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# ANTARCTIC

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**Cover photo:** *Black-browed albatross parent feeding regurgitated meal to chick.*





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# Media Scholar Announced

**Naomi Arnold has been selected as Antarctica New Zealand's inaugural International Polar Year (IPY) Media Scholar.**

Naomi will spend six weeks over the Antarctic summer season at Scott Base covering a range of stories from the ice, including the science events of the last season of the IPY.

Antarctica New Zealand's Chief Executive, Lou Sanson, said, "Fifty years on from the International Geophysical Year of 1957-58, the IPY marks a significant leap forward in international cooperation in polar science. Communicating the science we support is critical to the success of the IPY and we are pleased to have someone of Naomi's calibre on the ice to cover this."

Naomi is a student of the University of Canterbury's Graduate Diploma in Journalism, with strong

interests in the areas of science, environment and technology. This will be Naomi's first experience of the ice. Naomi said, "I would never have expected an incredible opportunity like this so early in my career. I'm hoping to help New Zealanders become a little more familiar with Antarctica and the research that goes on there."

The IPY Media Scholarship is based on collaboration between Antarctica New Zealand and the University of Canterbury. Associate Professor Jim Tully, Head of University of Canterbury's School of Political Science and Communication, said, "This is a wonderful opportunity for one of our students to develop experience and expertise in reporting



*Naomi Arnold.*

a region of great importance to New Zealand. This significant collaboration is further evidence of the university's strong links with Antarctica and Christchurch's position as the gateway to Antarctica." ❧

# Antarctic Youth Ambassador Announced

**Libby Liggins of Auckland has been selected as this year's Antarctic Youth Ambassador.**

The award, developed by Antarctica New Zealand in partnership with the Sir Peter Blake Trust, aims to provide an opportunity for a young New Zealander to contribute to environmental work in Antarctica. Libby is the second recipient of this award which attracted a large number of high quality applicants.

"I was very impressed by the calibre of people who were applying for this award. Most of the applicants were already contributing a lot to the environment and it was inspiring to see so much passion in the new generation of New Zealanders," said Laura Fayerman, Environmental Programme Manager from the Sir Peter Blake

Trust, and a member of the award selection panel.

Libby has just completed a Master of Science in Conservation Biology. She has experience as a Research Assistant for Victoria University Coastal Ecology Laboratory and as a Research Assistant for the Latitudinal Gradient Project in the Ross Sea. Libby has won a number of awards and scholarships, including the Enderby Trust Expedition scholarship, the Royal Forest and Bird Protection Society Stocker Scholarship and the Robert G. Jaeger award for graduate research.

Libby will travel to Scott Base in January 2009 where she will be



*Libby Liggins.*

contributing to the environmental monitoring of the Crater Hill wind turbine site. ❧

# What You Don't Know You Know

Snap. Crackle. Well, actually, it was more like “snapcrackle”, and it was the sound of my film breaking in my camera. “Great”, I thought. Where was I going to find a darkroom on an Antarctic beach?

Having grown up in northern Canada, I knew that celluloid didn't particularly respond well to freezing temperatures. I made my way back to camp and crawled into my tent to have a think. As I took off my Extreme Cold Weather jacket, I suddenly realised that if you squint your eyes the right way and think really optimistic thoughts, the jacket looks a lot like a film changing bag.

Two minutes later, I had my camera inside my carefully folded and zipped up parka, with my arms stuck backwards up the parka sleeves. Fumbling carefully, I opened up the camera, retrieved the broken film, sealed it into a canister, and reloaded the film spool. It worked, my camera was ready for action again.

For researchers at Lincoln University, Gary Steel & Chiu-Pih Tan, this sort of story has become the focus of a PhD study about tacit knowledge. Tacit knowledge is information that you didn't know you knew until something, or someone, makes you think about it. This type of knowledge and the stories from people who have spent time in Antarctica is the focus of a research project that is seeking to talk to as many Antarcticans as it can. Why has it captured our attention?

Beyond theoretical concerns, the way one acquires such information and what one does with it afterwards have some very practical implications. If it is not being passed along, then it must be learned anew every season by the next chippie or sparkie or cook or domestic or science technician. In fact, by anyone who spends time in Antarctica.

This research will identify the processes by which someone learns how to get along with tentmates, how they manage going to the toilet when wearing umpteen layers of clothing, how they crawl out of a crevasse...just about anything that people pick up along their way to doing other things on the Ice. The research will then endeavour to make that knowledge explicit so that others can benefit from such wisdom.

If you were a member of a Scott Base winter or summer team between 1988 and 2008, and you would like to help us with our research by answering a questionnaire and participating in an interview, we would love to hear from you. Please contact us via email at [cptan06@yahoo.com](mailto:cptan06@yahoo.com) or phone 021 0278 6478 and will be very pleased to send you more information about the project. 

*Chiu-Pih Tan in Antarctica.*

# Fire at Progress Station, Antarctica

News from the Head of the Russian Federation's Antarctic Program confirmed reports that a serious fire at their Progress Station in Antarctica resulted in the death of one person and injured two others. A longer version of this report was sent out to the Antarctic community by Valery Lukin, Russian Antarctic Expedition (RAE) Head not long after the fire, edited here for readers of *Antarctic*.

On 5 October around two o'clock Moscow time there was a fire at Progress Station in the two-storeyed living building. The station team was not able to cope with the fire by their own efforts and the building was completely destroyed.

The station team comprised 29 people and, as a result of the fire, one person is missing presumed dead and two persons were injured. All three people are from the construction team.

Most of the communication facilities and part of the scientific equipment were destroyed. The fire did not spread to the other station facilities, so we have the mess-hall and the galley, the medical unit,

warehouses, all transport vehicles and also the facilities of the new wintering station under construction. All food, fuel and medical supplies were preserved.

The people are provided with normal meals, polar clothing and medical service. Progress Station now has HF radio-communication and telephone satellite communication via Iridium and twice-daily communications with Mirny or Vostok Stations.

