ANTARCTIC

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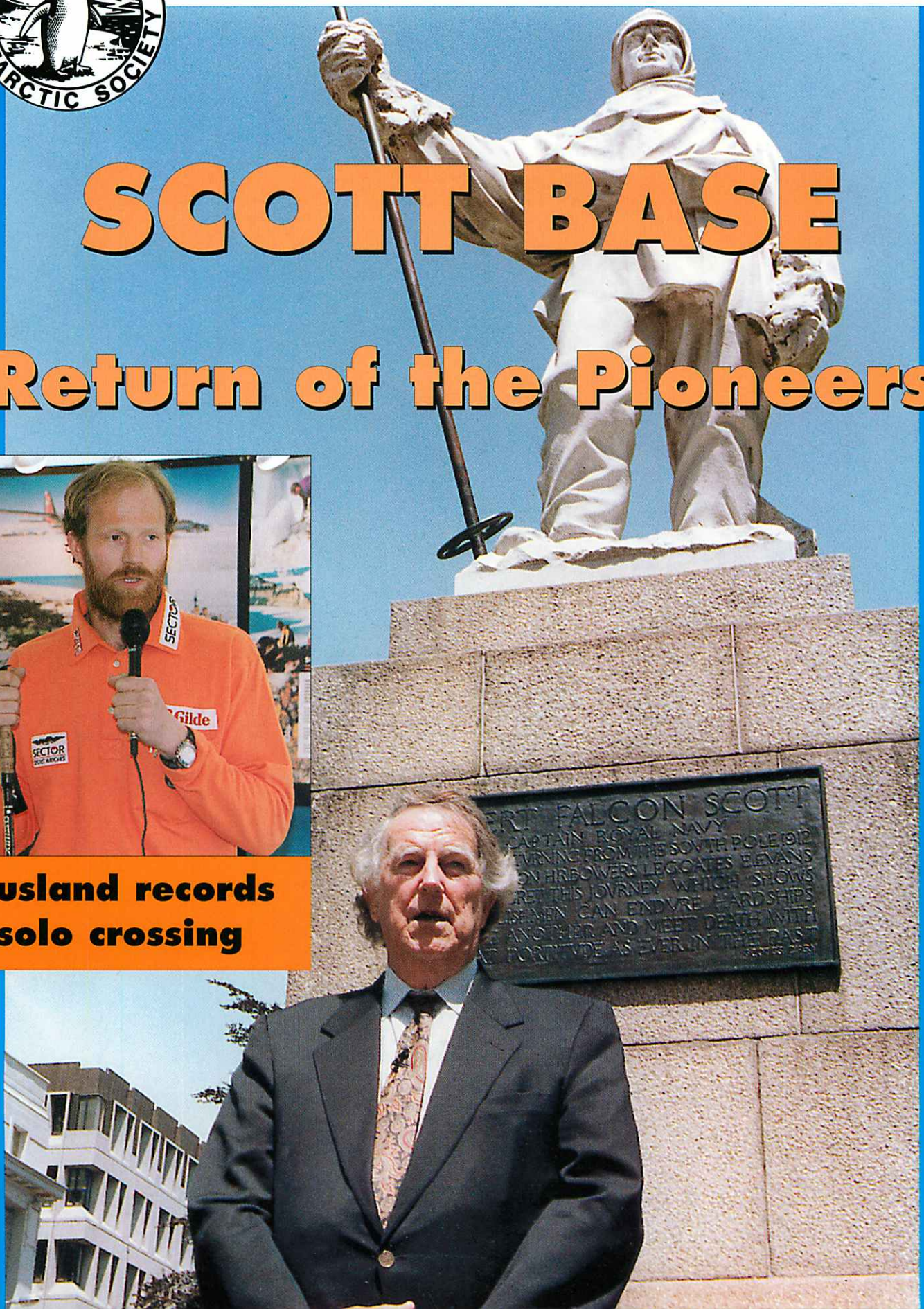

SCOTT BASE

Return of the Pioneers

Ousland records solo crossing

"Ed was beaming, all I could think was Good God we've made it"

Murray Ellis on arrival at the South Pole January 4th 1958

For over 40 years my family has had a very close association with Antarctica, in both the exploration and the supply of clothing and equipment. My father, Murray was in Sir Edmund Hillary's party of five New Zealanders who drove the first vehicles to the South Pole during the 1957-58 Commonwealth Trans-Antarctica Expedition. My new company, Earth Sea Sky specialises in producing extremely functional outdoor clothing. We combine our knowledge from the past with today's best performance fabrics to produce a top quality range of waterproof anoraks, wind shells and thermal wear.

Earth Sea Sky garments are currently worn in Antarctica by Antarctica New Zealand.

David Ellis -
Manager and Owner Earth Sea Sky

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Unisex Sizes: S, M, L, XL, XXL.

***Mach II** terra cotta*

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Explorer Jacket
carob

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Explorer Jacket
A style inspired from the Scott, Shackleton, Amundsen era. High double fabric collar Shaggy pile collar and cuffs. Zip-up internal storage pocket.
Colours: carob, thistle, berry.
Unisex Sizes: S, M, L, XL, XXL

EARTH SEA SKY

perform

ANTARCTIC

Cover:
Main: Sir Edmund Hillary at Robert Falcon Scott's statue in Christchurch

Insert: Norwegian explorer Borge Ousland

March 1997,

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Contents

Forthcoming Events

14-16 May 1997
"Belgica", Centennial Symposium, Broxelles, Belgium. Conference Secretary — Dr C De Broyer

19-30 May 1997
21st Antarctic Treaty Consultative Meeting, Christchurch Conference organiser — Clive Pearson

25-30 May
ISOPE96. Seventh International Offshore and Polar Engineering Conference. Honolulu, Hawaii. Contact: ISOPE97 Honolulu TPC, PO Box 1107 Golden, Colorado 80402-1107, USA. Tel: (1) 303-273-3673, Fax: (1) 303-420-3760

26-30 May
IGS Symposium on Snow and Avalanches. Mont Blanc, Chamonix

10-12 June
International Symposium on Physics, Chemistry and Ecology of Seasonally Frozen Soils. Fairbanks, Alaska. Contact: Dr J.K.Radke, National Soil Tilth Lab, USDA. Tel:(1)515 294 0213, E-Mail jkradke@iastate.edu or Dr B.S. Sharratt, North Central Soil Conservation Research Lab, USDA. Tel: (1) 612 589 3411, e-mail: bsharratt@mail.mrsars.usda.gov

Other events include a CTV documentary about Christchurch's Antarctic links, opening of a City Council Antarctic heritage trail, and a public Snow Ball with invited celebrities at the International Antarctic Centre (May 24)

13-18 July 1997
Symposium on the Antarctic and Global Change, University of Tasmania, Hobart. For further information e-mail l.neilson@antcrc.utas.edu.au

SCOTT BASE PIONEERS RAISE THE FLAG

Should Antarctica be opened to increased levels of tourism? The issue emerged during celebrations marking the 40th Anniversary of the establishment of New Zealand's Scott Base.

Greater accessibility to Antarctica for people who want to experience the continent was urged by New Zealand Prime Minister Jim Bolger.

With the stark beauty of Antarctica gleamingly apparent on a blue-skied day, the New Zealand leader stared towards the slopes of Mount Erebus behind Scott Base. "When you see the beauty here on days like this you can see why tourism will grow".

Bolger added a rider to such "non-intrusive tourism development" by noting that as a unique and precious asset for the world Antarctica is a continent where access "must be managed in a way to minimise environmental damage".

Above: Prime Minister Jim Bolger speaking at Scott Base.

Left: Ray Tito and Rick James (middle) raise the flag at Scott Base. Prime Minister Jim Bolger (right) looks on.

"Tourism and other non-government activities, carried out responsibly and in accordance with the commitment that New Zealanders have always shown to the protection of Antarctica".

The Prime Minister, Antarctica New Zealand chief executive Gillian Wratt and Sir Edmund Hillary, Scott Base's first leader, took part in a reenactment of the raising of the New Zealand ensign at Scott Base 40 years earlier.

Forty years ago, Ray Tito, the youngest member of the New Zealand defence force raised the New Zealand ensign. On 23 January 1997 the honour went to Rick James, communications officer at Scott Base and now the youngest member of the NZDF at the base.

In 1957 the official party had included Hillary, Admiral G.J.Dufek, USN; Capt H.Kirkwood, RNZN; Capt H.Ruegg, administrator of Ross Dependency; A.S.Helm, secretary Ross Sea Committee; Sgt L.W. Tarr, RNZAF, Cdr Flynn USN.

An extra dimension of historic significance was added when 63 days into his trek 34-year-old Norwegian Borge Ousland, the first person to walk unaided across Antarctica, walked into Scott Base to be greeted by Sir Edmund.

Ousland had followed, in part, the route taken by his great compatriot Roald Amundsen on his historic journey to the Pole in 1911, when the Norwegian had beaten Scott by one month. Scott, together with his companions, was to perish on his return journey.

The first British crossing was planned to be the British Imperial Trans-Antarctic Expedition of Sir Ernest Shackleton in 1914 but, beset in the pack ice 100 miles north of Vahsel Bay, his ship *"Endurance"* was trapped for 10 months before being crushed, leaving the members of the expedition marooned on the ice and facing one of civilisation's most gruelling ordeals before ultimate rescue 15 months later.

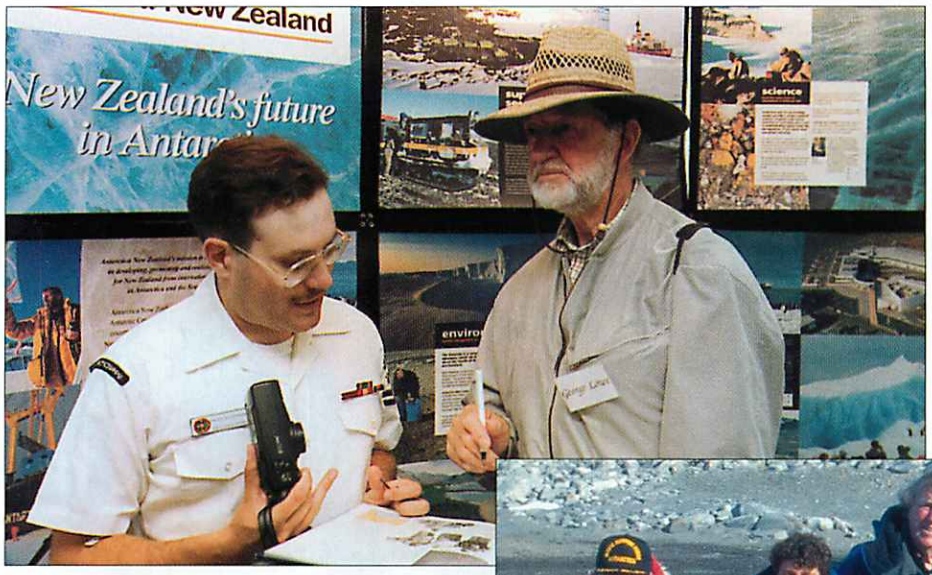
The challenge of Shackleton's attempt remained unanswered until the early 1950s when another venture, the Trans-Antarctic Expedition was conceived. As part of the Fuch's 1955-58 TAE, the task of the Ross Sea party under Sir Edmund Hillary was to reconnoitre a route across the Ross Sea Shelf, up the Skelton Glacier and across the Polar Plateau towards the South Pole, setting up a line of depots across the proposed trans-polar route, with supplies flown in by Beaver aircraft. Hillary went on to lead his New Zealand team to the South Pole, using modified farm tractors.

Scott Base was established at Pram Point, Ross Island, in 1957 with dual objectives of providing a scientific station in support of New Zealand's contribution to the International Geophysical year (IGY) and as a staging point for the Trans-Antarctic Expedition (TAE). Butter Point, 65km west on the opposite side of McMurdo Sound was the original "first choice" for the base, but it had poor access by sea and there was no satisfactory sledging route to the Polar Plateau. Hillary turned his attention to Ross Island where Scott, then Shackleton, had made their headquarters earlier in the century.

A base of six prefabricated buildings has

Above: Mr. Jim Bolger (Prime Minister of New Zealand) at the South Pole.

Right: The official party of January 1997 which inspected New Zealand field camps.



Above: International explorer George Lowe at Antarctica New Zealand with Dave Lippman, US Navy.

Right: US Ambassador to New Zealand — Josiah Beeman, Antarctica NZ chief executive Gillian Wratt and Sir Edmund Hillary at Scott Base.

been designed and with the help of American servicemen from McMurdo Station, New Zealand servicemen worked around the clock in the 24 hours of Antarctic daylight to erect the first hut in just eight days.

When the New Zealand government had decided to contribute to the TAE it had also approved participation in the IGY, with New Zealand to establish an Antarctic geophysical station for observations in meteorology, geomagnetism, aurora and airglow, ionospheric physics, seismology, gravity, glaciology and oceanography. The New Zealand IGY party at Scott Base consisted of five scientists headed by Dr Trevor Hatherton.

In 1997 Hillary, Mr Bolger, Mrs Joan Bolger, US Ambassador Beeman, and a small group, flew to the South Pole by LC-130 US Navy aircraft for a day-long trip. On their return they visited New Zealand field camps to review New Zealand's current Antarctic programme.

Previewing the visit Alan Samson of *The Dominion*, the morning newspaper in politically attuned Wellington, wrote of the awareness that "the disproportionate costs of keeping Scott Base operational for about 31 research projects each year have to be justified. And though the days of heroic endeavour and suffering exemplified by Robert Scott and Ernest Shackleton might be gone, the ominous ability of the southern polar climate to savagely turn remains a constant threat".

