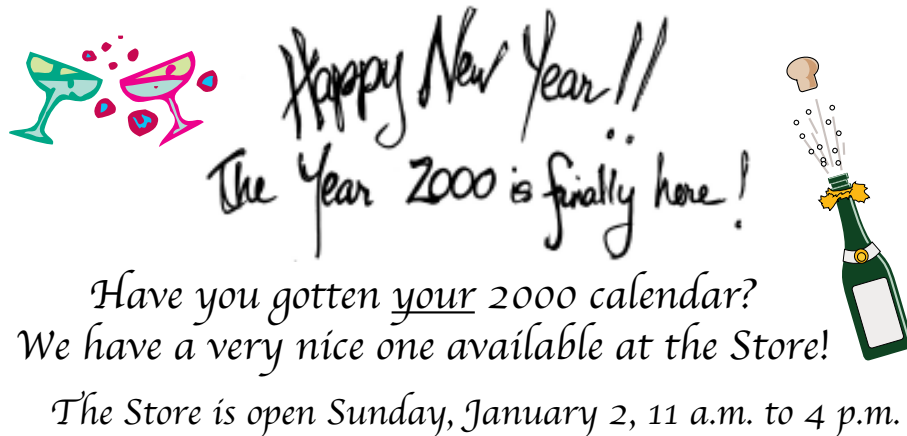
A far distant second in the polling, with four votes, was Roald Amundsen, the man who first achieved the Pole. No votes were cast for Robert Scott, who led the second and ultimately fatal expedition to 90 degrees south.

Third place was a tie, with three votes each going to Adm. Richard Byrd, America's premier Antarctic explorer, and the founders of the Antarctic Treaty, the pioneering international agreement which in 1959 dedicated the continent to peace and science.

Uncommon answers from the Heroic Age included Frank Hurley, who was Shackleton's photographer on the Endurance expedition; Jean-Baptiste Charcot, who explored much of the Antarctic Peninsula for France; and Sir Clements Markham, who headed the Royal Geographic Society and was patron of numerous Antarctic expeditions.

Recent Antarcticans receiving votes for person-of-the-century included Chuck Gallagher, Edward "Mickey" Finn, Jules Ueberuaga, Rob Robbins, Ted Dettmar and Ann DalVera.

Less specific suggestions included, "the person who brought beer to the Ice," "the person who discovered this hell-hole" and "the guys who took care of the dogs during the 1955 crossing."



*Happy New Year!!
The Year 2000 is finally here!*

*Have you gotten your 2000 calendar?
We have a very nice one available at the Store!*

The Store is open Sunday, January 2, 11 a.m. to 4 p.m.

**Edgeworth David and a party
from Ernest Shackleton's
Nimrod make the first ascent
of Mount Erebus.**

1908

**Shackleton and three
others sledge to within
97 nautical miles of the
South Pole.**

1909

**Edward Wilson, "Birdie"
Bowers and Apsley Cherry-
Garrard embark on "the worst
journey in the world."**

1911

1909
**David, Douglas
Mawson and Alistair
McKay reach the South
Magnetic Pole.**

1910
**Shocking British society,
Roald Amundsen announces
he will attempt to reach the
South Pole.**

1911
**On December 14, Amundsen,
four companions and 18 dogs
reach the Pole after 57 days.**

Station and vessel updates

South Pole Station

By Tracy Sheeley

As usual, our station on the polar plateau remains a hub of much activity. The Christmas spirit truly began with a visit from Santa (disguised as the ANG) with gifts of mail and freshies in the days preceding the weekend. Most of the station population enjoyed two days off. The festivities began on Friday with the annual gift exchange.

Christmas morning began with the South Pole tradition of the "Race Around the World." The race circles the ceremonial and geographic poles, so participants cross every time zone. Contestants raced in every imaginable way, from walking to snow-machining to sitting on a couch on the back of a pickup. After the race, a dignified ceremony was held in the galley and participants were awarded T-shirts.

A day of rest and relaxation followed, giving all a chance to whet their appetites for the Christmas feast, which was scrumptiously prepared by our dedicated galley staff and volunteers.

Construction on the dark sector laboratory will be completed within a week. Interior work will take place over the upcoming winter season. Work continues on the new power plant arch. One crew is working on the buildings underneath the arch as another adds the external rings.