We are very grateful to Chinese colleagues from Zhongshan Station for their immense help and various assistance provided after the fire. Zhongshan Station is at a distance of 1.5 km from Progress Station in

the Larsemann Hills on the coast of Prydz Bay.

The destroyed building was built in 1991. RAE plans to organize a flight from Novolazarevskaya Station in early December or if the state of the injured people aggravates, RAE will make this flight in early November for evacuating these people. The *Akademik Fedorov* will approach Progress Station in December and deliver equipment, supplies and additional personnel.

So far the cause of the fire was not determined. We have informed all our wintering stations about this accident with the request to check all equipment and safety emergency action plans. 



Main Building of Progress Station, Antarctica, Summer 2007.  
H Grobe, Alfred Wegener Institute.  
Creative Commons CC-BY-SA-2.5



# 40<sup>th</sup> Anniversary of Winter-Over Celebrated

A winter-over in Antarctica is a challenging and unique experience which relatively few people have shared. Recently, a group of fifty personnel and their partners reunited at Canterbury Museum in Christchurch, New Zealand, to remember and celebrate their year on the ice.

The Scott Base members of the 1968/1969 season gathered at the Canterbury Museum on Saturday 18 October, to celebrate the 40<sup>th</sup> anniversary of their expedition. For many of the group the day was particularly special as it was the first time they had seen each other since that long winter on the icy continent. It provided an opportunity to recall their journey into the Wright Valley in the McMurdo Dry Valleys, the first group ever to do so.

After the formalities of photographs and reintroductions were completed, the Museum's Curator of Antarctic and Canterbury Social History, Natalie Cadenhead, led the way to the Museum's classroom where she had assembled a collection of objects found during the 1967 to 1969 seasons, and which are now part of the Museum's Antarctic permanent collection.

Natalie explained how many of the objects, including dog harnesses, biscuit boxes, documents, and pony snow shoes had come to Canterbury Museum. A number of the items drew gasps of recognition and some, such as the skeleton and collar of a dog named Toby, sparked much discussion and debate about their origins and the stories behind them.

The organiser of the reunion, Allan Guard, had played a key role in the conservation and display of Canterbury Museum's Sno-cat,

used during the Trans-Antarctic Expedition. He provided the group with an overview of how the machine had been prepared and placed on display in the Antarctic gallery. A chance for the mechanics and engineers to once again inspect the Sno-cat's engine followed and Guard recollected how, "the sound of that V8 Chrysler engine firing up could bring tears to your eyes."

The reunion members reprinted over 300 photographs from their year and displayed these over the weekend of events. 

*Scott Base winter-over party 1968/69.*





# Oamaru and Antarctica

Polar historian, David L Harrowfield ponders the approach of the centenary of the British Antarctic (*Terra Nova*) Expedition, 1910–13. He hopes that New Zealanders will show renewed interest in this event in polar history, including the conservation by the Antarctic Heritage Trust of the expedition building at Cape Evans on Ross Island and the conservation of the nightwatchman's hut in Oamaru, New Zealand, that has a link to that expedition. David, now resident in the small South Island east-coast town of Oamaru, explores the association of that town with Antarctica in this article for *Antarctic*.



In the early hours of the morning of 10 February 1913, the expedition ship *Terra Nova* hove to in the roadstead off the breakwater (Macandrew Wharf) at Oamaru in the South Island of New Zealand. Nightwatchman Neil McKinnon, who was expecting the arrival of the *Ngatoro*, signalled from the flagpole by the small hut on South Head of Cape Wanbrow, “What ship’s that?”, but this was ignored. Because it was low tide he signalled the ship to lie out until high tide. However, the ship then entered the harbour and a reply was sent to McKinnon, advising that a boat would be sent ashore.

The boat was then directed to a landing on Sumpter Wharf.

On approaching his small hut beside the harbour, McKinnon was surprised to meet two officers, Lieut Harry Pennell RN, and surgeon Dr Edward Atkinson RN, bearing the Commander’s dispatch. McKinnon guided them to his hut and, observing their boots, said, “You’ve come from further south than the Bluff.” The men requested they see the harbourmaster and would not divulge their business. The seamen were under instructions to say nothing, and while the officers telephoned Capt James Ramsay, McKinnon was told to wait outside.

Pennell recorded the event:

Atkinson and I landed in the skiff and the TN [*Terra Nova*] left again for Lyttelton. The night watchman at Oamaru treated us very courteously and as we would not give out names, but asked to see some official, he telephoned to Captain Ramsay the harbour master who turned out and came down. He was very good and took us up to his house for the remainder of the night, where we had blankets and sofas in the dining room...

*Continued over* ►►

Presumably watching from the ship, Apsley Cherry-Garrard wrote:

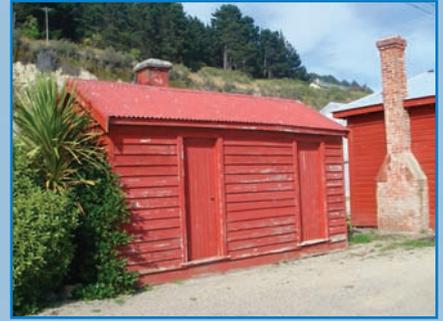
Owing to press contracts and the necessity of preventing leakage of news the *Terra Nova* had to remain at sea for twenty-four hours after a cable had been sent to England. Also it was important that the relatives should be informed of the facts before the newspapers published them.

At Ramsay's home, 51 Wharfe Street, the men had a bath and were joined by the port medical officer, Dr Alexander Douglas. A few hours later, a message was sent by telegraphist John Meehan from the Post Office, to Joseph Kinsey, the New Zealand agent for the expedition, who had been given Power of Attorney by Scott on 10 March 1910. Pennell continued: "The first express did not pass through till about 11.0 and so Jane and I after sending a wire to Kinsey went out and sat in a field." There is a misconception that the message was sent direct to

*Century News*, London, which had the copyright for all reports on the expedition. However, it is clear from Pennell's diary that no message was sent from Oamaru to London.