"Scientists continue with abundant energy and enthusiasm, only in part due to their awareness of time and money limits".

Jim Bolger with others visited several scientific parties operating in the region of Scott Base. The PM, Ambassador Beeman, and Gillian Wratt travelled in RNZAF Kiwi 03 helicopter; Sir Edmund, fellow Trans-Antarctic (and Everest) expedition member George Lowe and others flying in a US National Science Foundation helicopter.

Included on the itinerary for the Bolger visit was the future location of the ambitious Cape Roberts project, a six-nation drilling programme to probe the tectonics and climates of millions of years ago.

Observing the progress 40 years on were an older but still enthusiastic group of the original members of Hillary's TAE Ross Sea Party and IGY Party.

The survivors of New Zealand's first expedition and scientific party met in Christchurch 20-22 January 1997 to celebrate the anniversary of Scott Base. The patron of the 1957-58 expedition, Her Majesty Queen Elizabeth II in a message read to the group at a dinner held at Christchurch Casino described the building of Scott Base as "a famous event".

An inspection of today's US Navy support aircraft at Operation Deep Freeze, Harewood, was followed by presentations at Antarctica New Zealand's headquarters on the agency's current science programme and that of the US National Science Foundation; a visit to Christchurch's outstanding Antarctic Visitors Centre; wreath-laying ceremony at Captain Robert Scott's statue in the Central Business District of the city and an inspection of the Antarctic Hall of Discovery at Canterbury Museum. It is here that "Southern Endeavour" a major

Sir Edmund Hillary checks over some of the 1957-58 Trans-Antarctic Expedition's equipment at Canterbury Museum.

photographic exhibition of New Zealand's involvement in the TAE and IGY was launched on 19 April, near the exhibition of Hillary's famed Ferguson tractor and the British TAE snocat "Abel" which carried Fuchs on his crossing from the British side of the continent. The exhibition, prepared by Antarctic Society President Margaret Bradshaw and the museum's Antarctic Hall curator Baden Norris is one of three celebratory 40th Anniversary projects being funded by the Lottery Grants Division in New Zealand.

The exhibition sourced from families of TAE participants and Antarctica New Zealand, comprises 14 large panels and approximately 90 colour and 40 monochrome images, many exhibited for the first time. Retained at the Museum for a mid-year consultative meeting of Antarctic Treaty nations, the display will subsequently go on a sponsored tour of New Zealand.

The second part of the award was a writer-in-aid grant towards a commemorative booklet outlining the history of Scott Base over the past 40 years called "Scott Base, Antarctica: New Zealand's most southerly station 1957-1997". The text was written by David Harrowfield and reviewed by a panel composed of Deirdre Sheppard, Malcolm Laird and Margaret Bradshaw, with final editing by Virginia Clegg.

TAE-IGY Anniversary group at Antarctica New Zealand.

The third part of the grant is for the compilation of an oral history archive devoted to New Zealand's TAE and IGY participants. The taped interviews are being conducted by a professional oral historian based in Arrowtown, New Zealand (Julia Bradshaw). To date interviews have been conducted with Frank Ponder, Selwyn Bucknell, Murray Ellis, and Guyon Warren. Five more will be conducted later this year, and an application will be made for further funds to interview the remaining participants. The tapes will be lodged at Canterbury Museum, with an outline summary held by the Antarctic Society.

Frank Ponder, Ministry of Works designer of the original Scott Base, was in Christchurch in October 1957. He made his first trip south on a Globemaster to see the fruits of what had been a traumatically intense period of design, organisation and prefabrication of the Scott Base buildings.

It was with a feeling of elation that he finally entered the base that he had worked so furiously against the clock to create, and he received from Trevor Hatherton a "Moose's milk" (black rum and condensed milk) and the comment *"Do you realise Frank ..... that you are our first visitor?"*.

Frank made four trips to Antarctica for he continued to be closely involved for some time with modification and extensions to the original buildings. On his third visit, being extremely busy at his Wellington office, he left for Christchurch as late as he possibly could, arriving there in his business suit. His cold weather gear was handed to him as he boarded the Antarctic flight, and he recalls in his book *"A Man from the Ministry"*:

"When we arrived in Antarctica I pulled my cold weather gear over the top of my suit before leaving the plane. After being transported to Scott Base in a heated vehicle, I entered the now familiar base, pulled off my cold weather gear, entered the Mess and resplendent in my suit, collar and tie, usually compulsory gear for Lambton Quay. The Mess hut was agog with admiration. Was I the first person in the annals of Antarctica to emerge in a suit and tie?!"

Sir Edmund Hillary (right) at Sir Capt. Robert Scott's statue with (from left) Wing Cmdr John Claydon, Antarctic Society President, Margaret Bradshaw and the Mayor of Christchurch, Vicki Buck.

NATIONAL PROGRAMMES

NEW ZEALAND IS BUILDING UP

ANTARCTIC ATMOSPHERIC RESEARCH PROJECTS

Research that may shed some light on aspects of the Antarctic ozone problem. A group of scientists led by Dr Stephen Wood compared atmospheric data with modelling calculations to enable a physical insight into the processes of atmospheric change in the Antarctic. The work focussed towards the understanding of the reasons for and significance of the changes with time in stratospheric nitrogen and chlorine compounds.

The objectives of the study were to maintain the database of high latitude observations of stratospheric trace gases at Arrival Heights, Campbell Island and Scott Base. These were determined by ground-based remote sensing of nitrogen dioxide, using visible spectrum techniques; hydrochloric and nitric acids, using infra-red techniques; ozone, using Dobson spectrophotometer; chlorine dioxide, using ultraviolet techniques and chlorine monoxide, using microwave techniques.

The Antarctic atmosphere is also of interest to Dr Frank Fahy of the Canterbury University's Department of Mechanical Engineering which will use Scott Base and Arrival Heights as test locations during a continuous international programme to determine the corrosion resistance of an architectural aluminium alloy in the atmosphere. Scientists will evaluate the different thickness of anodic film resist corrosion by exposure to a range of atmospheres in a number of countries.

SEA-ICE EFFECT ON SOUTHERN OCEAN CLIMATE

New Zealand scientists and researchers were on the ice for three months in the latest summer season to study sea-ice, its break-up and its effect on the climate in the southern ocean.

In order to help understand the nature of sea-ice breakup scientists sponsored by the Industrial Research Unit in Wellington undertook a multiscale, multiprocess study. The manner in which sea-ice breaks up determines its floe size distribution. This, together with any redistribution due to ocean currents or winds, alters the fluxes between the atmosphere and the underlying ocean. Consequently the study is relevant to the climate of the southern hemisphere. Data relating to the physical properties of sea-ice, its mechanical properties, the way it fatigues, and its breakup by sea waves is being integrated with satellite imagery to enable climate-related issues to be addressed.

ANTARCTICA — A GENETIC RESERVOIR

Antarctica offers a range of exciting possibilities for the new science of molecular biology. Novel DNA technologies now allow ecologists to collect important information about animal populations. Antarctica, owing to its cold and dry environment, acts as a unique reservoir of genetic material. For example, Adelie penguin remains are well preserved in these extreme conditions.

In January this year, scientists from Massey University lead by Professor David Lambert visited the ice to develop microsatellite DNA markers from blood samples of Adelie penguins. This, they hope, will provide important ecological information and, in turn, enable the amplification of DNA from ancient penguin bones.

Editor's Note:
For further understanding of New Zealand's objective for Antarctica and the Antarctic Treaty System, the Centre for Strategic Studies in New Zealand has published a Working Paper written by Stuart Prior entitled *Antarctica: View from a Gateway*.

Publications are available from:
Centre for Strategic Studies (CSS:NZ), C/- Victoria University of Wellington, PO Box 600, Wellington, New Zealand. Tel. 0064 4 496 5434; Fax: 0064 4 496 5437; E-mail: css@matai.vuw.ac.nz.

ITALY

CLOUDS AND THE DEPLETION OF OZONE

Italian scientists in conjunction with the US Antarctic Programme, are conducting laboratory-based light radar (LIDAR) observations and in situ measurement of polar stratospheric clouds to help understand the role clouds play in the depletion of ozone. The LIDAR equipment sends a coherent beam of light into the clouds where it is scattered by cloud particles. This helps provide information on the number of particles and their distribution in clouds.

TREATY MEETING SETTING COURSE FOR ANTARCTIC

More than 200 senior officials from 43 countries will gather in Christchurch in May for the twenty-first Antarctic Treaty consultative meeting.

The Antarctic Treaty is a unique international agreement charged with the management of the entire continent. Peace, science and the environment are its three basic imperatives. The director of the meeting, Clive Pearson of New Zealand Ministry of Foreign Affairs and Trade, says the gathering means a lot for the country. "New Zealand is a leading player in the Antarctic and our involvement goes right back to the early days of Antarctic exploration".

"The Antarctic Treaty holds the key to the future of the world's last great unspolit mass," he said. "New Zealand is one of the premier international gateways to the Antarctic. We are hosting a meeting which will take the management of this continent into the 21st Century". The Christchurch meeting would look to usher in a new environmental committee that would oversee the management of the Antarctic.

This step was agreed in 1991 under the Madrid Protocol. The new environment committee will come into force once all the 26 Antarctic Treaty consultative parties ratify the Protocol.

Continued on page 8

FIRST EVER RESEARCH ASSESSMENT PROCESS ON INTERNET REDUCES PAPER WASTAGE BY 88%

Innovative Web-based software devised by the Tasmanian-based Australian Antarctic Division in Tasmania is allowing researchers from all over the world to submit research applications through the Internet.

Enlisted to streamline the assessment process, the world first interactive form system saves on paper and postage by allowing all proposals to be written, checked, revised, submitted and assessed electronically. 1997 is the system's first year in operation and already 88 percent of applicants have chosen to use the electronic system over the paper one.

The system also provides researchers with project guidelines and help documentation. Information that has been previously entered can be modified and resubmitted through the web. All information entered is saved to a database, reducing the need to manually enter information, a task which previously took three months. The work was a cooperative effort between the Australian Antarctic Data Centre and the ANARE Strategic Planning and Coordination Section of the Australian Antarctic Division. The application form can be found at the following location: http: //gismo.antdiv.gov.au

KOREA

The 10th Korea Antarctic Research Programme (KARP) was carried out during the 1996/97 field season with the employment of the Russian research vessel *Yuhzmogeologiya* in the Bransfield Strait, around Elephant Island, and at the marginal sea-ice edge zone of the northwestern Weddell Sea.

Yuhzmogeologiya was chartered for the biological, geological, geophysical cruises and logistic supply. Shore-based studies (atmospheric sciences, geophysical survey, and coastal marine biology) were also carried out at King Sejong Station.

Geological research was carried out to verify the evolution of the South Shetland Islands and northern Antarctic Peninsula region. Biological and oceanographic research was designed to examine physical and biological processes that give rise to high biological productivity in the marginal sea ice-edge zone of the northwestern Weddell Sea and to look for a phytoplankton "bloom" effect over all trophic levels.

The objectives of the oceanographic, biological, geological and geophysical cruises and the shore-based studies were to:

1. Study geological evolution of Bransfield Strait and South Shetland Islands;
2. Study origin of sediment and sedimentation processes in Bransfield Strait;
3. Understand the structure and function of the marine ecosystem in the Weddell Sea marginal ice zone; geochemical process on particle flux and energy flow, and effects on marine ecosystem with global environment changes (ozone depletion and global warming);
4. Understand energy and carbon flow between marine and terrestrial ecosystems near King Sejong Station with relationship to global environmental changes; and
5. Analyse atmospheric condition and to understand the physical and chemical features of thermosphere.

BRITAIN

Thirteen five-year research programmes have been named by Britain for the period 1995-2000. These are organised within a framework of science themes: Global Change, Sustainable Development, Framework Science, Environmental Conservation and Management, and Enabling Technologies. Brief summaries of some of the programmes are listed below:

Continental Break-up addresses the fundamental scientific problem of why super-continents periodically disintegrate by developing Gondwana break-up models and studying relationships between active margin tectonics, mantle plumes and continental break-up.

Active Plate Margins studies the generation of continental crust and the main forces responsible for driving and resisting plate motions in two outstanding areas of active plate margins.

Survival Strategies examines the survival strategies in representative species from isolated, species-poor polar communities subjected to extremes of temperature, water stress, nutrient and light limitation, and increasing ultraviolet radiation.

Ecosystems and Environmental Change describes the evolution of selected Antarctic terrestrial and freshwater communities, and to assess their response and resilience to environmental change, and to predict future trends.

Human Biology and Medicine takes advantage of isolated communities for studies in human biology and health care in order to improve the standards of medical practice on Antarctic stations.

Other research programmes include Ice, Climate and Global Change; Antarctic Palaeoenvironmental Change Studies; Pelagic Ecosystem Studies; Higher Predator Studies; Ecological and Physiological Adaptations; Ecosystems and Environmental Change; Solar Wind — Magnetosphere — Ionosphere and Transfer of Energy; Wave Generation and Propagation; and Thermosphere-Ionosphere-Mesosphere.

NATIONAL PROGRAMMES (US)

UNITED STATES

SEARCHING FOR THE PINATUBO ERUPTION IN THE SOUTH POLAR SNOW

The June 1991 eruption of the Mount Pinatubo volcano in the Philippines was the most explosive eruption in this century. The eruption sent a huge amount of volcanic dust and gas into the atmosphere, much of it directly into the stratosphere where rapid circulation spread the volcanic material all over the world.