All is on track with science. Two

of the six AMANDA holes are complete and have been deployed. The first one to be tested exceeds expectations. The holes are 6,900 feet deep. The third hole will be deployed on New Year's Eve.

The Pole has also been hosting some visitors. An Australian and a British skier arrived at Pole from the Weddell Sea in 47 days, achieving world-record time and distance records for their unsupported manhaul. Their plans to continue to McMurdo were thwarted by a fuel leakage which contaminated their food.

Also at the Pole are two film crews: one German and one from the States. The German crew is filming AMANDA neutrino research, and both crews will be documenting the Pole as we move into the year 2000.

One of the highlights of filming will be a live broadcast of the annual moving of the geographic South Pole marker, which will take place at 4:30 a.m. New Year's Day. Other activities planned for the celebration include a New Year's Eve party (surprise!), a pool tournament, and, of course, a good dinner. A variety of other expeditioners are expected to arrive on or near New Year's Day, including more skiers and snow buggies—more on this in our next update!

Happy New Year to all!

Palmer Station

By Bob Farrell

Palmer Station celebrated Christmas with a fabulous feast prepared by our two excellent chefs with help from many talented community members. Plans are now underway for many folks to ring in the New Year atop the glacier behind the station.

We have had the privilege of hosting sound artist Doug Quin for the past few weeks. Doug has been preparing several pieces for broadcast around the world including, NPR's "All Things Considered," New Zealand Radio, and shows on both German and Belgian radio.

His web site, www.antarctica2000.net, is an excellent overview of his experiences here at Palmer Station and includes many sound clips from his recordings. Doug is being assisted in the field by McMurdo veteran Steve Dunbar. Together they have recorded the local wildlife, the inner sounds of the glacier and the multitude of sounds beneath the surrounding waters.

Station science has remained busy with a few delays due to high winds. The area wildlife population is on the rise with chicks hatching in all of the local bird colonies.

All of us at Palmer Station would like to wish our friends in the rest of the USAP all the best for a happy and prosperous new millenium.



Check out the Sun websites of the week:

<http://www.asa.org>
Antarctic Support Associates

<http://www.rpsc.raytheon.com>
Raytheon Polar Services Company's plans for the U.S. Antarctic Program.

<http://www.nsf.gov>

The National Science Foundation's website, including detailed information on the activities of the Office of Polar Programs.

On January 18, Scott and four companions achieve the Pole. All die on the return trip.

1912

Shackleton, seeking to be first to cross Antarctica, abandons his ship after it's crushed in the ice of the Weddell Sea.

1915

Shackleton dies on board the Quest and is buried on South Georgia Island.

1922

1913
Mawson returns to his base after the deaths of his two companions on a trip though George V Land.

1916
Shackleton and two others reach South Georgia Island after a 15-day ordeal from Elephant Island.

1923
The beginning of large-scale factory ship whaling in the Ross Sea.

"Stream"—from Page 1

Their work is part of the National Science Foundation's Long Term Ecological Research Network. The goal of LTER is to chart ecological changes over long periods of time and across many different environments. Eventually, it is hoped, the information will provide a better picture of how the earth is changing.

At first glance, calling a contemporary research project "long term" in a place where rain hasn't fallen in as many as two million years may seem oxymoronic. But the Onyx and other Dry Valley streams are the faintest, most

finicky tendrils of enormous bodies of water flowing frozen out of the mountains. The slightest change in their behavior should, theoretically, magnify a less detectable shift in the Earth's overall environment.

It's an idea the NSF believes in. Since 1980, 21 LTER sites have been established from the Arctic to the Antarctic. Each one encompasses a unique ecosystem. The Dry Valleys, which joined the network in 1993, constitute polar desert oases. Work there is focused on microbial life, lakes, and streams. The LTER site near Palmer Station, on the other hand, looks at polar marine life, including krill and seabirds.

The Onyx River is a unique body of water situated in a rare valley on an incomparable continent. Its drainage pattern is the opposite of any surrounding areas. The river runs only during the



Ethan Chatfield records data as Mike Gooseff measures the depth and velocity of the Onyx River. The Stream Team is responsible for monitoring 18 sites in the Dry Valleys. Photo by Josh Landis.

warmest months. The rest of the year it is frozen solid. And it runs into the middle of Wright Valley, pooling at a place called Lake Vanda. The flow of the Onyx into the dead-end Vanda is countered by the constant winds that sweep the valley, evaporating the water and ablating the ice.