Kinsey immediately wired *Century News*. "I shall telegraph message tomorrow morning in one section only consisting of 2500 words. Calamity explains brevity..." In reply, *Century News* stated: "...telegraph immediately nature of calamity, whatever occurred. Will be disastrous our contract if you do not cable at least 7,000 words... insertion of 2500 entirely inadequate." To which, Kinsey responded: "Regret unable to increase cable. Surely this contains enough sensation without describing distressing details. Feelings of friends and relatives must be considered."

It is clear that by this point *Century News* had assumed something drastic had happened to the expedition and in reply to Kinsey the same day stated,



*Small, red, night watchman's shed on the Oamaru Wharf. D Harrowfield*

"Quite appreciate your feelings, but we must owe paramount duty public and also memory Scott...He would have sent as last year scientific details etc. in addition personal details. Earnestly request you for the same. Must have text of Scott's diary continuing account from last year to the disaster. Scott would have desired this..."

*Century News* then released to the media, "The *Terra Nova*, the vessel of the British Antarctic Expedition has returned from the Antarctic. She brings news of a terrible calamity."



*Campbell Glacier*  
© M Raymond, Antarctica NZ Pictorial Collection: K066 07/08

Kinsey then released a report on the expedition.

Once in Christchurch, Atkinson lost no time in sending a telegram and the following letter of thanks to Ramsay.

Thank you very much for your kind telegram of sympathy. Lieut Pennell and I are also very indebted to Mrs Ramsay and yourself for your great kindness to two complete strangers who arrived under suspicious circumstances. I think you will appreciate what a fine story is that of the Southern Party and their noble end. Your daughter's autograph book has not been signed as yet, but we will get it signed by all members and forward it to you. Thank you also for your kindness in keeping silent. Please convey our kind regards to your wife and daughter, and also many thanks for her kindness.

Yours sincerely  
E.L. Atkinson

It is not recorded why the *Terra Nova* stopped at Oamaru, instead of perhaps Port Chalmers, Dunedin. There is, however, a curious piece of Oamaru folk history. Living in a grand house at 48 Eden Street was a crop scientist, Dr McGlinchy, who had apparently attended school with Scott. According to family tradition, Scott, who had visited and stayed with the family on at least one occasion, told his friend that should misfortune befall the expedition he wanted him to be one of the first to hear – a nice story and perhaps typical of the folklore associated with the early expeditions, for which there is no documentary record. The *Oamaru Mail* suggested Scott had perhaps selected Oamaru “as the station from which to telegraph the report of his explorations...”.

The *Terra Nova* continued to Lyttelton and arrived with its ensign at half-mast. A day later the *Oamaru Mail* reported: “Captain Scott has

fallen in the struggle for honor [sic], knowledge, and British renown...Such a man would not have wished a nobler end to a glorious effort in the interests of his nation, the world, and science.”

Less than a month later, Oamaru's Waitaki Boys' High School Rector, Dr Frank Milner, with others, convened a public meeting with the aim to raise £250 for a Scott Antarctic Memorial Fund. The plan was to inaugurate an annual essay contest open to boys and girls in Standard VI at North Otago schools. There would be no fewer than 500 and no more than 1000 words, and a time limit of three hours for the writing, on a subject to be chosen annually. The prize value would be £5 for boys and £5 for girls.

The Rector contributed anonymously to a handsome plaque in white Carrara marble for the school's main corridor. It was decided that “the school should have some visible record of deeds that for simple courage and

*Continued over* ►



selfless devotion to duty were worthy of the highest traditions of the British people.” The plaque, which had an oak surround, was unveiled by Capt Lionel (later Admiral Sir Lionel) Halsey of HMS *New Zealand*, who had been a friend of Scott. Halsey gave a stirring address in the gymnasium on patriotism. “Ought we not to feel proud of the fact that these gallant men belong to the Empire?”, he said.

A subscription list was opened by the *Oamaru Mail* and it was recommended that a suitable memorial be placed in the town to commemorate the five men who had died in the cause of science and geographic discovery. An oak tree with a memorial tablet alongside was placed in lower Arun Street overlooking the harbour, and was unveiled on 28 November 1913.

Four years later New Zealand’s Acting Prime Minister, Sir James Allen, presented the inaugural essay prize to Maxwell Douglas. At the same time a parade was held, and Scott’s last message to the public was read. Later, in response to criticism, the essay was extended for a while to primary schools in the district.

Milner sent letters to next of kin of the deceased men, seeking a memento of each, and the school received one of Scott’s pipes and some uniform buttons; one of Dr Edward Wilson’s watercolour paintings; and a sledging pennant owned by Lieut Henry Bowers. The pennant (not that taken by Bowers to the Pole), was hung in

the Hall of Memories and a few years ago received specialist conservation. In 1923 Oriana Wilson, the widow of Dr Wilson, visited the school, which in May of the same year also received a visit from Aubrey Ninnis of Shackleton’s Ross Sea Party of 1914–17, during which he addressed the school. Joseph Stenhouse, Master of the *Aurora* in 1915–16 gave a public address and presented prizes to winners of the Scott Memorial Essay competition.

From that time the town and school links with Antarctica continued. American Admiral Richard Byrd

*Mt Erebus*

© N Cox, Antarctica NZ Pictorial Collection: K401 07/08

visited Oamaru in 1930 and in 1938. In December 1956, when the Ross Sea Party of the Commonwealth Trans-Antarctic Expedition, departed, a former pupil of Waitaki Boys' High School, Murray Ellis, an engineer, headed south with the party on the HMNZS *Endeavour*.