Traces of sulphuric acid from explosive volcanic eruptions can be found in polar snow. Numerous past eruptions have been found and dated in polar ice cores.

These ice core records help to better understand the relationship between volcanism and climate.

Snow samples taken at the South Pole by US researchers indicate that the Pinatubo eruption has significantly increased the level of sulphuric acid in snow.

Last season a comprehensive sampling and drilling programme was initiated at South Pole and at a number of other Antarctic locations to characterise the magnitude and variability of the Pinatubo signal in Antarctica snow.

Similar field work in one or two other locations will occur during the 1997-1998 summer season.

The predominant chemical component of the gas is sulphur dioxide, which is readily oxidized into sulphuric acid and then is attached to or dissolved in tiny water droplets. These volcanic sulphuric acid aerosol particles intercept and deflect incoming solar radiation and therefore reduce the amount of energy reaching the Earth's surface.

Usually a decrease of temperatures at the surface is expected for two or three years after such an explosive eruption, because of the presence of the aerosols in the atmosphere.

Worldwide observations show that the years of 1992-4 were relatively cool, compared to the previous years, and probably offset some of the predicted greenhouse gas induced warming.

The snow and ice core samples will be analysed for their chemical composition and the Pinatubo signal and any other volcanic signals will be quantitatively measured.

This information, combined with satellite estimates of the amount of sulphur dioxide emitted by Pinatubo, will help to evaluate the magnitudes and climatic effects of past volcanic eruptions found in ice cores.

By Jihong Cole-Dai, Ice Sheets Newsletter

BYRD'S 1926 DIARY FOUND DURING LIBRARY UP-DATE

Seventy years ago, polar explorer and pioneer aviator Richard E. Byrd became the first to fly an aeroplane to the North Pole. Recently US archivist, Professor Raimund El. Goerler, discovered the diary that Byrd maintained during his flight to the North Pole on 9 May 1926.

Containing 121 pages with a notable cover date stating 1925, the diary has blank pages used by Byrd both for the North Pole flight a year later and for the Trans-Atlantic flight of 1927.

Only by opening the book and carefully studying its contents was it clear that there was significant historical value: proof that Byrd thought he reached the North Pole at the time of the flight; observations by noteworthy explorers Donald MacMillan and Roald Amundsen.

Also contained within the diary is a first hand account of Bryd's dangerous adventure-filled Trans-Atlantic flight — some 40 days after Charles Lindbergh's accomplishment in 1927.

US ANTARCTIC PANEL CHAIR TESTIFIES ON CAPITOL HILL

Antarctic Programme External Panel Chair, Norman Augustine, testified at a recent Washington D. C. hearing of the House Committee on Science regarding the panel's findings. The panel, drawn from the research community, the federal government, and private business, was asked by the National Science Foundation (NSF) last August to "examine a full range of infrastructure, management, and scientific options" in order to maintain high-quality Antarctic research, and to implement the US policy of maintaining an active and influential presence in Antarctica, all within realistic budget scenarios.

The panel was also asked specifically to review the eventual replacement of the aging infrastructure at South Pole Station, the year-round research base that supports investigations in astronomy, astrophysics, climatology, and other fields. NSF runs the US Antarctic Program, which encompasses three research stations in Antarctica and two research vessels supporting a wide range of science.

PHOTOGRAPHIC STUDY OF HOMO ANTARCTICUS

Most photographers who have fought their way onto the ice want to capture the shatteringly brilliant and breathless beauty of Antarctica's awe-inspiring landscapes. However, Jim Barker, a US National Science Foundation sponsored artist and writer grantee was recently on the ice to photograph humans!

According to Barker, Antarctica has been well documented but no-one has tried to capture those special moments when people on the ice most convey who they are. Barker works almost exclusively with black and white film and uses natural light whenever possible. You may be able to see his results in the National Geographic magazine.

FIRST EVIDENCE THAT OZONE HOLE HARMS ANTARCTIC FISH

Researchers supported by the National Science Foundation (NSF) have presented the first direct evidence that increased ultraviolet light (UVB) damages the DNA of animals in a natural population of animals in Antarctica — the eggs and larvae of ice fish, an Antarctic fish lacking haemoglobin. The ozone hole widens over Antarctica every southern spring, letting more UVB from the sun penetrate to the earth's surface.

In an article published in the February 17 issue of the Proceedings of the National Academy of Sciences, biologists from Northeastern University and the University of Texas demonstrated that ice fish eggs accumulate significant levels of DNA lesions called cyclobutane pyrimidine dimers.

"We were surprised at the extent of the DNA damage we found," said lead author Kirk Malloy, biologist at Northeastern, "although we still need to know what happens during the rest of the year when the ozone hole closes up".

"Ozone depletion has previously been shown to harm one-celled marine plants in Antarctica. We've now documented significant damage at a higher level of the food chain," said William Detrich, a Northeastern biologist who coauthored the paper. "It is striking how closely the damage to the fish eggs tracked with the increased intensity of ultraviolet light."

The studies were done on cruises in waters around the Antarctic Peninsula, the finger of land that juts up toward South America.

The protective ozone layer over Antarctica has thinned over the past two decades, as human-created chemicals called chlorofluorocarbons have risen to the stratosphere and helped to destroy ozone. Antarctica's ozone levels typically drop to less than half of normal during the spring ozone hole, allowing wavelengths of sunlight harmful to life to penetrate to the Earth's surface and into ocean waters. The ozone layer has also thinned, although less so, in temperate regions. Ozone depletion is predicted across even broader areas of the globe over the next century.

The excess ultraviolet light may slow a fish's growth, hamper cellular processes such as transcription and mitosis, and divert precious energy to DNA repair. "Increased UVB may ultimately let fewer larvae survive to adulthood," Malloy said.

The biologists also found that animals vary in how fast they can repair damage to their DNA. Organisms such as ice fish and krill, which breed in spring and release their eggs into ocean waters at the peak of the ozone hole, can repair DNA more than twice as fast as rock cod and other fish that breed in winter. Detrich believes that animals that breed in spring and summer when the sun is out "are a little better prepared by nature to face the ozone hole".

The researchers' next step is to explore whether the DNA damage actually does hamper the animals' ability to survive. In any case, key members of the Southern Ocean food web such as larval and adult fish, krill, copepods, and some zooplankton — the food base for seabirds, whales, and seals — could all be vulnerable to increased UVB.

REVERSE WINFLY WRAPS UP DEEP FREEZE'S 41ST SEASON

The final pre-winter "reverse WINFLY" mission was flown to Antarctica in March 1997 by a US Air Force C-141 Starlifter. The jet flew to Pegasus Field near McMurdo Station to pick up the last 186 people to leave Antarctica before winter sets in. Antarctic Development Squadron Six (VXE-6) — the primary operator of LC-130s on the ice is already on its way home to Pt. Mugu, California.

The 1997-98 summer season will be the last regular season for the US Navy in Antarctica.

By then most Navy functions in Antarctica will have been dis-established as the Navy withdraws from the US Antarctic Programme handing over its duties to the Air National Guard and civilian contractors.

Next season, the New York Air National Guard's flight time will jump from the 826 hours they did last season to 1,616 hours. In 1998-99 this will increase again to 2,305 hours.

TREATY MEETING SETTING COURSE FOR ANTARCTIC

Continued from 5

Three countries — the United States, Japan and Russia — still have not ratified, but they are expected to do so shortly. A second key goal for the Christchurch meeting is to make a Treaty system now over thirty years old vital and relevant to the needs of the Antarctic into a new century.

"New Zealand can play a big role here. Our experience in managing our own sub-Antarctic Islands and our National Parks have given us a clear view of the best ways of making sure Antarctic can be protected for future generations." The Antarctic Treaty Consultative Meeting will take place at the Christchurch Convention Centre between May 19 — 30.

New Zealand's links with the Antarctic go back to the beginnings of early exploration on the ice. Today, Christchurch is home to a critical mass of organisations for which the Antarctic is core business. It is the location for Antarctica New Zealand, the body which coordinates and runs New Zealand's national Antarctic programme.

It is the home of the International Centre for Antarctic Information and Research (ICAIR) which has developed a database and international linkages embracing Antarctic environmental imperatives.

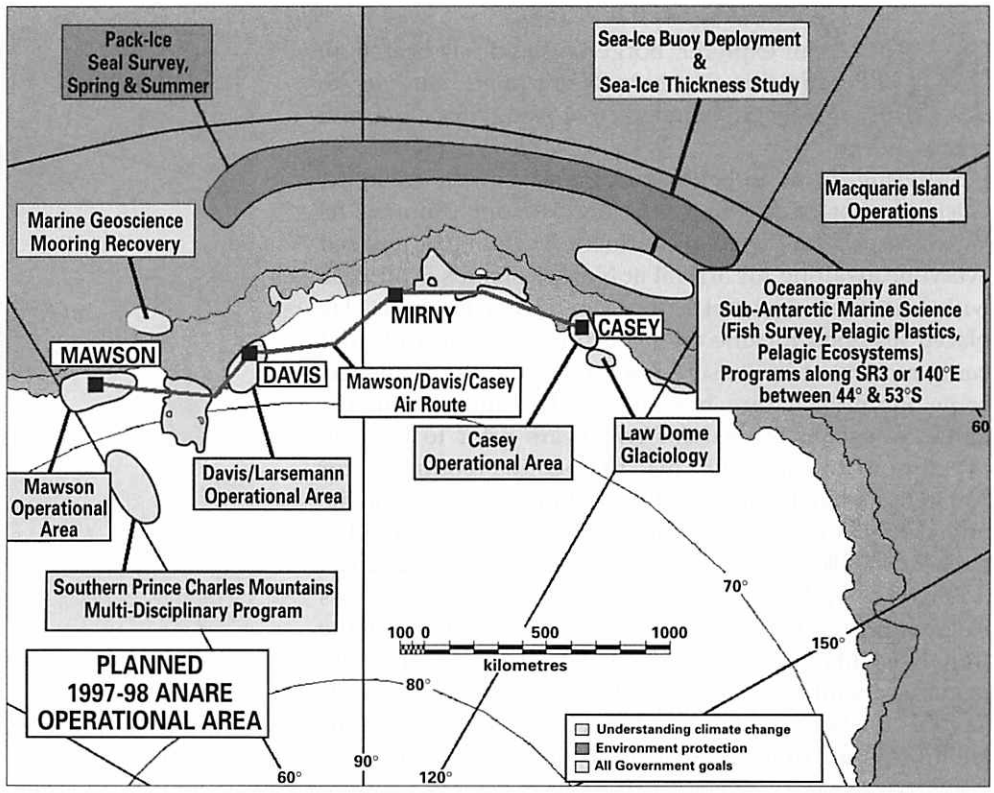
The Visitor's Centre in Christchurch is a world leader in profiling the Antarctic. Christchurch also houses the headquarters of the New Zealand Antarctic Society and is home to the Antarctic Heritage Trust.

AUSTRALIA

HIGH LEVEL OF ACTIVITY — ASHORE AND AT SEA

Australia's 1996/97 Antarctic programme has resulted in comprehensive scientific research and operations at Australia's permanent Antarctic research stations of Davis, Mawson and Casey and at sub-Antarctic Macquarie Island. Three major marine science research programmes were conducted onboard *Aurora Australis* and a brief visit was also made to Heard Island in March 1997.

The season's operations comprised a total of six voyages of the research and supply vessel *Aurora Australis*, with additional logistic support for station and scientific programmes through the deployment of long range helicopters. The first voyage departed in August 1996 with the final voyage of the season expected to arrive back in Hobart on 24 April 1997.



The voyages saw the successful resupply of all four stations, the deployment of summering parties as well as the changeover of all wintering groups. Of particular significance in 1997 was the deployment of the 50th ANARE wintering parties, the first ANARE party departing Melbourne for Heard Island in November 1947.

Research highlights for the 1996/97 season involved dedicated marine science programmes including the final ocean transect associated with WOCE (World Ocean Current Experiment) on Voyage 1; sea ice and seal survey projects on Voyage 2; and a major geoscience research program in southern Prydz Bay during Voyage 5. Station based research included the continuing CCAMLR ecosystem monitoring program at Mawson, now in its sixth year; geophysical and human impact studies in the Stillwell Hills and the Oygarden Group; human impact and biological studies on Ardery Island; human impact studies in the Larsemann Hills; biological and human impact studies in the Vestfold Hills and; demographic studies of elephant seals, at Macquarie Island.

CRABEATER SEALS — MAJOR RESEARCH PROJECT PLANNED

The crabeater seal is believed by scientists to be the most numerous of the world's seal species, with estimates of their number ranging up to 70 million. Dr Colin Southwell, a population biologist with the Australian Antarctic Division, undertook a pilot study during this season's second voyage of *Aurora Australis* to develop techniques which will be employed in a major international project in 1998/99.

This project will survey the abundance and distribution of the seal around the entire Antarctic continent.

Crabeaters live almost exclusively on the floating ice of the Antarctic region making them an elusive research target. Feeding principally on Antarctic krill (not crabs as the name suggests), a number of the seals had satellite linked recorders attached to their backs to record their diving and feeding activities.

Another major research programme on the voyage was the study of Antarctic sea ice. Scientists from the Australian Antarctic Division and the Antarctic Cooperative Research Centre looked at how sea ice affects global climate systems.

Dr Kelvin Michael from the Cooperative Research Centre indicated that the immense expanse of Antarctic sea ice forms an insulating barrier between the ocean and the atmosphere which significantly reduces the exchange of heat and moisture.