"It's been a good season," said Gooseff. "It's a little disappointing that we have four streams that haven't flowed (much), but other than that things are going well."

In addition to his Stream Team duties, Gooseff is exploring other aspects of the environment. He's concentrating on the saturated areas around the flow, called hyporeic zones. It's an area where a lot of chemistry and biology take place, but little is known about it.

"I want to know how the water that moves in and out of the stream is influ-

enced by the sediments," said Gooseff. "Coupled with that is nutrient dynamics, like what kind of transformations do you see?"

A transformation of a different kind that's being seen more and more is the increased presence of humans in the timeless terrain. Indeed, things change more slowly in the Dry Valleys than most anywhere on earth.

Ancient, mummified seal carcasses are still covered with skin and fur. Drainage patterns from ice that melted hundreds or thousands

of years ago furrow the ground. And footsteps in the loose, fluffy moraine mark the place where people have been—whether it was yesterday or decades ago.

The same fragility that makes the Dry Valleys an ideal place to chart global change also makes them extremely susceptible to those who tread there.

Like Gooseff, Chatfield is working on another project of his own. He's looking at the re-growth rate of algae in and around the streams, as part of the assessment of human impact in the area.

"If algae were destroyed by walking," he asks, "how long would it take to grow back?"

It's a question that so far has no definitive answer. It's also one that needs to be answered, for the number of people in the valleys—tourists and scientists alike—is on the rise.

Britain opens a marine biological station on South Georgia Island, the continent's first sustained scientific effort.

1925

Richard Byrd and a crew of three become the first to fly over the South Pole.

1929

The first woman, Caroline Mikkelsen, sets foot on the continent at Vestfold Hills.

1935

1928
Taking off from Deception Island, Hubert Wilkins makes the first flight in Antarctica.

1934
Byrd becomes the first person to winter in the continent's interior, alone at an encampment on the Ross Ice Shelf.

1937
In the first real attempt to regulate Antarctic whaling, nine nations sign the International Convention on Whaling.

Faces on



What is your New Year's resolution?



"To be nicer to my roommate."
Brandon Miller
Recreation



"Do more exercise, get fit and drink less."
Tom Robbins
London Sunday Times



"Just getting by is enough."
Madison Hall
Power plant



"Not to drink any more... or any less."
Ryan Luedtke
Air Terminal Operations

Ross Island Chronicles by Richard Perales

Okay everybody! It's almost time!



Oh no! My watch has stopped!



All right! Who stole the Chinese firecrackers?



Looks like everybody will make it to work tomorrow morning.



Nazi Germany drops swastika-engraved darts on Dronning Maud Land in an effort to claim the territory for the Third Reich.

1939

U.S. Navy commences Operation Highjump, bringing 4,700 men to Antarctica.

1947

Australia establishes Mawson base, the first large, permanent scientific station.

1954

George Dufek becomes the first person to stand at the South Pole since Scott's expedition.

1956

1940
Byrd establishes Little America III at the Bay of Whales.

1950
In the first truly international expedition, Sweden, Norway and Britain set up a joint base in Dronning Maud Land.

1956
McMurdo Station established; 93 men winter-over the first year.

Dufek's predictions

Compiled by Ed Anderson

In his 1959 book, *Through the Frozen Frontier, Operation Deep Freeze* commander Adm. George Dufek made some predictions about life and work in Antarctica in the year 2000:

- "The scientists are gathering again for another International Geophysical Year. For them there are no horizons."
- "The settlement will be well laid out." Buildings cannot burn because they are made from ore deposits from the Queen Victoria Range in Antarctica.
- Seasonal workers here will mine minerals. People will make three times their normal wage and not pay any income tax. Families with children will live in houses of their own. Children will enjoy ice skating, hockey and skiing.
- Large windows, made from a new material discovered here that cannot break, will allow perfect views of the Antarctic landscape. Hot air jets will keep them clean at all times.
- Nuclear energy will be used for power. It will be no longer necessary to transport fuel over long distances.
- They will have a land airfield and airplanes from all over the world will land here in any weather. The planes will fly 5,000 mph.
- There will be a guided missile range for carrying mail and light cargo. Ten percent of the missiles will miss.
- "These are my dreams for the year 2000. You will be the pioneers of tomorrow. You will discover whether my dream has come true."