In 2001 the Rector, Dr Paul Baker, replaced the Scott Memorial Essay with the Robert Falcon Scott Memorial Speech Competition, which "would touch on related themes of adventure, endeavour, and pushing the boundaries". The first recipient of the competition's prize was Greg

Ambler, who received the trophy on 7 May 2001, this featuring a specimen of red volcanic Kenyte rock collected from outside Scott's hut at Cape Evans in 1977 by former pupil David Harrowfield.

In December 2003, in company with the Rector, pupils Michael Ormandy, Svend Fieldes and Rhys Heron were privileged to visit Antarctica, as part of Antarctica New Zealand's Secondary Schools Education Initiative in Antarctica. The objective was to increase awareness amongst Year 12 History students of the 'Heroic Era' and of issues involved in the conservation of heritage buildings in Oamaru and Antarctica. To enhance

the school's historic ties with Scott's expedition, the party visited the hut at Cape Evans, from where the school's association with Antarctica began.

Oamaru has a long and significant association with Antarctica and an enthusiastic team has begun the process towards the conservation of Sumpter Wharf. It is hoped that, in time, further links with Scott's last expedition, namely the small red-painted nightwatchman's shed and the marble plaque by the Memorial Oak in lower Arun Street, can receive appropriate conservation. ¶

David Harrowfield acknowledges assistance from the Alexander Turnbull Library, Canterbury and North Otago Museums, Antarctic Heritage Trust, Dr Gavin Mclean, the late Rodney Grater and Graeme Ferris. Full references for this article are available from the author.

# Netman of the Antarctic: Duncan Kennedy on the RRS *Discovery II*

Glenn M Stein discusses an important component of our scientific understanding of whales and the Antarctic whaling industry in his article for *Antarctic*.

As early as 1917, it was recognised that whales were in danger of being hunted to extinction, due in part to the flourishing whaling industry in Antarctic waters. A British Government interdepartmental committee was set up to review the excesses of the industry, but it was not until 1923 that a committee with the required finances and authority was assembled to make “a serious attempt to place the whaling industry on a scientific basis.” The steady decrease in the number of whales could only be avoided by controlling whale catch. Initially effective control could not be planned

for a painfully simple reason, not enough was known about the habits of whales, their distribution and migration, or of their main food which comprised the 4 to 6 cm long shrimp known as krill.

A scientific programme was established, spanning over a quarter of a century, to learn about whales. Initially, Scott’s old ship, the *Discovery*, was purchased by the newly named Discovery Committee. In 1926, the steam vessel *William Scoresby* was added to the effort, and was tasked with general oceanographic work, commercial scale

trawling and whale marking experiments. It was decided to build a new steel ship to carry out an indefinite and ambitious series known as ‘the Discovery Investigations’.

The construction of the *Discovery II* required careful planning and original thought as the conditions she would meet were largely unknown. Construction also took into consideration the great deal of scientific and other research equipment she would carry. That large sums of money were spent at all on serious long-term scientific research was admirable enough, but considering the international financial crisis of the



Some of the *Discovery II*'s crew, pre-1935. M Worker

*RRS Discovery II* in the pack ice. A Saunders, FRPS

early 1930s, the importance given to the Discovery Investigations is underscored.

In December 1929, as *Discovery II* stood ready at London's St. Katherine's Dock, she received a visit from the King of Norway, who possessed a keen knowledge of whaling. The beginning of her three year odyssey was captured by a reporter for the *Oxford Mail*:

Hundreds of People gathered to witness the departure of the vessel and after two hours' skilful manoeuvring she was steered into the Thames, where much larger crowds were watching. As the ship glided from her berth girls crowded to the windows of the factories overlooking the dock and waved good-bye to the crew. One very pretty girl, more daring than the rest, climbed out on to a ledge and shouted 'A Merry Christmas next week,' and the sailors responded with a cheer.

At 71 m (234 ft) long and displacing 2100 tons, *Discovery II* was only a fraction of the size of the 10,000–12,000 ton whaling factory ships active in Antarctic waters. Still, she was the largest research ship ever to

explore the Southern Ocean and both the scientists and crew had to take time to get used to a new ship under conditions of intense cold, storms and pack ice. In addition, working the instruments and winches required constant practice. The surveys, biological collections and hydrographic work were more comprehensive than ever before attempted in southern waters.

Duncan Kennedy became part of the Discovery Investigations scientific program. Born on 28 January 1888 at Greenock, Scotland, Kennedy was a fisherman by trade. In World War I he served in the Pilotage Service and by 1929 he had joined the Royal Research Ship *Discovery II*. His fishing background made him a natural choice for the rating of Netman, a Petty Officer responsible for operations of the nets used to collect marine plants and animals.

Kennedy's nets were of several different sizes and mesh. The mouth of one tow net was the size of a dinner plate, while another was believed to be the largest in the world, so big that a man could stand upright inside it. Kennedy was always mending his valuable "webs".

*Continued over* ►►



Long hours were dedicated to the raising and lowering of nets in all variety of weather and seas. In frigid waters, *Discovery II* was transformed into a Christmas tree by a combination of gale and freezing seas that sprayed the ship's deck, bulwarks and upper works, thickly encrusting them with ice. Torches of burning waste and paraffin were sometimes necessary to thaw the blocks and sheaves over which ran the wires used to lower nets and instruments into the sea. Under such difficult conditions, a sense of humour was a valuable asset onboard and greatly appreciated by all.

Official Photographer Alfred Saunders noted Kennedy's amusing ways of speech:

He had a persistent but unwitting habit of mispronouncing names. One of his jobs was to look after chemical and other scientific stores in the hold. To him sulphuric acid became 'sulfricated acid', hydrochloric acid became 'hydraulic acid', and formalin became 'formamint'. Once when he met a sailor who had had a violent fall on deck still walking about, he said that he thought he had 'discolated' his leg.