To further understand the processes involved, scientists obtained information on sea ice type, thickness, snow cover and temperature variation from onboard *Aurora Australis*, as well from long range helicopters. Ice cores, snow samples and measurements of solar and ultraviolet radiation were taken directly from the sea ice.

EXPEDITION'S UPDATE

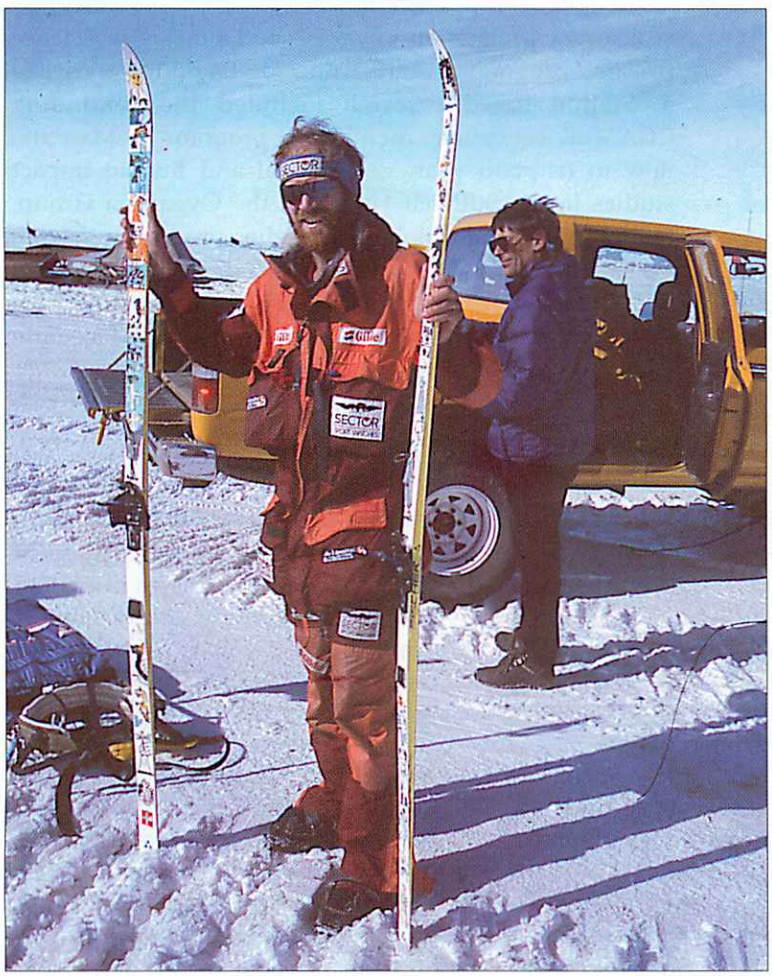
NORWEGIAN WORLD RECORD SOLO ANTARCTIC CROSSING

Norwegian explorer, Borge Ousland has beaten all the odds this Southern Hemisphere summer to become the first man to cross Antarctica alone and unsupported.

Suffering from infected sores and severe frostbite, Ousland aborted his first crossing attempt claiming he lacked respect for the great continent. This time he amazed everyone awaiting his arrival at New Zealand's Scott Base with his fitness and not a sore nor blister in sight. He placed his good fortune on a sporting spirit, attitude and being motivated by "a sense of adventure, the challenge, being out in the nature, breaking borders and pushing the limits". Ousland trained for two years prior to his solo expedition to improve his fitness in readiness for Antarctica's harsh climate. On frigid nights in Norway he pulled rubber tyres behind him in preparation for pulling the heavy 180kg sledge of supplies over the snow and ice.

Ousland embarked on his 2830km journey across Antarctica from Berkener Island in the Weddell Sea on the 14th November and arrived 63 days later on the 19th January at Scott Base. He hitched a ride on the fierce winds towards the South Pole using two parasails to harness the falling cold air from the plateau to the coast. On his best day, Ousland skied 226km over the Ross Ice Shelf in 16 hours. However, he usually tried not to exceed a preset limit of 10 hours a day. His slowest days were during the final leg of his crossing through the crevasse fields between White Island and Scott Base when, at times, his progress was less than 2kph.

Norwegian explorer Borge Ousland arrives at Scott Base.



Borge Ousland displays his decorated skis — a motivation to stay alive for his family's sake on his solo crossing of Antarctica.

On such days time passed slowly and Ousland would think of his family, wife Wenke and 5-year-old son Max. Christmas was one of the toughest.

"Being alone doesn't frighten me as it's an opportunity to get closer to yourself and your surroundings. You also get to recognise your weak side. But being alone means there is no-one to share memories with . . ." Keeping a balance between success and failure posed a psychological test. "I really wasn't sure that I would make it".

The route included that of the great Norwegian explorer, Roald Amundsen first to the South Pole, in December 1911. Trekking through, Ousland said his respect for Admundsen grew. "I felt I was walking in his footsteps and it felt good being surrounded by mountains with Norwegian names". Ousland used a watch, (provided by Sector), and the sun as navigational tools, checking his position using a battery operated geographical positioning system. He carried two sets of skis — one pair with skins, the other cross-country skis worn when parasailing. Looking down at skis decorated with pictures drawn by his son helped encourage Borge onwards towards achieving his goal and avoiding risk.

To cut down on weight he took with him one pair of underwear. More important were a camera and 35 rolls of film, a video camera with 9 hours of video to be used for a TV documentary, five books and 30 music tapes — of which Jimi Hendrix's song 'The

Ultimate Experience' was his favourite.

His unexpectedly early arrival at Scott Base coincided with that of New Zealand prime minister Jim Bolger's and Sir Edmund Hillary's four day visit to the ice marking the 40th Anniversary celebrations of Scott Base. "I found out about the celebrations and wondered about what reception I'd get," said Ousland, "The first person I saw was at the American base, where I was worried about being run over by an aeroplane! I saw a man repairing a truck who looked up at me, pondered, then continued on with his work. Apparently he realised later who I was! When I reached Scott Base there was a warm welcome and it was then that I realised I was safe", he explained. His first hot shower — the first in over two months — was 'indescribable'. In a meeting with Sir Edmund Hillary both agreed that crevasses were the worst threat in Antarctica.

Norwegian Borge Ousland set himself a daily limit of distance to conserve his strength.

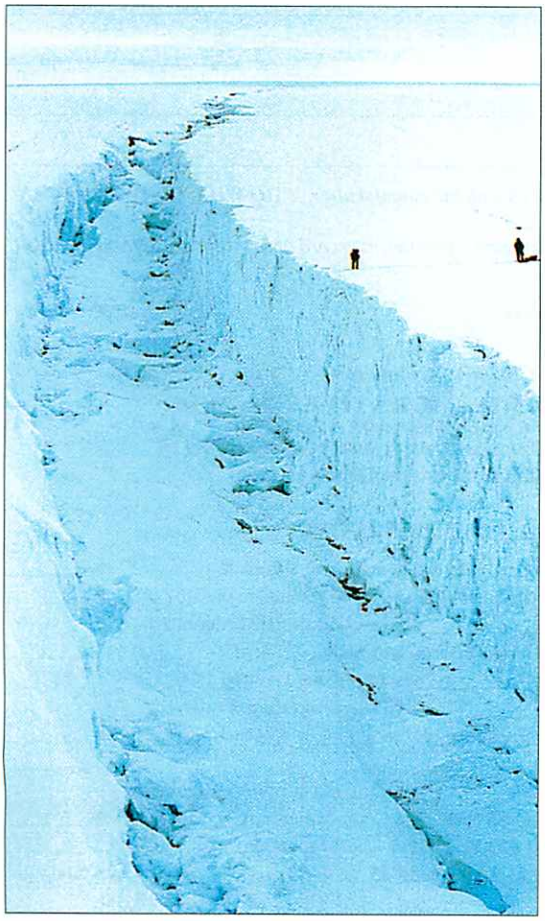
Borge Ousland (right) with George Lowe at Scott Base..

Hillary described Ousland as "a pretty impressive sort of character . . . . tall and sinewy, with a great deal of experience . . . I was impressed with him — obviously a tremendous performer".

Ousland beat two others to the world record — Sir Ranulph Fiennes whose attempt was frustrated by a need to have kidney stones surgically removed, and Marek Kaminski who discontinued his expedition.

NEWS

LARGE CRACKS IN VAST ICE SHELF
FURTHER EVIDENCE OF ANTARCTIC WARMING



Scientists on the recent Greenpeace Polar Meltdown Tour have filmed alarmingly huge cracks (pictured left) on the Larsen-B Ice Shelf that suggest it too may soon collapse. Their finding comes only two years since the collapse of Larsen-A Ice Shelf,

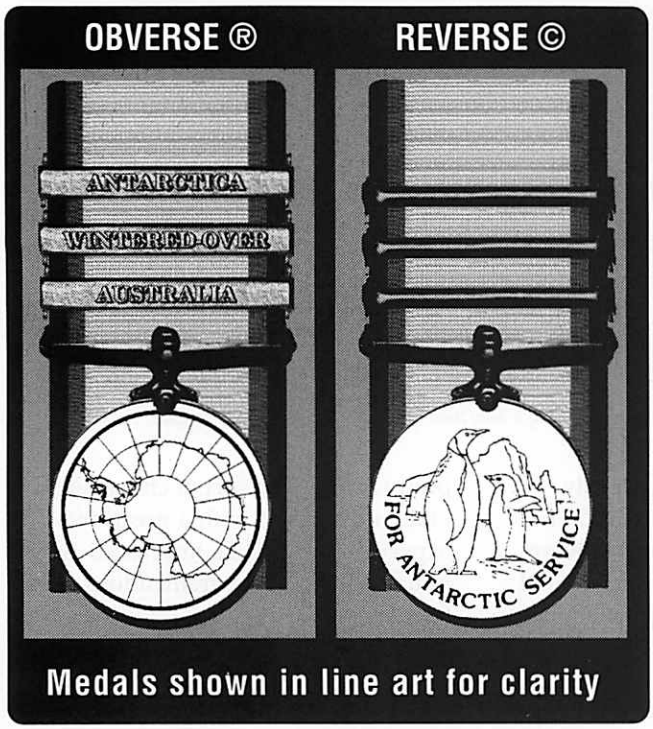
Larsen-B ice shelf, at 12,000 sq kms and 400 metres thick, is three times the size of the already collapsed Larsen-A ice shelf which was 4,200 sq km and 200 metres thick. Over the past 50 years evidence has shown an increase in temperature of the Antarctic Peninsula climate of 2.5 degrees centigrade.

These climatic changes may also explain the large declines in Adelie penguin populations along the Antarctic Peninsula. US scientists have noted that Adelie penguin populations around King George Island and Torgersn Island have fallen from around 15,200 breeding pairs in 1975 to a current 9,200 pairs. This decline and the Larsen-B ice shelf cracks are considered by some scientists as signs that dangerous warming is beginning in Antarctica.

Last month scientists aboard the Greenpeace ship MV *Arctic Sunrise* also discovered a 1000 metre deep underwater channel in the Antarctic which is expected to provide new insights into the collapse of the Larsen-A Ice Shelf.

Dr Rodolfo Del Valle, Head of the Geology Department at the IAA, speculates that the channel and other nearby channels refrigerated the bottom of the ice shelf and delayed thinning by warmer sea currents circulating underneath the ice shelf. The submarine channel is located where the northern end of the Larsen-A Ice Shelf was once situated, offshore from the Drygalski Glacier (the largest glacier on the Nordenskjold Coast). It is 15 nautical miles long and up to eight nautical miles wide, approximately coinciding with the glacier's width.

ANTARCTIC SERVICE
MEDAL COMMEMORATIVE



Service Commemoratives is proud to announce the release of a commemorative for Antarctic service, to be available to all qualified men and women.

This medal is to **commemorate** Antarctic service that has not been recognised by any award.

Both this superb medal and its miniature are STRUCK and have a high grade bright nickel finish that will not require polishing. This is not some inexpensive casting. (The medal and ribbon suspender bar are two piece assembly for *both* the full size medal *and* the miniature.)

The medal's beautiful *watered* ribbon represents the frozen continent, the ice shelf and the Great Southern Ocean; this is a predominantly white ribbon merging into pale blue and dark blue on both edges.

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Clasps (bars) are to be attached and rivetted to each other and to the medal ribbon suspender assembly. Clasps (bars) are of a similar construction and assembly type as used on the various British General Service Medals. This Commemorative can also be displayed without any Clasps (bars).

Neither medal mounting nor engraving services are offered or provided by Service Commemoratives. Such requests should be directed to professional medal mounting services. We can recommend such services.

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NEWS

DRILLING AN ICE DOME IN WEST ANTARCTICA

Scientists from the Desert Research Institute, USA, will be drilling a 1000-metre core from Siple Dome as part of the West Antarctic Ice Sheet programme led by Kendrick Taylor.

Siple Dome is a rise of ice located between two ice streams on the coast of the Ross Sea. The core's ice record is expected to span 80,000 years, including part of the last glaciation, and to have distinct annual ice layers back at least 6,000 years. The core will shed light on past coastal climates and ice stream dynamics.

It will also be compared with the deep cores obtained from the Greenland ice sheet to assess whether the rapid climate changes recorded in Greenland were global in extent.

THE THREE HUNDRED CLUB

If weird activity on the ice disinterests you, then don't let us bore you with triviality. But if not . . . have you heard of those South Poler's who run about naked when the temperature drops to 100 degrees Fahrenheit below every winter!