Our Antarctic Week

Monday

Slide show, Madison Hall: "Traveling and paragliding in New Zealand and Australia," 8:30 p.m., Galley

Tuesday

Swing dance class for beginners, 6:30 p.m., Gym

Wednesday

Bingo, 8 p.m., Gallagher's

Thursday

January birthday bash, 8-9 p.m., Coffee House (bring ID for free drink)

Friday

Night Shift slide show, Tobias Schunck: "A Year on the Natty B," 8 a.m., Coffee House

Saturday

Helo ops party, 8 p.m., Helo hangar

Sunday

Golf tournament, 11:30 a.m. to 5 p.m., Williams Field. Sign up on the Recreation Board.

If you have an item for the weekly calendar, e-mail us at sun_news@mcmurdo.gov, call 2407, or drop by our office in Building 155.



100 years of solitude

Photographed on New Year's Day, 1900, these are the survivors of Carsten Borchgrevink's party. The group was the first to winter on the continent, at Cape Adare in Victoria Land. Their hut, built in 1899, still stands.

"New Year's Day was fine and bright, the first we have had for three weeks, and a fitting one for the beginning of a new year. I lay on the roof of the hut most of the day, basking in the genial rays of the sun."

—Louis Charles Bernacchi

Vivian Fuchs becomes the first to cross the continent, from the Weddell Sea to the Ross Sea.

1958

Nuclear power plant installed at McMurdo; shuts in 1972.

1962

Antarctic tourism begins with a luxury cruise to the Antarctic Peninsula.

1965

1957

International Geophysical Year begins. South Pole Station constructed.

1959

Twelve nations sign the Antarctic Treaty, dedicating the continent to peace and science.

1965

Last whaling station on South Georgia closes due to scarcity of whales.

1968

Construction begins at present location of Palmer Station.

The tail of the plane

By Josh Landis
The Antarctic Sun

Anyone familiar with air operations at McMurdo knows of Pegasus as the downed plane that gave its name to the blue ice runway near Ross Island. The plane is still there and it's had a lot of visitors since it crashed almost 30 years ago.

For all the attention it attracts, however, few know the story of how Pegasus got to where it is today.

On October 8, 1970, the plane departed from Christchurch, bound for McMurdo. The weather prediction had been favorable but by the time the C-121 Super Constellation arrived, visibility had deteriorated to zero. Blowing snow made the runway invisible. With nowhere else to go, the pilot was forced to attempt a landing.

The VXE-6 aircraft bounced off the ice runway, lost its right landing gear, its right wing, and its nose gear. It broke apart upon impact, sending pieces flying hundreds of yards.

Bobby Gene Russell, chief photographic officer of VXE-6, was on board and described the incident in Charles Neider's book, *The Edge of the World*.

"When we got into the McMurdo Sound area the weather turned bad very rapidly, and as we came in for a landing we had something like 35 knot cross winds that were 90 degrees to the runway, and that's out of limits for the Connie ... We knew it was going to be a rough landing. We heard the engines backfiring a bit and everybody was anticipating a touch down. But it never came. Instead, [the pilot] added power and pulled off."

"Finally, on the last pass we did touch down, and no sooner than we touched down than evidently the right wheel hit a snow bank and was sheared off, and then the right wing hit and broke off, and from the way it felt to me the tail of the aircraft slid around to the front, so to speak, and we were sliding down and off to the side of the runway tail first."

The ordeal wasn't over. It would take rescue crews an hour just to locate the plane in all the blinding snow as temperatures hovered just above zero, then several more hours to transport everyone back to McMurdo and attend to any injuries.

All 80 people on board the plane walked away from the crash, but the plane remains on the ice shelf, with no immediate plans to move it.



COLD HARD FACTS

Compiled by MSgt. Robert Lafaye

The U.S. Air Force is made up of active duty members, Air Force Reservists and the Air National Guard.

Within the Reserves, there are three types of employee:

Traditional Reservists with a civilian job and minimum military commitment of one weekend a month and two weeks per year

Technicians who are full-time federal employees with one weekend of duty per month and two weeks a year

Active Reserves with a full-time job in the Reserves paid at the Active Duty rate

The Air National Guard also has different types of employee:

Guard members working outside the United States, under the command of the Air Force

Guard members assigned permanently overseas, like those in Christchurch

Active Guard working full-time at home, under the command of the governor of their state

Technicians who are full-time state employees with one weekend of duty per month and two weeks a year

Traditional Guard members who have duty one weekend a month and two weeks a year

The rotation of members of the 109th Airlift Wing of the New York Air National Guard involves the entire unit. Some full-timers in Antarctica also train and support personnel back at home. They may travel back and forth two or three times a season.