In these brief writings, it is impossible to do justice to the many achievements and adventures of *Discovery II* and those who served aboard her. However, the drama of one particular incident during the ship's second commission from 1931 to 1933 deserves the spotlight. During this period, *Discovery II* became the fourth vessel to circumnavigate Antarctica and the first to accomplish this feat in winter.

In January 1932, the ship was on her first voyage deep into the Weddell Sea, the first steel ship to penetrate those waters and the sixth of any ship. Near where Shackleton had first met ice in 1916, *Discovery II* was caught in a frozen trap and her hull and rudder sustained damage, including a leak in her starboard fuel tank. At one point, on 26 January, the captain wrote, "Scientific staff and all spare hands employed this day poling ice floes clear of rudder and propeller". It was only with great difficulty that the ship was extricated from her perilous situation. In spite of such danger, the surroundings never failed to make a marked impression on the senses. Fireman/Greaser William Peachey recalled in a 1991 interview that, "It is impossible to describe the stillness and the quietness in the Antarctic, not a sound to be heard."

It was during *Discovery II*'s third commission from 1933 to 1935 that she made a major impact on Admiral Byrd's second Antarctic expedition. On 5 February 1934, Byrd was faced with a severe crisis. His only doctor was plagued with high blood pressure and would have to return home on the support ship *Jacob Ruppert*, leaving only a medical student with the expedition. Byrd could not even consider keeping 95 men in the Antarctic with no doctor. He later wrote, "I determined then to get a doctor, or else cancel the expedition." The previous month, Byrd had been

surprised to hear *Discovery II*'s radio operator tapping out morse messages on the airwaves. Not that far from each other, the expeditions exchanged greetings. Byrd sent a radiogram to the captain of *Discovery II*, which was still at Auckland replenishing her supplies. In the end, Louis Potaka, a New Zealand doctor, sailed on the ship to rendezvous on 22 February with Byrd's *Bear of Oakland* in the Ross Sea. Byrd's expedition was saved.

After two more voyages, the onset of the World War II prevented *Discovery II* from venturing into the Southern Ocean again. She plied Antarctic waters just one more time, during a 1950 to 1951 commission. Serving through six Antarctic seasons aboard the *Discovery II* between 1929 and 1934, Kennedy received the bronze Polar Medal for his contributions to the Discovery Investigations, being one of only two Netmen to ever receive the Polar Medal. At the time of *The London Gazette* announcement of his Polar Medal in October 1941, Kennedy had long since left the *Discovery II* to serve as the Boatswain on the HMS *Alice* in World War II.

Without the detailed research of the Discovery Committee, its scientists and sailors, both on land and aboard ship, no whale conservation would have been possible. It could be considered one of the greatest scientific efforts in the history of exploration, with research filling 34 volumes by 1963. †

Full references for this article are available from the author.

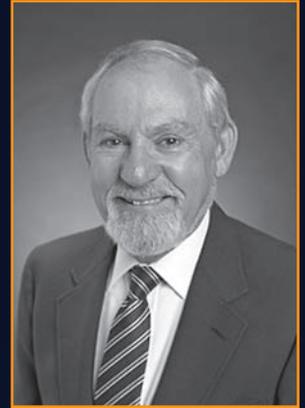


Duncan Kennedy's bronze Polar Medal/Antarctic 1929-34. GM Stein

# Martin A Pomerantz

## Cosmic Ray Researcher dies

December 17, 1916 – October 25, 2008



Martin A Pomerantz died at his home in Northern California, USA, after a long bout with cancer. He was 91 years old.

Martin was a gifted scientist who held interests in many fields of science. He carried out decades of cosmic ray research in Antarctica (and elsewhere), did solar seismology, sub-millimetre astronomy and cosmic microwave background radiation cosmological measurements, all at the South Pole.

His list of awards and other honours is very long, but for the work he undertook with the US National Science Foundation's US Antarctic Program he received the Distinguished Public Service Award. A mountain feature in the Antarctic USARP Mountains is named the Pomerantz Tableland and a large astronomical observatory building at South Pole Station is the Martin A Pomerantz Observatory, often fondly referred to as 'Mapo' (rhymes with may pole) by one and all). An area a few kilometres from South Pole Station where Martin and his collaborators set up

their solar telescope has been called Pomerantzland by all Pole citizens for decades.

John Lynch, former science manager with the US Antarctic Program and friend and colleague of Martin, said that he thought Martin's greatest talent was to have the vision to see how a new and important experiment could be done and then to gather together the very best people to do the experiment, noting that Martin was almost single-handedly responsible for the development of South Pole into a major site for astronomy.

Martin was author of *Astronomy on Ice - Observing the Universe from the South Pole*, published by The American Polar Society that tells the story of his life as a scientist and his fascination with polar regions after going to a parade in 1930 honouring Richard E Byrd on his return from Antarctica.

For more information on the work of Martin Pomerantz, see the Wikipedia article at:

[http://en.wikipedia.org/wiki/Martin\\_A.\\_Pomerantz](http://en.wikipedia.org/wiki/Martin_A._Pomerantz) ↗

# The Big Freeze: Summer-Winter Transitions in Antarctic ecosystems

An extension of Antarctic field support into April, allowed scientists to find out what happens during the summer-winter transition. This story by Ian Hawes of NIWA highlights some of the challenges of working at Bratina Island, Antarctica, so late in the season.

Field work at sites remote from McMurdo Station or Scott Base, traditionally comes to a halt in early February each year. At that time, the helicopters are packed away and field support and science staff head home hoping to come back the following year. It's a frustrating time as many biological systems are just passing their summer peak of productivity and it is the harshness of winter, rather than the relatively benign summer, that imbues Antarctic ecosystems with their unique attributes.

So when the US and New Zealand programmes, as part of their support for the International Polar Year (IPY), decided to support helicopter operations and trans-continental flights into April 2008, the National Institute of Water and Atmospheric Research (NIWA) Aquatic Ecosystem Research Group took the opportunity to study Antarctic ecosystems in the summer-winter transition.