To explain. The three hundred club is so named because there's three hundred degrees Fahrenheit between +200 and -100. In honour of Gabriel Daniel Fahrenheit, every winter when the air temperature at South Pole reaches 100 below, the station's sauna is heated up to 200 degrees.

After 15 minutes in the sauna, body temperature rises enough that one can run naked (except for shoes), down the hall, out a door, down a flight of stairs, through a entrance and into a tunnel, up onto the snow and out to the Pole (Thereafter quickly returning to the sauna!).

So what's wrong with that? After all, it's perfectly natural . . .

HERITAGE STATUS REQUESTED FOR SUB-ANTARCTIC ISLANDS

The New Zealand Government is applying to UNESCO for world heritage status for the country's sub-Antarctic islands. These include the Auckland, Campbell, Antipodes, Bounty and Snare Islands. New Zealand Conservation Minister, Nick Smith, announced the proposal last month during his speech to the International Union for the Conservation of Nature at Lincoln University in Canterbury.

The new status would acknowledge that the islands have international conservation importance and would ensure measures are taken to manage and maintain their protection. The islands are a third of the way between Invercargill and Antarctica and are home to a wealth of seabirds. They are also a valuable breeding ground for one of the world's rarest seals, the Hooker's sea lion, as well as being a home to a number of endangered birds that evolved in a predator free environment. If the application is lodged before 1 July, 1997, it would take another 18 months before the decision is made.

SALVAGE RIGHTS OBTAINED FOR BYRD'S FOKKER AIRCRAFT

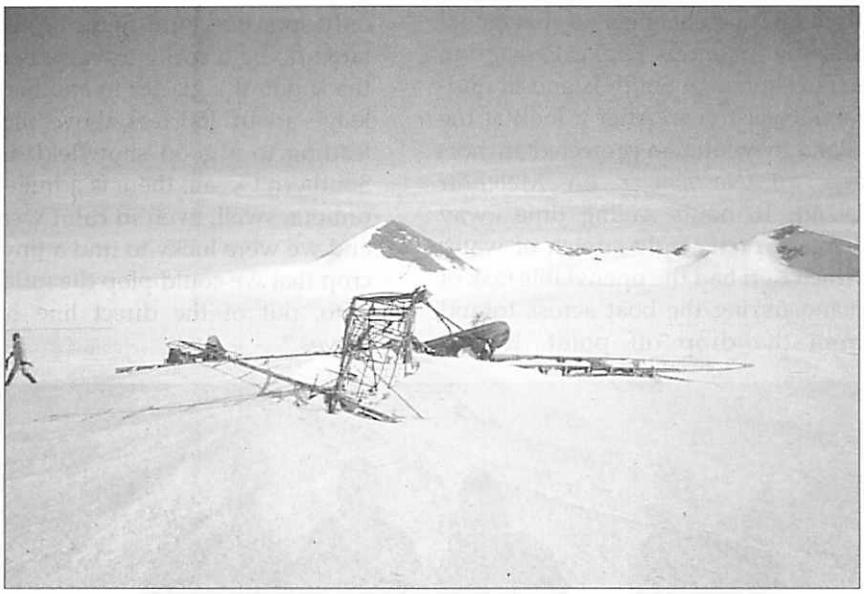
For 67 years the first aircraft to have landed on the Antarctic Continent has lain forlorn in the solitude of Antarctica's unforgiving frozen magnitude. Embedded on the surface of a frozen lake, the storm damaged Fokker flown during Byrd's 1929 expedition may have seen better days, but she is not forgotten.

New Zealanders Chris Rudge and Andrew North, Antarctic aviation enthusiasts, plan to salvage the aircraft to display at the Christchurch International Airport. Ownership would be vested with the Canterbury Museum, of Christchurch, for the long-term security of the aircraft. Only recently they successfully managed to obtain salvage rights to rescue the aircraft.

In a letter to Chris and Andrew, Admiral Byrd's daughter, Bolling Byrd Clarke, wrote:

"After very much thought, my sister Katharine Byrd Breyer and I have decided that not only should you have salvage rights, but that we wish to give the plane outright to the people of New Zealand.

My father was overwhelmed with the affection, friendship and help he received at the time of his expeditions. On his behalf, therefore, please accept the aircraft as a gift of gratitude from the Byrd family."



The Fokker aircraft from Admiral Robert Byrd's 1929 expedition to Antarctica.

With the salvage rights now in their possession, Chris and Andrew will set about trying to raise public interest in the project.

Of equal concern is how to transport the Fokker off the ice. By far the best and easiest solution would be to use a ski-equipped Hercules 130 aircraft. However, this presents a major financial outlay and public support will be required.

NEW ZEALANDER CONQUERS SMITH ISLAND'S MOUNT FOSTER

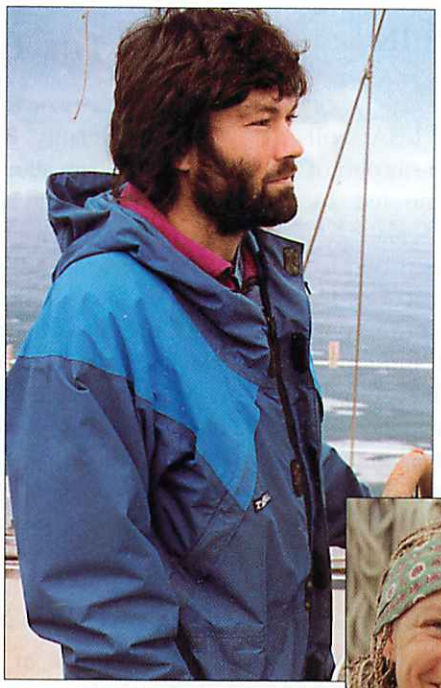
New Zealander, Greg Landreth, and three expedition members conquered one of the Antarctic Peninsula's last remaining unclimbed peaks — Smith Island's 2103 metre high Mount Foster.

Landreth's climbing companions on 30 January 1996, were fellow Kiwis Bruce Dowrick and Roger Thompson, and Canadian cinematographer Dan Mammix who was taking footage for a film pre-sold to American Adventure Productions.

The small isolated island is 96 kilometres off the northern tip of the Antarctic Peninsula in the South Shetland Islands.

Thirty years ago, Bill Tilman wrote of Smith Island "In the very short distance we coasted along it, sheer ice cliffs glacier tongues, rock cliffs or boulders, forbade even the thought of a landing." Other expeditions found the island girded by an almost continuous line of collapsing ice cliffs.

Following in the wake of Shackleton, Tilman & Slocum, the team led by Greg and his wife Keri sailed 804 kilometres from Cape Horn to Smith Island in the small boat *Northanger.* After sailing the Pacific Ocean from Canada they passed through the channels of Patagonia and the infamous Drake Passage to make landfall at Smith Island in mid-January last year. After a look at the island they found a protected anchorage for *Northanger* on Melchoir Island, 16 hours sailing time away across a pretty ugly stretch of water which Keri had the unenviable task of manoeuvring the boat across to and from the drop off point. It was nowhere near as close to their objective as they had hoped.



Greg Landreth at the Helm of 'Northanger'.

Right: Greg's Canadian wife, Keri Pashuk.

In a letter to family and friends, Greg Landreth described the climbing group landing on Smith Island 10 days later in perfect weather. "The only spot we could find . . . necessitated doing a rocky traverse beneath the snout of a glacier to another rock ledge about 150 feet above the sea, leading to a good snowfield. In the Southern Ocean, there is a huge continuous swell, even in calm weather, and we were lucky to find a tiny outcrop that we could plop the inflatable onto, out of the direct line of the waves."

While hauling gear on this pitch, via a flying fox, a pack strap broke, sending their radio and two weeks of food plummeting into the ocean. With no way to contact the *Northanger*, the climbers had just days to accomplish what they had estimated would take about six weeks. Five days was the time agreed upon for Keri to return with *Northanger* if no radio contact were made.

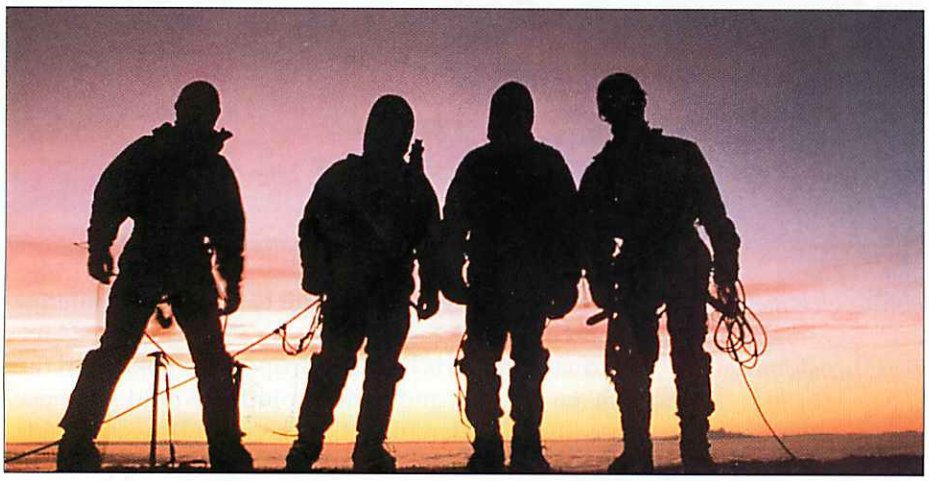
Waiting on the support vessel were *Northanger* skipper and Landreth's wife Keri Pashuk (Canada); Joanne Stratford (New Zealand); Anna Kemp (Canada); and Veronica Mannix, a second Canadian cinematographer.

"Now the only feasible option was a lightweight alpine-style push to the summit in one shot . . . we were too far out on a limb to do it any other way", wrote Landreth. Luckily the storm gods slept during their three days on the mountain. But being cooped up on the boat for so long had left them unfit, and they found the climbing consistently difficult and exposed. Sections of the climb, such as a "nasty corniced cheval ridge with a 2000-foot drop on either side" were especially demanding for "wobbly sailors". After a quick yahoo on the summit, the men descended in increasing wind, reaching their tent/snow cave base after 27 hours of continuous climbing.

In a crevasse below the summit, using a small hand-held VHF radio the team were surprised to be able to contact *Northanger* via the Argentine base near the boat's mooring. "Getting back aboard proved to be no problem even though the swell was bigger than before and that was it. Boom. Gone", wrote Landreth.

Landreth and Pashuk will be presented in May with the prestigious Tilman Medal from Britain's Royal Cruising Club in London for their outstanding achievements in Antarctic waters last year. He will also address the Royal Geographical Society.

(By Nancy Cawley, The Press, Christchurch, NZ)



Members of the Landreth expedition atop Mount Foster on Smith Island.

SWAN, DAY AND SOMERS GO ONE STEP BEYOND

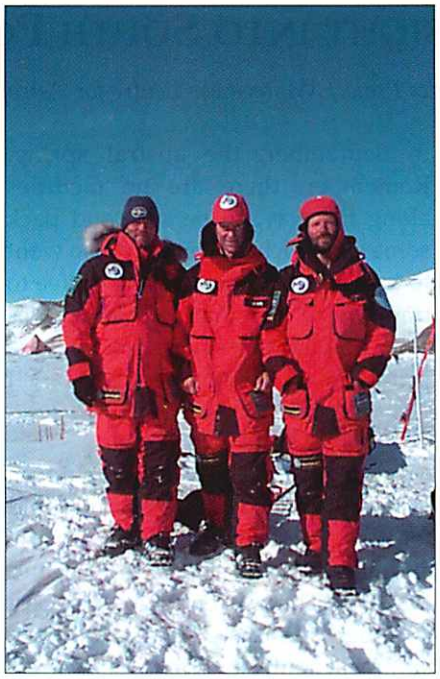
Twin challenges — of distance and time — confronted veteran polar expeditioners Robert Swan (40), Crispin Day (36) and Geoff Somers (44) when they embarked 11 January 1996 on a journey from the South Pole to the edge of Antarctica.

The three men initially hoped to cover the 1300 km from the South Pole to Berkener Island with the help of only one resupply en route and reach their goal in time to meet a group of young explorers from around the world.

The Tandem One Step Beyond South Pole Challenge expedition led by Robert Swan would, in addition to its three man Pole trek, welcome to Antarctica an international team of 35 young people aged 16-24. Celebrating 50 years of UNESCO (United Nations Educational, Cultural and Scientific Organisation) and using leading edge communications and Internet technology the expedition would communicate their experiences daily with young and old around the world.

Slow initial progress made it increasingly unlikely that the walkers would finish in time to join the Young Explorers. It was therefore decided to change direction to Hercules Inlet, in order to reach the coast faster. However, by December 31, with twenty days gone and only half the distance travelled, Robert Swan decided to go back on their supply plane in order to reach the ship in time.

Day and Somers decided to complete the journey for Swan. With better wind conditions, they made excellent progress, reaching Hercules Inlet on 11 January 1997. Because conditions were so favourable, they decided to press on and see what could really be achieved. With the aid of Spider parafoils used for sledge traction during the walk part of the expedition, they covered distances of up to 160 kilometres a day. A week later, they completed their journey at the Hauberg Mountains. They had covered an impressive 1700 kilometres in 38 days.



Robert Swan, Crispin Day and Geoff Somers.