First women at South Pole: Pam Young, Terry Tickhill, Lois Jones, Eileen McSaveney, Kay Lindsay and Jean Pearson.

1969

South Pole dome dedicated.

1975

Air New Zealand DC-10 crashes on Mount Erebus, killing 257.

1979

In the longest possible traverse of the continent, an international team crosses from the peninsula to Mirnyy.

1989

1972
Davis Lewis single-handedly sails a sloop to Antarctica.

1978
Emilio de Palma becomes the first person born in Antarctica, at an Argentine base.

1987
Greenpeace establishes a base at Cape Evans to monitor human impact on Antarctica.

Perspectives

A splash in the southern sea

By Toby Wood
Special to the Sun

So there I am, stark naked at the bottom of the Earth, looking out across the great ice plateau at the sun just barely setting upon the vast horizon, contemplating jumping into the polar sea.

It was time for the annual Polar Plunge over at Scott Base. An elite—and somewhat insane—group of individuals took the leap into the great Southern Ocean and, just for a moment, experienced the foraging ground of the seals, penguins and whales. Am I crazy? Maybe.

Back in the world I'd heard rumors of idiots jumping recreationally into water so cold that if it weren't for the salt concentration it would be frozen.

Some may do it for pure pleasure. Others, pure torture and stupidity. Me? Well, to this day I'm not sure of the significance of my actions.

I stand at the bus stop and wait for the bus to pick me up and take me a few miles to the other side of the bay, where the fun would begin.

On the trip over, we sit quietly in a deep trance, trying to psych ourselves up—a feeling once equaled by those high school bus rides before a football game. How do you prepare for the unknown?

The van pulls up and the driver cautions that only the plungers get off here. No spectators. This must be my stop.

I get out and look around. I feel like an astronaut on my own planet, as close to the moon as I may ever get. Only a few miles from my warm bed to what seems a lifetime away from sanity.

We are guided into a small wooden shack where a handful of people are changing into their birthday suits to endure the thrills and chills of being submerged in 28 F water. I did the same, still unsure of the consequences.

Here are the rules: You must wear shoes for the 50-yard trot through the ice to the hole—and the sprint back to the shed—so frostbite doesn't ruin your feet. (You have to work the next day!)

You shouldn't wear any clothes besides your shoes because upon ascent from the water they may freeze to you in the minus 10 F air. You must also be accompanied by a harness wrapped

around your waist, in case of a heart attack. (There is a rescue crew nearby drinking coffee in their warm truck.)

Once you are finished you reserve bragging rights to the Polar Plunge Club, but have to buy your own patch and hot cocoa.

Wrapped only in a blanket, I try to convince myself that this is a good idea. It is now my turn to take the plunge.

I'm running down a series of snow steps to a path, and then looking into a hole of sea water. The run there is not so bad, dry shoes, blanket flapping wildly, and the sun setting in the background. Life is good.

Then there I stand, hesitant but willing. I drop my blanket and the bitter cold of the Antarctic air brushes against my bare bum. I slip the already-frozen harness around my waist and someone takes my photograph. I jump.

Now up to this point I was quite macho and brave, like the Greatest American Hero who hasn't landed yet. Sure I can do this. I can handle this! Splash!

Basically when you jump into 28 F water your body goes into a state of shock. The flight-or-fight reaction kicks in instantly. Like a frightened little baby I splash around screaming for mommy, blinded by idiocy and frigid cold even though the water is 30 degrees warmer than the air.

My hands wave in the air until I can firmly grip the iced-over rails of the wooden ladder. At this point all machismo in me is lost to the sea. I stand up and without smiling for the camera or covering myself, I break world records sprinting back to the shed, icicles hanging from ... well ... anyway.



The Polar Plunge hole. Photo by Anthony Castagna.

In accordance with the Madrid Protocol, the last huskies leave Antarctica.

1994

Noway's Boerge Ousland becomes the first person to cross Antarctica alone and unaided.