The Aquatic Ecosystem Research Group comprised scientists from NIWA, Auckland University, the Cawthron Institute and Aquatic Research Solutions. The group's research was funded under New Zealand IPY funding provided by the Foundation for Research Science and Technology.

Antarctica is a continent with plenty of water, but precious little is in the liquid state that life requires.



*Drilling for water in April.*

Where liquid water does exist, microbial ecosystems develop that are oases of biological diversity in otherwise barren landscapes. One of the most common Antarctic liquid water habitats are small ponds that freeze solid in winter, but melt out to varying degrees in summer. These systems are widespread and typically have prolific microbial communities dominated by cyanobacterial mats that are metabolically active during summer, but persist throughout the winter in a frozen condition. For several years NIWA has been studying such ponds and has built up a good understanding of how these

systems work during summer and had developed a theoretical model of what happens during freezing. The extended Antarctic research season provided the opportunity to test this model.

The research team was to commence their observations in mid-January and continue until mid-April. This would see the shift from 24 hour daylight and temperatures near 0° C, to just a few hours of daylight and temperatures below -30° C. The research site already had a number of field huts set up as laboratories and Antarctica New Zealand winterised these by installing heaters and electric light. Both of those were to become essential for the field team as the project progressed.

Ice began to form on the ponds early in February and it was only a few days later that it was thick enough to walk on. For the duration of the field programme ice thickness steadily increased, at approximately 1 cm per day. Many ponds are less than 1 m deep and this meant that the team were able to follow the ponds until almost the entire volume had frozen. Water samples and instrument measurements were taken every few days from seven different ponds and a detailed timeline of the freezing process and its chemical and biological consequences was obtained. This was not without a degree of difficulty. Working outside with liquid water at -30° C is difficult, as all the water wants to

*January (summer) at Bratina Island.**April (winter) at Bratina Island.*

do is freeze! Techniques were adapted by careful application of flasks of hot water, body heat and insulated boxes to make sure that samples and field instruments were not compromised. With these precautions, sampling at low temperature took much longer than during the summer period and frequently several attempts were necessary to get even simple data sets. Some Antarctic secrets are not given up without a struggle.

It all proved to be worthwhile. Having now followed the freeze-up process, we know reality to be quite different from our expectations even

though many samples still remain to be analysed. Our models proved, at best, approximations of reality and we have had to modify our picture of both the freezing process and the conditions that organisms must tolerate before they freeze solid for the winter. At their most extreme, these include a shift

from almost fresh water supersaturated with oxygen to hypersaline, super-cold and oxygen-free brines. The basic fact that Antarctic ecosystems are amongst the most extraordinary on earth, and as such, will always have some new way of surprising the scientists who study them, has been confirmed. *✍*

*Bratina Island Huts.*

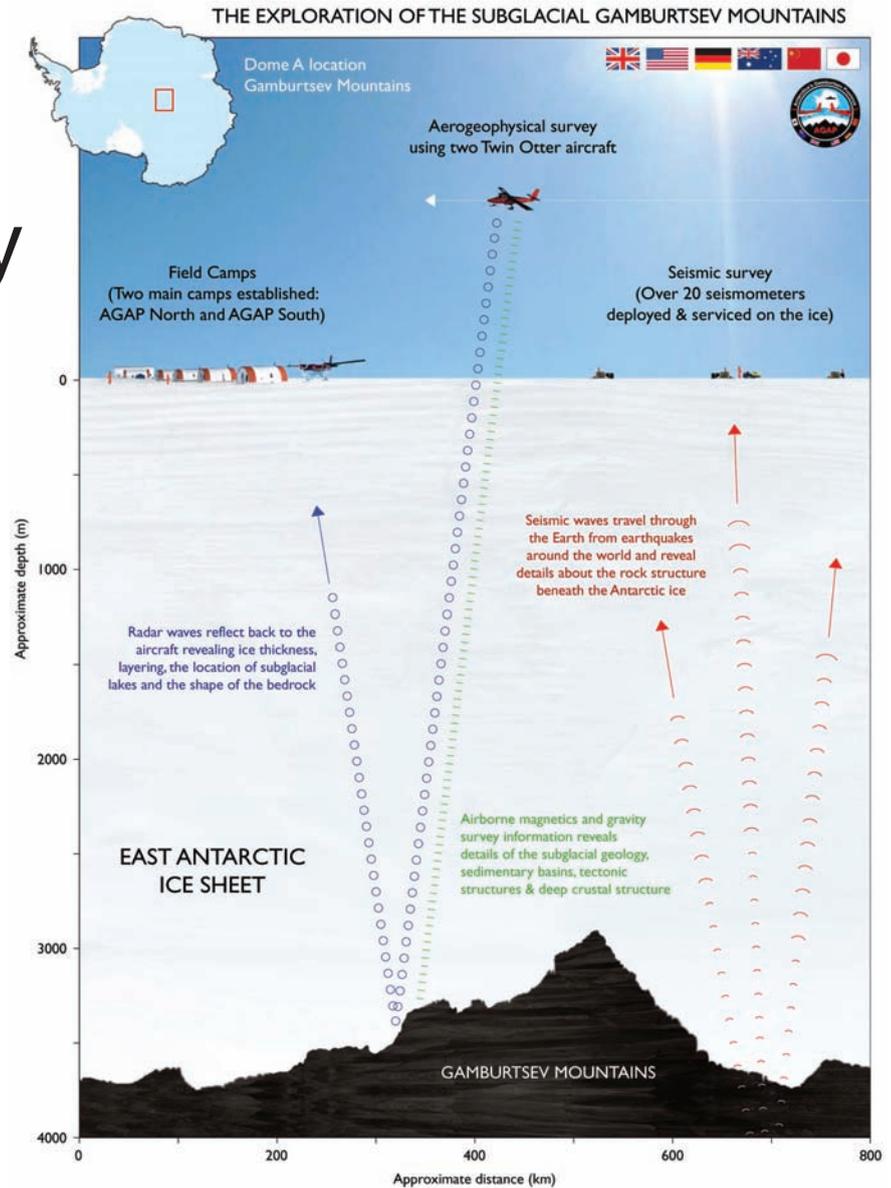
# Gamburtsev Mountains still a mystery to geologists

A new study published online in *Geophysical Research Letters* highlights the mystery of a massive Antarctic mountain range buried under kilometres of ice. The Gamburtsev Mountains are challenging long-held views of geologic patterns of mountain-building and have geologists wondering why the Gamburtsev Mountains are where they are.