Robert Swan's first youth expedition, Icewalk Amway in 1989, was sponsored by a variety of global institutions including the Duke of Edinburgh's award scheme. Twenty-two young people from 15 countries conducted a successful mini-expedition while monitoring the progress of Swan's polar team trek to the North Pole. The resulting international goodwill and media exposure led to a book, a hit single, a TV mini-series, letters from world leaders and convinced Swan that youth should play an important role in his next expedition — Tandem One Step Beyond (TOSB).

The Tandem One Step Beyond — YEs.

The TOSB Young Explorers (YEs) travelled to Ushuaia, South America, where they underwent extensive training and team building. They set sail on *Professor Khromov*, an ice strengthened Russian vessel. On board with the YEs was a highly skilled and experienced crew and staff specialised in the environment, leadership, exploration, education, science and interpersonal skills.

On 9 January 1997, the YEs were due to be joined by Swan and Day. The ship had modern communications, a doctor and air-sea rescue systems, and the programme was led by Everest veteran Bronco Lane. A full schedule of scientific, cultural, leadership and environment projects took place as well as overnight stays on the Antarctica Peninsula and visits to many of shore Islands. The entire trip lasted one month.

At the end of the expedition, the YEs were appointed UNESCO Junior Special Envoys, with access to the institution's support and facilities. This special office has provided the YEs with a unique position from which to effect change in their respective countries of origin. An honour unlikely to be offered by UNESCO again.

It is not all over for the YEs as the intention is to use the team and expertise for future projects. One plan is for them to go to Bosnia in 1998 to celebrate the peace there if it holds. The intention is both to put something back into the war torn area by, for instance, the establishment of cyber cafes with support of computer sponsors and also to provide some young Bosnians, Croats, Serbs and Yugoslavs with team building and leadership training.

The expedition Internet site is www.onestep.tandem.com.

TOURISM

AN INSIGHT INTO SOUTH POLE TRAVEL

By Christopher R. Bero, Advanced Telescopes Project Winter-over Centre for Astrophysical Research in Antarctica, South Pole

How many times have you fought the crowds and paid the steep prices to stay at a tropical "paradise" resort only to find yourself under a constant onslaught of prehistoric sized insects sucking your blood and injecting irritants into your skin?

Well, if heat and humidity are your nemesis, and if the phrase "rich in species diversity" only conjures up an image of a plethora of microbes and monsters hell bent on biting, stinging, sucking, and infecting your body, then there really is only one vacation spot for you — the South Pole.

Why just go a little bit south this winter? Go all the way.

How to Get There

By Plane: Adventure Network International offers South Pole travel packages and The National Science Foundation maintains the Amundsen-Scott South Pole base and schedules regular military flights to Pole during the summer months.

By Over-land Traverse: Situated less than a thousand miles from the quaint coastal town of McMurdo, South Pole has become a popular destination for skiers and all-around adventurers. Steeped in mystical beauty and dramatic landscape, skiing to South Pole is still not without its pitfalls. Try to stay clear of the crevasse fields and start your trek in September, the austral spring. Remember, there are no facilities along the way, so be sure and pack some sandwiches. You may also want to bring some chocolate and coffee to trade with the South Pole natives since no real currency is used by these primitive yet friendly peoples.

When to Go

Most people take advantage of South Pole's unlimited sunlight and mild temperatures during the favourite summer months of December and January. These aren't just the best summer months. These ARE the summer months.

The industrialized nations have also helped alter the atmosphere above the South Pole so as to maximize your tanning potential while enjoying your 24 hour continuous sunlight.

According to the NOAA weather summary, "The summer season is characterized by light winds, moderate temperatures and frequent precipitation in the form of ice crystals or snow grains. Actual snow flakes have very rarely been observed at the South Pole, due to the extreme cold temperatures."

For the younger crowd, no stay at South Pole would be complete without a winter-over. Nine whole months of complete freedom from the usual confines of the outside world and a night life that goes non-stop for six whole months. When tired of dancing and partying, the South Pole activities coordinator would be happy to show you the many areas to explore at the Pole. You can watch several thousand videos. You can run on a treadmill, lift weights, play volley bag, slaughter your co-workers in a virtual reality Duke Nuke'm 3D game, or you can just sit in the galley and watch the same people day in day out and estimate the rate of growth for their facial hair.

ANTARCTIC WEATHER TEMPERATURES (DEGREES CENTIGRADE)

Mean Monthly MAXIMUM Temperatures (1957 to present):

Jan	-26	Feb	-38
Mar	-51	Apr	-53
May	-53	Jun	-54
Jul	-56	Aug	-55
Sep	-55	Oct	-48
Nov	-37	Dec	-26

Mean Monthly MINIMUM Temperatures (1957 to present):

Jan	-29	Feb	-43
Mar	-57	Apr	-60
May	-62	Jun	-62
Jul	-63	Aug	-63
Sep	-63	Oct	-54
Nov	-40	Dec	-29

LONELY PLANET REACHES ANTARCTICA

A consumer travel guide "Antarctica" recently published by the back-packers' guru Lonely Planet, could, say environmentalists, help to raise the awareness of Antarctica and be of benefit to the continent.

Lonely Planet publisher, Tony Wheeler, who spent two summers in Antarctica with the New Zealand Antarctic Programme between 1988 and 1990, explained that tourism need not be harmful and can do a lot of good. "If there weren't people going to Kenya to see the wildlife, there wouldn't be any wildlife left in Kenya".

Simon Towle, Wellington environmentalist for World Wide Fund for Nature, added, "providing Antarctic tourism was well managed and controlled it wouldn't be something that we would object to". In agreement, Stuart Prior, Head of Foreign Affairs and Trade Ministry's Antarctic Policy Unit, said carefully managed tourism could be good for Antarctica. Most visitors left with a better appreciation of the environmental issues.

The book contains in depth information and excellent photography of the history, exploration and wildlife in Antarctica as well as detailing the environmental issues that make it an interesting read. It also contains tourist guidelines to the "Antarctic Gateways" including 10 pages on Christchurch. Most tourist trips, however, leave from Ushuaia on the southern tip of South America.

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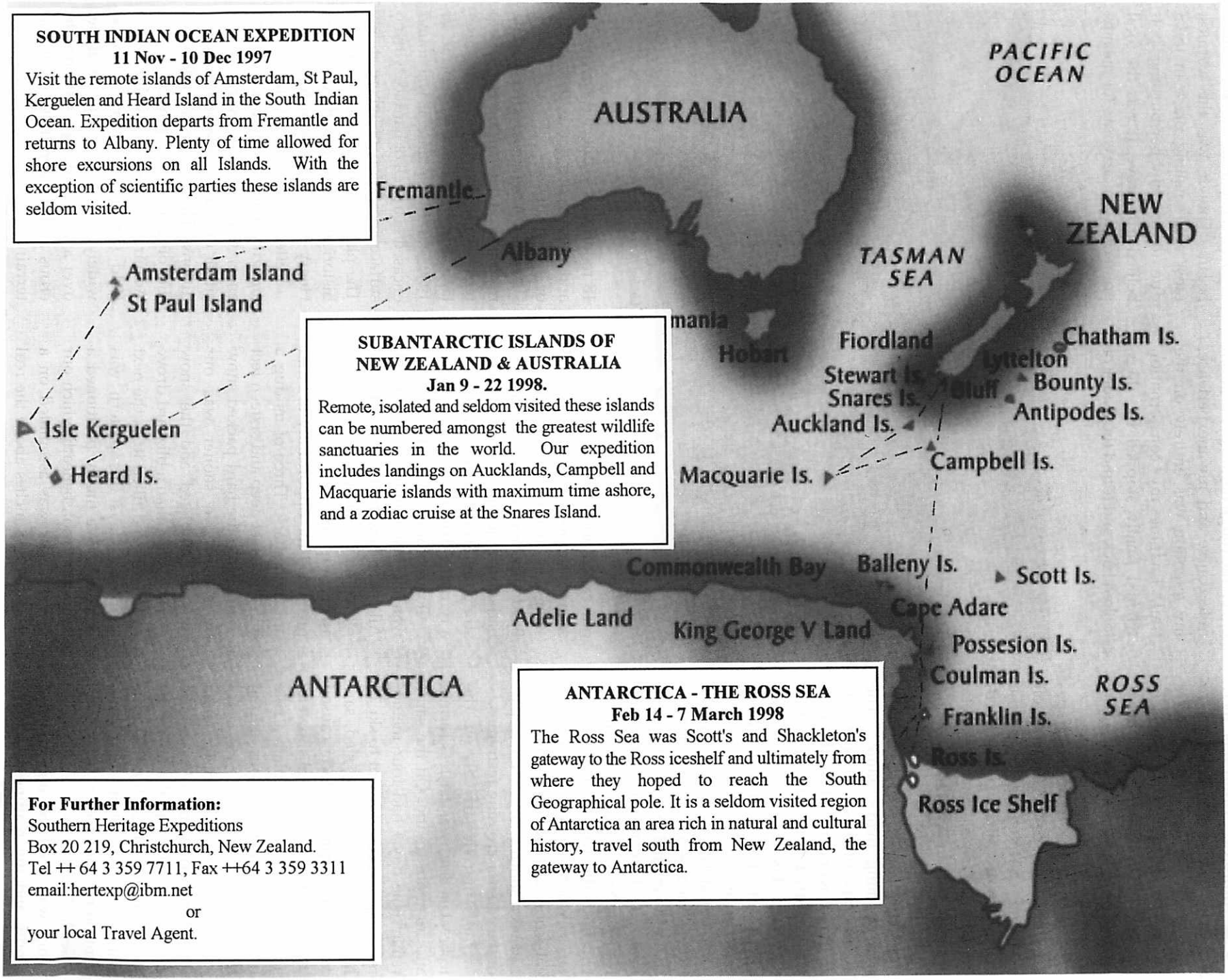
Feb 14 - 7 March 1998

The Ross Sea was Scott's and Shackleton's gateway to the Ross iceshelf and ultimately from where they hoped to reach the South Geographical pole. It is a seldom visited region of Antarctica an area rich in natural and cultural history, travel south from New Zealand, the gateway to Antarctica.



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ANTARCTIC FLASHBACK

BYRD'S SECOND ANTARCTIC EXPEDITION A POPULAR EVENT

by Alton A Lindsey

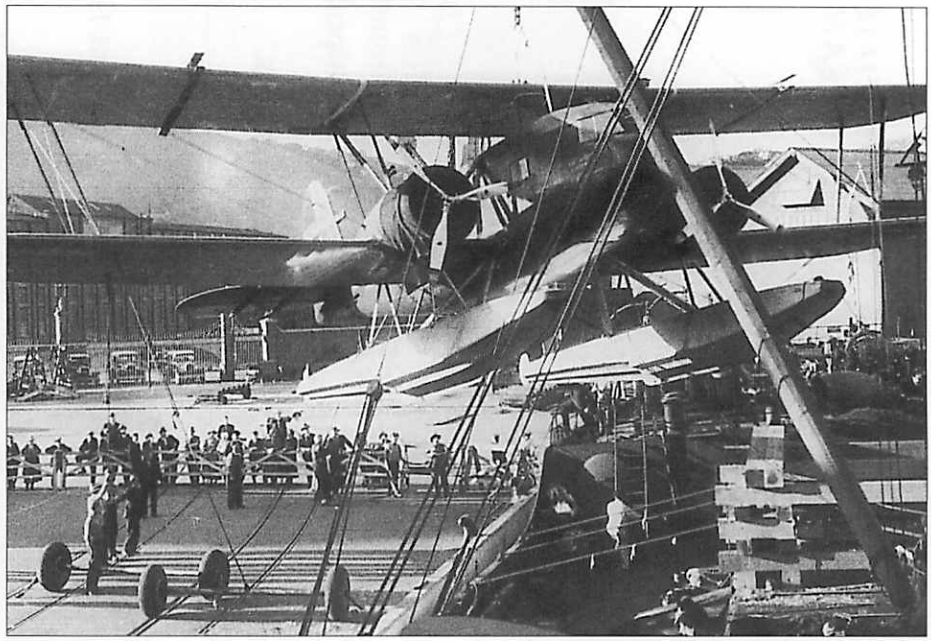
Admiral Robert Byrd's Antarctic exhibitions were a magnetic attraction to thousands of would-be explorers when he called for participants in the 1930's. Alton Lindsey who went south with Byrd records the euphoria in his diary.

More than three thousand hopefuls applied to spend 19 months on a frozen continent, without the prospect of financial reward, possibly in expectation of public approbation. In selecting his 56 Ice Party members, Byrd kept in mind that in those days polar exploration was a young man's game. The average age of those selected was 26. Small wonder that by the time we departed for our expedition BAE had become known as an acronym for "Boys After Experience".

On our arrival in Wellington, the twelve members of our scientific staff were invited to a gala dinner to meet the Governor-General and leading New Zealand scientists. Our hosts did well to keep straight faces when confronted with a collection of skinheads, since we had been shorn by our crew as part of the equator crossing festivities.

Our Antarctic arrival, on the icebreaker *Bear*, was far less formal and far more frantic. On the same remarkable day I had four memorable experiences. I learnt to ski, to harness and drive a dog sled, saw my first atmospheric effects, caused by sunlight and ice-crystal showers, and had Admiral Byrd hitch a ride from Little America to our ship at the Bay of Whales.

Sleds were harnessed to seven dogs, three pairs and a leader. The driver skied along to the left of the sled's front end, holding the slanting gee pole in his right hand, controlling the leader by yelling "Gee", "Haw" and "Whoa". No whip was used. Seeing my sled empty and my readiness to drive back to our moored ship, Byrd offered himself as a passenger. Given the rough nature of the seven mile course and my inexperience, my attention was entirely on the trail. Imagine my consternation when I finally stopped the dogs, looked back and found the leader of our expedition missing! Disastrous scenarios crossed my mind, but as I struggled to turn the dogs about Byrd appeared, grinning widely he had simply jumped off at a tricky stretch and was enjoying the joke on a tyro dog driver.