1997

The Cape Roberts Project drills the deepest bedrock hole in Antarctica: 3,084 feet.

1999

1994
Southern Ocean Whale Sanctuary established to protect feeding grounds of whales.

1996
The annual mid-winter airdrop to McMurdo ceases for economic reasons.

1998
U.S. Naval Support Force Antarctica decommissioned. VXE-6 makes last flight.



PROFILE

Antarctica's renaissance man

By Steven C. White
Special to the Sun

Laurence McKinley "Larry" Gould played a large part in making Antarctica as we know it: a continent reserved for science and dedicated to the hard work of people from all nations. Second in command during Byrd's 1928 expedition, first director of the U.S. Antarctic Program and charter head of the Special Committee for Antarctic Research, he was a principal designer of the original Antarctic Treaty in 1959. His leadership began Antarctica's modern era.



Gould first came to Antarctica as the head geographer for Adm. Richard Byrd in 1928. He completed geographic surveys by air and dog sled. One sledge trip covered 1,525 miles along the Transantarctic Range and was the first accurate study of that terrain and geology.

His work on that original U.S. expedition generated a list of firsts that still defines how people live and work in Antarctica. He was the first to support deep field camps by air; he headed the first

scientific expedition; and his was the first voice to protect the continent from commercial exploitation.

The British made the first aerial surveys in Antarctica. Like Byrd, they flew from improved facilities like Williams Field, designed to launch and recover aircraft safely. Gould's survey of the Rockefeller Range in 1928 was the first use of airplanes at unimproved sites. His pioneer efforts established a tradition that keeps us working in places like Siple Dome and Upstream B.

However, not all his efforts could be considered successful. He suffered the same risks and difficulties we still contend with on every excursion into the field. Remember Skier 95 in the crevasse last season? Gould's Trimotor is still stuck in the snow near the Rockefeller Range.

But, Gould found important lessons in every occurrence. A plane destroyed on the ground led to important insights and a greater body of knowledge.

In 1981, Gould said, "Today, aircraft are measurably more flexible and efficient; oversnow vehicles really do work; and radio, which we introduced into Antarctica and which eliminated the isolation of that continent forever, provides superb communication." Aircraft and radios were not Gould's only modern-era firsts.

He led the first scientific expedition in Antarctica. Many whalers and explorers had traveled to Antarctica before, but no one had visited solely for science. Not only responsible for generating maps, he catalogued and categorized all the rocks he found.

After climbing the Liv Glacier to Mt. Fridtjof Nansen,

he radioed back to Little America: "No symphony I have ever heard, no work of art before which I have ever stood in awe ever gave me quite the thrill that I had when I reached out after that strenuous climb and picked up a piece of rock to find it sandstone. It was just the rock I had come all the way to the Antarctic to find."

It showed that metamorphic mechanisms played on early sedimentary deposits before ice descended over the continent. Forty years later, in 1969 with Grover Murray on the Beardmore Glacier, Gould found a vertebrate fossil in the same sandstone formation that matched fossils found in South Africa, indicating the two continents had been connected.

That one rock helped define plate tectonics, and revealed that "Terra Incognita" had the same origins as the other continents. His report to Washington was verified as "one of the truly great fossil finds of all time." Gould opened a body of knowledge within Antarctica on which others have built, and continue to build today.

After the war, Gould returned to the Ice as the first Director of the Antarctic Program during the International Geophysical Year of 1957-58. Following that effort, he was instrumental in creating the original Antarctic Treaty.

It was his voice that called out to protect the continent for those values we now share among all nations, to make this continent unique from all others.

In a speech he made in 1984, Gould looked back on that first international effort:

"The IGY was not governmental, but it was supported by governments. It was not military, but frequently supported by the military. It was not internationalized . . . for each nation ran its own program, but the whole provided international cooperation on an unprecedented scale. There was a magical quality about the IGY in the way it lowered international barriers and opened closed doors. There was a simplicity, a flexibility and freedom from political consideration hitherto unknown."



Gould neither sought nor received recognition for much of his work. Almost resistant to notoriety, he focused on his science, trying to further its role in our modern world.

Six different geographical features in Antarctica carry his name, including the Gould Coast, south of Siple Dome near the Queen Maud Mountains. The Office of Polar Programs, an agency he helped to create, also christened its newest research vessel for him, the R/V Laurence M. Gould.

Photos courtesy Carleton College library collection.