The Gamburtsev Mountain range is situated under kilometres of ice right in the middle of the massive Antarctic continent. Even their location, in the middle of a continental land mass, is part of the mystery of their existence. Most mountain ranges are on the edge of the geologic plates, near the boundaries as a result of the smashing and crashing of land masses due to plate tectonics. The Antarctic continent is thought to be a single massive tectonic plate and so there is no reason to find a mountain range where scientists have found the Gamburtsev Mountains.

The geologic age of the range also has scientists puzzled. The range's high peaks reach an elevation of more than 3000 m (10,000 ft), which is a height typical of relatively young mountain ranges, such as the North American Rockies and the European Alps. This led scientists to believe that the age of the range was somewhere in the region of 60 million years or so (young by geologic standards). But new scientific evidence from river sediments suggest the age of the range is more than 500 million years (old by any standards).

The river sediments were collected from a coastal area that would have been a vast delta about 35 million years ago, when Antarctica's rivers carried flowing water instead of glacier ice. If the mountains were made of relatively



recent volcanic material, some of it should have been in the sediment as Gamburtsev runoff passed through the delta. Instead, all minerals that were dated were more than 500 million years old. It's this river sediment information that was published online and which is now challenging our thinking about the ice-covered mountain range.

It may be that the mountain range is old, but that they are not eroding at the rates that geologists would expect. New data from Columbia University scientists show that the erosion rates are extremely low and this may be due to the ice covering the mountains. However, scientists warn that in the past the ice was not there but the erosion rates from that time period also appear to have been extremely low.

Scientists think that the Gamburtsev Mountains are trying to tell us something about how really old topography can persist for hundreds of millions of years without being worn down by water, wind, and glaciers. More research is needed to solve the Gamburtsev mystery. *✎*

# Antarctic Eye

## The Visual Journey

by Lynne Andrews

*Studio One, Tasmania, 2007. 271 pp. 154 illus*

[www.lynneandrews.tassie.net.au](http://www.lynneandrews.tassie.net.au)

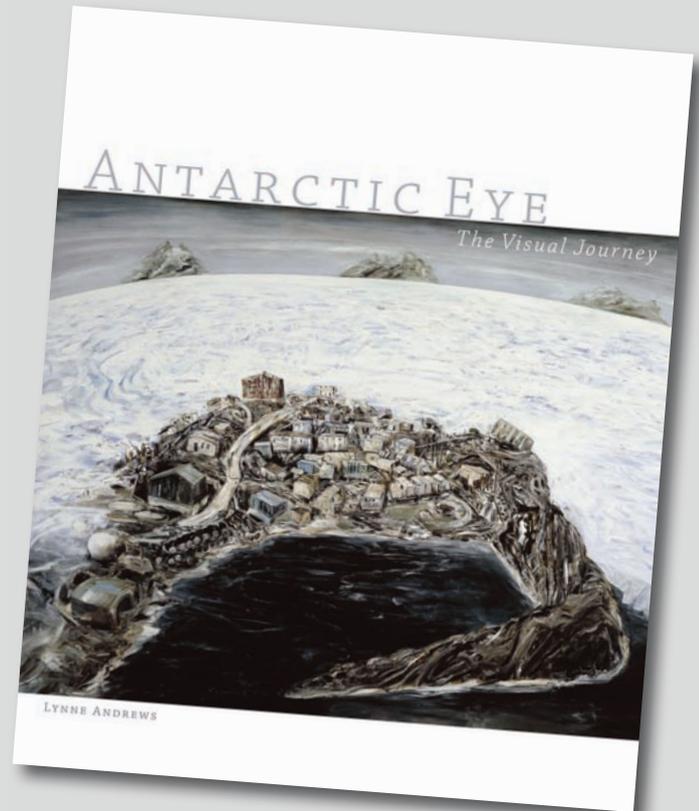
Review by Ursula Ryan

This is a delicious book, one to enjoy and savour. Elegant in design and production, meticulous in research and thoughtful – it accomplishes beautifully and thoroughly what it sets out to do. While Lynne Andrews acknowledges that the total canvas is somewhat larger than the area she has explored and quite rightly points to some other fields worthy of investigation, within the terms of her brief, the work is an unqualified success.

*Antarctic Eye: The Visual Journey* is in three sections. The first, considers early depictions of Antarctica through to the 19<sup>th</sup> century. Beginning with a map c 150AD and various other cartographic imaginings, it then deals with Cook's and other early voyagers' images of the Southern Ocean. Part two, entitled *Light and Darkness*, discusses and illustrates the Antarctic visual record of the Heroic Era, including the works of Ponting, Wilson and Hurley. It also includes two beautiful and delicate water colours by George Marston whose work also appeared in *Aurora Australis*.

Part three brings us to the artistic heart of the book – and the focus here is on 2-dimensional works by British and Australian artists (painters and photographers). As noted by Andrews in her introduction, there is no school of Antarctic art, rather a rich diversity of images reflecting the diversity of artists who have travelled to the continent, either chosen to go or compelled to experience its unique quality and so making the trip as a tourist. It is in this third section of the book that this diversity is most apparent. The work of eleven “contemporary” (works dating from the mid 1950s to 2002) artists is explored and the real range and value of the artistic vision of Antarctica is amply illustrated. All but Sydney Nolan were new names to me and naturally some appeal more than others. My personal favourites were Senbergs' strong and compelling narratives – never has man's footprint loomed so large on the previously pristine continent – but there are gems among the work of each of the artists. There is most definitely something here for anyone remotely interested in art, in the Antarctic, or in both.