Floatplane being loaded on BAE II — Admiral Byrd's 1933 expedition..

Our zoology and taxidermy cabin was the last building constructed. All other new buildings had been placed on the snow surface and the approach of winter almost precluded the opportunity to build our own shack. Three of us dug a hole, nine feet deep and sixteen feet square, into the hard packed snow by shovel. No sooner was our dugout completed and the snow carried away, than a blizzard drove us indoors and filled it. In the next couple of days this pattern was repeated. We finally positioned a temporary roof, beneath which our prefab shack was assembled on a false floor 18 inches above the real floor, and connected to the other buildings by a snow tunnel.

"Blubberheim", as the shack became known, was the warmest most evil smelling place in town due to the blubber-burning pot-bellied iron stove. It was the focal point of my endeavours for the next 18 months as I collected specimens and preserved them, by taxidermy or heavy salt.

My last assignment after loading my boxes on the flagship was to help retrieve the corrugated metal fuselage, trimotor Ford monoplane of 1930 South Pole fame. It was found encased in a shell of hard ice with no surface indication of where it lay. The plane is now preserved in the historical museum of Byrd's friend Henry Ford at Dearborn, Michigan.

Reflecting on our adventure, it is amazing, considering our inexperience, that no lives were lost in either of Byrd's 1928 or 1933 expeditions. This speaks wonders for the organisational powers of the Admiral for, especially during the field season, we were scattered widely, in small groups or alone, over a vast landscape with treacherous and dangerous weather and terrain.

BOOK REVIEW

SOUTH: AN ANTARCTIC JOURNEY

by Chris Orsman (Victoria University Press, $19.95)
Reviewed by Bill Sewell

You don't need to have been an Antarctic explorer or even to have visited Antarctica to write about it.

Although many of the best-known accounts have been produced by explorers — Scott, Wilson, Cherry-Garrard, Byrd — the Antarctic has also long been "an arena for the imagination" which has fascinated poets and novelists, including Coleridge, Mary Shelley, Edgar Allan Poe and Dickens. New Zealand writers of poetry and fiction have been no exception, as evidenced by Graham Billing's novel, *Forbush and the Penguins*, and now Chris Orsman's long poem, *South: An Antarctic Journey*.

Orsman's fascination is partly family-based. His grandfather won a trip to Dunedin in 1910 to join Scott on the *Terra Nova* for a short voyage from Port Chalmers to the Otago Heads, and one of the family heirlooms is a copy of the photographer Ponting's *The Great White South* (1921). Many of Ponting's stark black-and-white photographs have become triggers for Orsman's poem.

Although *South* is composed of 44 short pieces, almost all in unrhymed couplet form, it is essentially a narrative telling the story of Scott's final expedition, divided into five parts: "Getting There", "Landing", "The First Winter", "South", and "Heading for Home".

Orsman uses the story as a framework within which to meditate on the meaning of Antarctica and also to develop the idea of a "journey of the soul".

The Antarctic becomes a symbol for human curiosity, the need of the species to probe the unknown, to push out the limits, even when it seems that the reward will be no more than the achievement itself.

There is no doubt that the Antarctic provokes a poetic response in people. In *South*, Orsman simply takes this reaction to its logical consequence, based on a profound knowledge — derived though it is at secondhand, from his reading. He is able not only to conjure up the Antarctic environment with extraordinary immediacy, in crisp and sometimes searing imagery — "It becomes so cold the emotions / freeze on their faces" ('Piloting') — but also to give the Antarctic as an *idea* added resonance, by making it reflect what drives so much human behaviour.

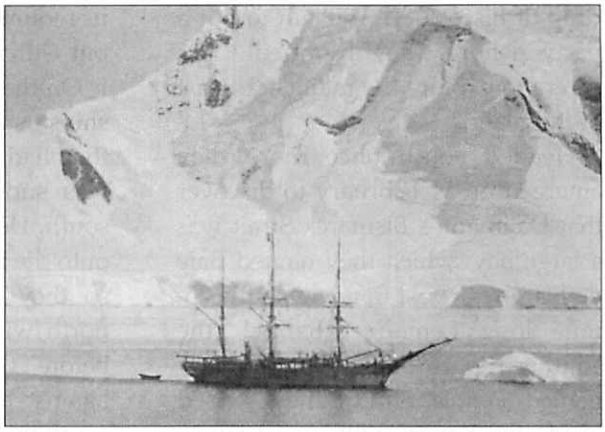
Bill Sewell is a Wellington poet and critic.

HISTORICAL

THE RIDDLE OF THE ANTARCTIC PENINSULA

by David E. Yelverton FRGS.

Part II: Pioneers of the Antarctic Night: The Story of the Belgian Antarctic Expedition 1897-9.



L'Expédition Antarctique Belge headed the *Beligica's* bow towards the South Shetlands and the Antarctic beyond on 14 January 1898. The opening raid upon Nature's white wilderness had to overcome a shaky start . . .

At that time there was no connection between the discoveries of Biscoe, Dallmann and Evensen on west side and those of Dumont d'Urville, Ross, and Larsen on the east. Between them in the north, there lay Trinity Land as the Admiralty chart called it, discovered by the English sealer Edward Bransfield in 1820. To the east of the coast he found lay d'Urville's Orléans "channel", and to the west of it Hughes Bay, discovered by the Connecticut sealing skipper in 1821. Beyond this to the south-east Larsen declared on his map that there was no land, and the island mountains he showed trending northwest from Robertson Island seemed to support that.

To emerge beside those islands was the goal De Gerlache now had in mind as he made southward, believing the bay was the entrance to a channel through which he could steam or sail to the Weddell Sea. Just six weeks of the season remained to them.

A week later, after crossing the Drake Strait in moderate weather and making the first line of soundings to chart its floor, they were running for shelter in a fierce sea in the Bransfield Strait beyond the South Shetlands.

It was then that the Antarctic claimed the first life in the new assault on her shores. The coal stacked on the deck shifted and blocked the scuppers, so the men were put to work to shift it below. Despite a warning from Amundsen, the young seaman Auguste Wiencke swung himself outside the enclosed rail to clear a scupper outlet, and in an instant was swept away by a wave.

A valiant attempt by Lecointe to save him failed and the shadow of the popular lad's death hung over the ship as they sheltered in the lea of Low Island that night, 22 January 1898.

In keeping with the quick-change Antarctic climate, the next day was perfect. Starting with the sighting of Cape Neyt (named after their first cash donor) which had the 64°S 62°W position of the possible island shown on the Friederichsen map, they discovered on the 24 January that the gulf was the entrance to the strait they sought. A week was spent mapping its coasts as best they could, hampered by the absence of stars and moon, and the masking of the sun by its mountainous shores. Making their tenth landing on the Ile Brabant, Danco fell into a crevasse and after the rope broke was only saved by his ski getting stuck across a narrower part of it. During the eight days the party was ashore, Lecointe took the *Belgica* over 60 miles further south into the channel (now named Gerlache Strait), finding that it continued south-west with no sign of turning towards the Weddell Sea.

After returning to pick the land party up, he took their diminutive barquentine down the Neumayer Channel past the island they named after their dead comrade, with its tremendous backbone range, the Sierra du Fief, dominating the eastern skyline. Pausing against the backdrop of Biscoe's Mt.William to put a party ashore, they rounded Cape Errera to explore the main strait east of the island.

Headed south once more they emerged on 11 February to discover that Dallmann's Bismarck Strait was a large bay, which they named Baie de Flandres. First to navigate the 25-mile long Lemaire Channel (the southern part of which is today named Penola Strait), they passed inside the Kaiser Wilhelm I Islands, also discovered by Dallmann in 1874, without recognising them. Imagining he had discovered them, De Gerlache renamed them after Cdr Wandel and his other Danish supporters, calling the group the Iles Dannebrog. Beyond the last of them at 65°15S they came to impenetrable ice on 13 February.

It spelled the limit of their geographical achievement. In 22 days they had redrawn the map and along a 166 kilometres stretch had traced the western coast of the Antarctic Peninsula, which continues for a further 925 kilometres to the south.

Beyond the last two capes (Tuxen and de Troot[f]) the coast had disappeared into what they took to be a "vaste baie ou détroit." Lecointe endorsed his chart "Détroit de Bismarck?" and this was to dominate the thinking behind two pioneer expeditions which set out in their wake to resolve whether the peninsula was simply a string of islands or really part of the unknown continent that they all dreamed of discovering.

Forced away to the north west before they could reach what they took to be Biscoe's Pitt Island they came to what they named the "Isles Cruls". From their description however, and the course plotted on Lecointe's chart, there is at least an arguable probability that they sailed through the islands encountered by Charcot in 1905, which he named the Betbeder Islands.

Frustration was to be the Belgians lot for the next two weeks, while they followed the ice edge ever west of south looking for a way through, with tantalisingly sightings of Alexander Land 74 kilometres away, its mountains rising over the horizon, but with no way to get near it.

On the last day of February, when ships usually sought warmer waters, they had reached 84$^1/_2$W. Told there was suddenly a clear way to the south, De Gerlache quickly came up onto the bridge. The wind was ENE, so they could sail either south or north with equal ease. Three days before[1], the scientists had spoken out against attempting to push further south this late in the season, but after a short conversation in which both Gerlache and Lecointe recognised the risks, the possibility that, like Ross, they might break through into an open sea, clearly outweighed them. "With profound excitement [joie]", Lecointe later wrote, "I gave the order to head the ship southward"[2].

In that rapid decision to seize the hoped-for opportunity despite the lateness of the season, the two men seem to have forgotten that Ross had taken his similar decision on 5 January, almost eight weeks earlier in the season of 1841. After a day when the ice was relatively broken, Ross, seeing a water sky to the south, led his ships into thicker ice, from which they emerged three days later. No such sky greeted the advance of the *Belgica*. Either forgotten or discounted was the fact that late in February Ross had found the pack hard against the land and could find no way southward into it.

But even if they had remembered, there was another factor in the minds of the two men on the bridge that day as they made their risky decision. Of the expedition funds only £640 remained — surely firm evidence that their budget always was grossly inadequate for what they had set out to do. Even if the staff contributed the whole amount of letters of credit they carried, the total then available would scarcely be enough to put the ship in good order and reprovision her. There was certainly not enough to pay for extra hands to bring the crew up to strength.

Rather pessimistically they thought the achievements so far would not win them further government support. So, in their eyes, if they returned to South America the expedition would be over. If they pushed south and broke through, there was at least a chance that some tremendous discovery on a par with Ross's might justify everything after all[3]. They might just find a passage through to the Ross Sea and emerge there in time to land the wintering party at Cape Adare[4].

(To be continued)

Notes

(f) Pointe NE of Berthelot Islands. Today named Cape Deliverance.

Source Refs:

(1) Cook: ch14

(2) Lecointe p191

(3) ibid p196-7

(4) Scottish Geographical Magazine Oct.1898 map facing p572

TRIBUTE

STEPHEN THORNLEY

Antarctic geologist Stephen Thornley and his climbing companions, Chris Hoare and Andy Boas, died in August 1996 after a storm overtook them near the 7700m summit of Disteghil Sar in the remote Karakorum Mountains of Pakistan.

Steve grew up in South Molton a small town in Devon, England. After graduating with Honours from Cambridge University he came to New Zealand on a Commonwealth Scholarship in 1993. A young man of remarkable energy and talents, Steve excelled not only in his science, but also in classical music, language, literature, tramping and mountain climbing.

He gained his Antarctic experience several years ago when he was part of a Victoria University geological party working on Lower Beacon rocks of the Dry Valley area.

He will be remembered for his "not-a-minute-to-be-wasted" enthusiasm when he once appeared in plastic climbing boots at a midwinter's Antarctic get-together in Christchurch on his way to make a winter ascent of Mount Aspiring.

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FEATURE

SCOTT BASE — THE FIRST 'WINTERING OVER'

Part II of a three-part series by Margaret Bradshaw.

Scott Base on Ross Island was incomplete at the time of it's opening, 20 January 1957, just another speck on the Antarctic Continent.