Andrews doesn't simply rely on others' interpretations, but brings her own acute eye to bear on her subjects,



analysing and illuminating them. She also quotes from interviews and writing by the various artists, producing a lively and engaging introduction to their Antarctic work. The result is both scholarly and immensely readable.

She makes a strong case for the role of the arts to be recognised in their own right. She says, “it is timely to seriously evaluate the role of the visual arts and other humanities alongside that of science, which has reigned supreme in Antarctic culture.” Now Antarctica is being “recorded as seen and sensed through the eye, mind and soul of the artist.” And now that art is no longer required for scientific or historical documentation purposes we need to acknowledge that “the arts enrich our lives and provide an important balance to the disciplines of science and technology”. It is a theme that she returns to several times and one which is re-enforced by the artists and the work selected for inclusion.

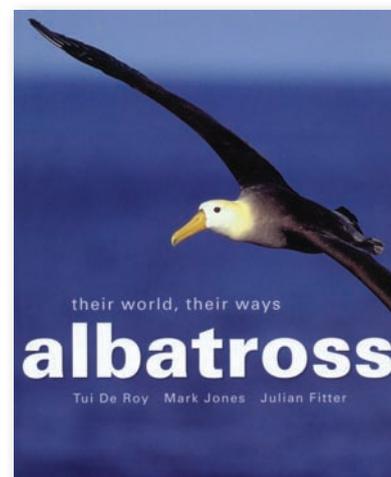
These views are firmly in tune with my own belief that attempts to shoe-horn the vision of any artist worth their salt into an artificial connection with scientific or environmental concerns is likely to be damaging to all three. But it is also apparent that when those concerns mesh with the artist's own vision (as clearly they do with Senbergs) the outcome is all the more powerful.

All we could further wish for is for coverage of more artists and more art, including 3-dimensional work, such as, sculpture, ceramics or glass. Reading this book, what is also apparent is that there is now a substantial and diverse body of Antarctic art produced by New Zealand artists that is deserving of similarly sympathetic and knowledgeable exploration. ¶

# Albatross

## Their World, Their Ways

by Tui De Roy, Mark Jones and Julian Fitter



Published by David Bateman 2008. \$69.95

Review by Peter Harper FPSNZ

Albatrosses have wowed humans ever since we first saw them. In this important and timely book albatrosses of every shape and colour come soaring and banking off every page: the reader is gripped by these oceanic wanderers from the first page to the last.

We are all invited to marvel at the images, to be engaged by an informative text, and to be made aware of the plight of these extraordinary birds. This 240-page work, containing 400 images of the world's albatrosses, is also an urgent call to arms, for many of these magnificent birds are imperilled both at sea – largely through long-line fisheries – and on land, where predators threaten both adults and their young. What better way to educate and alert the public, than this visual celebration of the birds' life and times?

Carl Safina, in his eloquent introduction to this book, sums up the deep-seated feeling that is evoked in anyone who has witnessed a gathering of albatrosses, and sets the scene for the chapters that follow. *Albatross* is divided into three main sections. The first, by Tui De Roy, is a personal and passionate narrative of her experiences with albatrosses; the second, discussing the science and conservation of the birds, falls to Mark Jones and a competent collection of international researchers, many of whom have spent their professional lives studying these birds. The third section, by Julian Fitter, provides an excellent profile of the 22 species of albatross recognised by the latest research.

The photographs, mostly by De Roy, are exceptional, largely because this consummate wildlife photographer

captures these beautiful birds in every pose. It's riveting stuff – we can nearly smell them and feel the wind from their wings in our faces; and the clever use of fill-flash in many of the images nicely illuminates the otherwise dark plumages of her regal subjects. We are told that *no* digital manipulation has been used to obtain these vivid images, which is pleasing, given the manipulative way lesser photographers can now tart up their sullen images with computer software.

De Roy's commentary is as engaging as her pictures, although she overlooks the fact that the smaller "albatrosses" are now confirmed as genetically distinct "mollymawks", but, this is minor stuff: even the participating authors cannot decide whether to call the smaller fry "albatross" or "mollymawk".

Jones's *Science and Conservation* section begins with a lively history of our dalliance with albatrosses, from early descriptions, to important conservation issues based around modern-day human greed and overexploitation of marine resources, which have resulted in ruinous outcomes for many marine birds and the world's fisheries. Yet, as Jones discusses, matters can be turned around if we would but apply ourselves to the task.

Sixteen short essays follow, written by scientists on their many facets of albatross research. Most are informal narratives, providing the reader with an insight into how oceanic bird science is conducted, and some of the hardy and dedicated people who do it.

The final section, by Fitter, describes each albatross species: their appearance, size, distribution, breeding, food, and current threats to their survival. I note that this author attributes the scientific name of the white-capped mollymawk to Falla's honouring David George Stead (1877–1957), thus *Thalassarche steadi*, but I believe that Falla was actually paying homage to his friend and colleague, Edgar Fraser Stead FRSNZ (1881–1949). Fitter's contribution completes an excellent assemblage of images, facts and history that will keep the reader both informed and entertained.

*Albatross* is an important contribution to our knowledge of marine birds. The book will garner a wide audience, but it will have truly succeeded if those people who read it do something tangible to help the survival of these wondrous birds. They command our attention – and our action. 🦅



P Harper, FPSNZ



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As the ship floats amidst a sea of icebergs, an arrow flies towards the albatross, a bird considered to be an omen of good luck by superstitious sailors. Original Artwork: An engraving by Gustav Dore from Samuel Taylor Coleridge's *The Rime of the Ancient Mariner*. (Photo by Hulton Archive/Getty Images)