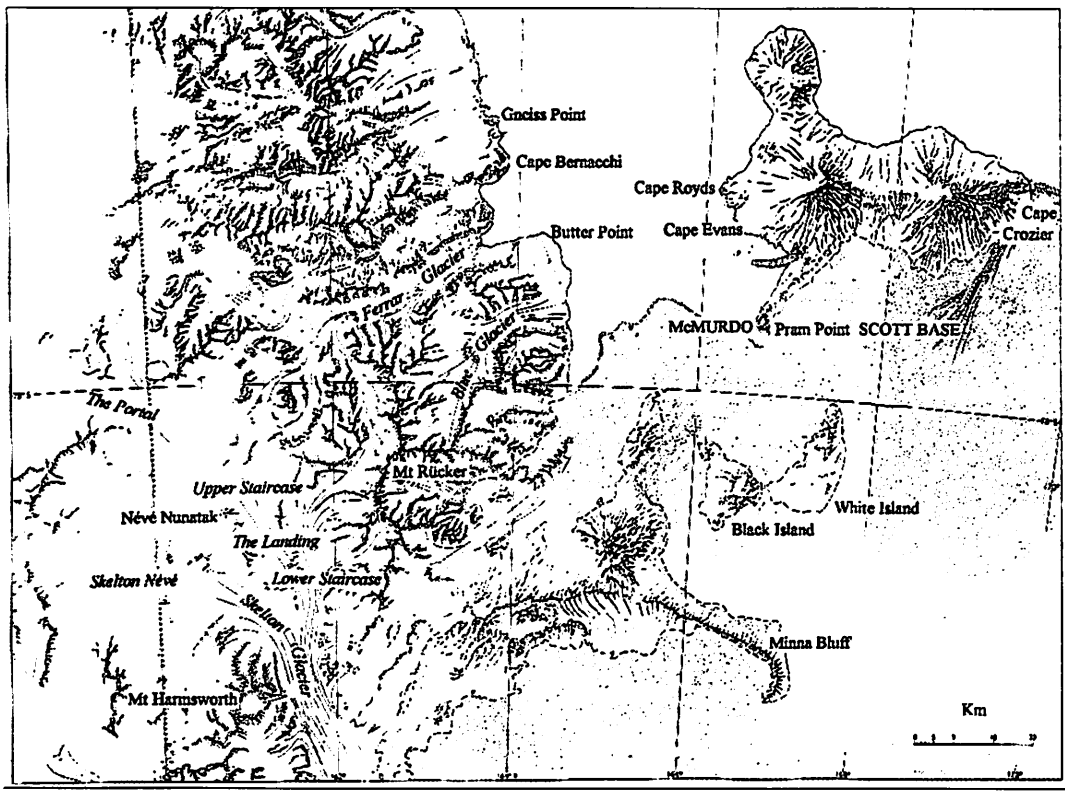
Only a hut comprising of the Mess, radio room and an office for New Zealand's Scott Base leader, Sir Edmund Hillary, had been completed and foundations laid for five further huts.

When the *Endeavour* had moved from Butter Point to Pram Point with the main New Zealand group to establish Scott Base, Hillary had left behind George Marsh, Harry Ayres, Richard Brooke and Murray Ellis with the tasks of acclimatising three teams of dogs and of making a recce up the Ferrar Glacier to the Plateau. The latter goal, however, was thwarted by slushy meltwater pools in the relatively mild weather. Marsh reported that there was no sledging route to the lower part of the Ferrar Glacier, and suggested that this glacier be abandoned as a route for the polar crossing. The party was then picked up by the *Endeavour* and moved to Hut Point on the 15 January. The dog teams were driven round to Scott Base on the same day, also the day of the first New Zealand flight by Beaver aircraft.

Marsh's party once again left with the dogs on 19 January, the day before the official opening of the base, but Peter Mulgrew, the radio expert, replaced Murray Ellis in attempt to overcome radio problems. They intended to sledge across the sea ice towards Minna Bluff, and this time to investigate a route to the Plateau via the Skelton Glacier which had been considered feasible on a reconnaissance flight the previous day. Near White Island, George Marsh became seriously ill, and when radio contact could not be made, Richard Brooke and Peter Mulgrew sledged back to Scott Base on 22 January to raise the alarm. Marsh was flown out in the Beaver and diagnosed as having diphtheria.

As time was pressing, the sledging party's plans had to be modified. On 25 January, John Claydon flew Ed Hillary and Richard Brooke to the Skelton Inlet where they selected a depot site near Teall Island, about 210 kilometres from Scott Base. The Beaver and Auster shuttled men, dogs, food and fuel to the depot so that Brooke, Ellis, Ayres and Murray Douglas could start up the Skelton Glacier with full loads. At about the same time, a separate sledging party consisting of Bob Miller and Roy Carlyon left Base to find a route to the foot of the Skelton over the unknown ground that the plateau party had bypassed, while a third party made up of Bernie Gunn, Guyon Warren, and Arnold Heine, who was down for the summer only, were flown to Skelton Depot in the Auster to geologise in the Lower Skelton Glacier.

Over 12 days, Brooke's party pioneered a route up the Skelton Glacier from the "Lower Staircase" across "The Landing", on to the "Upper Staircase", across the broad Skelton Névé to "The Portal", and through it up to the Plateau. On 9 February, John Claydon in the Beaver and Bill Cranfield in the Auster, the latter now at its flying ceiling, landed beside the tents. Over the next few days, supplies were flown in to lay an important depot for the following season's crossing. The dog teams retreated down onto the Skelton Névé to escape from the persistent katabatic winds, and Richard Brooke and Murray Douglas sledged across the Névé to set up a survey station on Névé Nunatak.



Meanwhile, Bernie Gunn, Guyon Warren and Arnold Heine were man hauling two sledges up the western side of the lower Skelton Glacier, studying the rocks along the foot of the Worcester Range. On 10 February they made an epic 26 hour climb of the highest peak, Mt Harmsworth, reaching the summit at 4.30 in the morning. Continuing to geologise, they crossed the Skelton Glacier and descended its eastern side, arriving back at the Skelton depot to find that Bob Miller and Roy Carlyon had successfully arrived overland from Scott Base. Miller and Carlyon had experienced a few frights with crevasses, including the unpleasant

discovery one night that they had pitched their tent on a snowbridge which Bob Miller had cut through when collecting snow for the evening meal.

Bob Miller and Roy Carlyon now spent 10 days surveying the lower Skelton while Bernie Gunn and Guyon Warren continued their geological work after Arnold Heine had been flown out to join the *Endeavour* for its return trip to New Zealand on 24 February. When Gunn and Warren were finally lifted out, the two men had man hauled 95 kilometres and made some important geological discoveries. Both Brooke's upper Skelton party, and the Miller and Carlyon team were back at Skelton Depot by 23 February, but the men had to wait five days before suitable weather appeared for an aircraft landing.

Early in the morning of 28 February, John Claydon in the Beaver and Bill Cranfield in the Auster flew the six men and 28 dogs back to Scott Base for the winter.

The polar night was fast approaching, and the sun was to disappear completely on 14 April, but before this many smaller trips were made from Base. On 19 March, Ed Hillary, Murray Ellis, Jim Bates (base mechanic), and Peter Mulgrew visited Cape Crozier to test two of the tractors as well as the field radios. This was an important trial run, for Hillary had decided to make greater use of the tractors in depot laying on the Plateau, rather than use them simply around base as originally planned. The benefit of this change meant that the dog teams could be released for separate reconnaissance and surveying trips the following season. With the long overland traverse in mind, the tractors had been considerably modified at Scott Base by Jim Bates and Murray Ellis to include a protective canvas cab, crash bars, extra batteries and fuel tanks. Hillary's party took with them *"The worst journey in the world,"* Apsley Cherry-Garrard's book about Edward Wilson, 'Birdie' Bowers and Cherry-Garrard's historic midwinter trip to Crozier in 1911.They found the remains of the stone igloo the pioneers had built for shelter, and several of their artifacts, including a sledge.

In April, Richard Brooke and Bernie Gunn took the dogs to White and Black Islands, while John Claydon and Bill Cranfield experimented with a manhaul sledge loaded with survival gear to simulate a crash emergency. Murray Ellis and Peter Mulgrew also tried man hauling and several trips were made with the dogs to Cape Evans, over the back of Hut Peninsula past Castle Rock as the sea ice had not yet safely formed. The historic huts were visited with interest, and some basic maintenance work done on them.

THE WINTERING PARTY OF 1957

The Wintering Party of 1957 (Left to right) — front: Vern Gerard, Bernie Gunn, Ron Balham, Bob Miller, Ed Hillary, Trevor Hatherton, George Marsh and John Claydon. Middle: Jim Bates, Herbie Orr, Neil Sandford, Harry Ayres, Selwyn Bucknell, Guy Warren, Peter Mulgrew, Murray Ellis. Back: Wally Tarr, Ted Gawn, Peter Macdonald, Roy Carlyon, Murray Douglas, Richard Brooke and Bill Cranfield. (Photo by John Claydon.)

Cape Crozier tractor party, (left to right) Ed Hillary, Murray Ellis, Jim Bates, Peter Mulgrew. (Photo from Antarctica New Zealand)

There was more urgent work to be done as well. Five hundred and fifty drums of fuel and kerosene were still waiting at Hut Point after off loading from the *Towle*. Again, the Americans gave assistance and hauled the fuel over the gap to Pram Point. The relationship between Scott Base and McMurdo Station had developed into a very warm one. The New Zealanders contributed new stock to the McMurdo garage and workshop after the buildings had been destroyed by fire, and in return the Americans held regular games nights, of which table tennis and shuffleboard were favourites, as well as organising a fortnightly film show at Scott Base.

Scott Base was proving a very comfortable base to live in, meeting all the expectations of its designer, Frank Ponder. After a poll was held in April, the inside temperature was maintained at a cool 11°C. The New Zealand team was a good one, with everyone"mucking in" with base duties, regardless of their special tasks. Although bunks were arranged vertically in twos, Ponder had designed a cunning system of partitioning to allow each man his own small cubicle, which included a small desk with space above for family photographs. It was a place to retreat to for privacy, for relaxation, pursuing solitary hobbies, or merely thoughtful reflection. The ability to call home on the radio telephone was a facility appreciated even more during the winter.

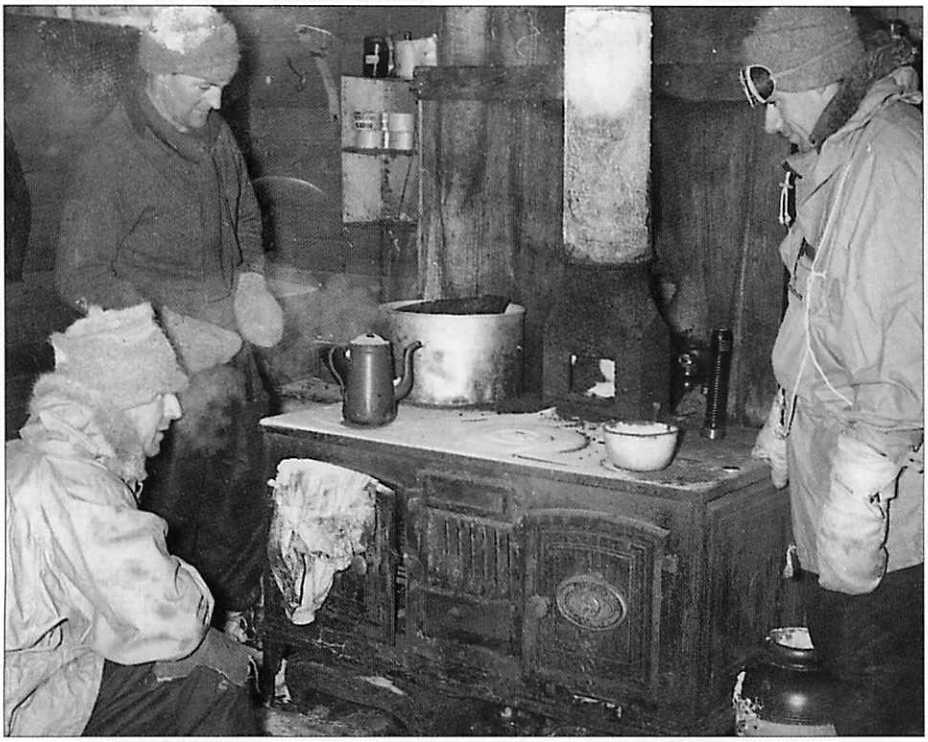
The winter was a time for taking stock and preparing equipment and supplies for the following season. Ted Gawn assisted Peter Mulgrew with radiocommunications, their link with the outside world and other bases, while Selwyn Bucknell, as base cook, was the linch pin in keeping everyone happy through their stomachs. Jim Bates and Murray Ellis had the extremely important tasks of keeping the generators running healthily and the heating system and snow melters functioning properly. The mess was repainted in a brighter colour. Personal appearances did not go forgotten: there was one bath a week per person limited to three buckets of water, and Harry Ayres performed "Ayres cuts on appointment".

Classes were held on topics that would be useful for the forthcoming season, such as first-aid, navigation, Morse code and geology. Weekly lectures were presented on a surprisingly varied range of topics, most of them quite unrelated to Antarctica. Descriptions of life on the base by nearly all members were transmitted back to New Zealand for an interested National Radio audience. Special days provided a good excuse for celebration. Ed Hillary had an 'Everest Cake' made for him on 29 May, complete with summit flag, to mark the fourth anniversary of his ascent of Mt Everest. Midwinter's day was a particularly memorable occasion, for like numerous winter-overers that have followed, it marked the countdown for the sun's return and the promise of spring. The small, cosy mess was enlivened by red and blue trail flags and the New Zealand Ensign. A string of coloured lights appeared from nowhere. A special hand drawn menu was produced for each diner, emphasising that diner's personal traits or occupation. Bow ties and cravats blossomed. Numerous telegrams arrived over the ether and toasts were given by a large number of happy individuals. From the photographs that survive, there was also a theatrical element, with Richard Brooke temporarily changing gender, and Trevor Hatherton and George Marsh masquerading in white suits as flamboyant wine waiters (or cricket umpires), tea towels around their necks. A square-dance was held. The party started at 6 p.m. and ended at 5.30 a.m.

Foot Note: from last issue, Summer Staff (1956 - 57) included:

J.W.Beagley, DSIR, Geophysical obs.
Forrester Davidson, Technician
Lin H.Martn, Engineer

(To be continued)



Ted Gawn (left), Bob Miller and Peter Macdonald (right) inspecting the stove in Shackletons' hut at Cape Royds during an autumnal visit. Ted Gawn's breath gives the illusion of a steaming coffee pot. (Photo courtesy of Majorie Miller)

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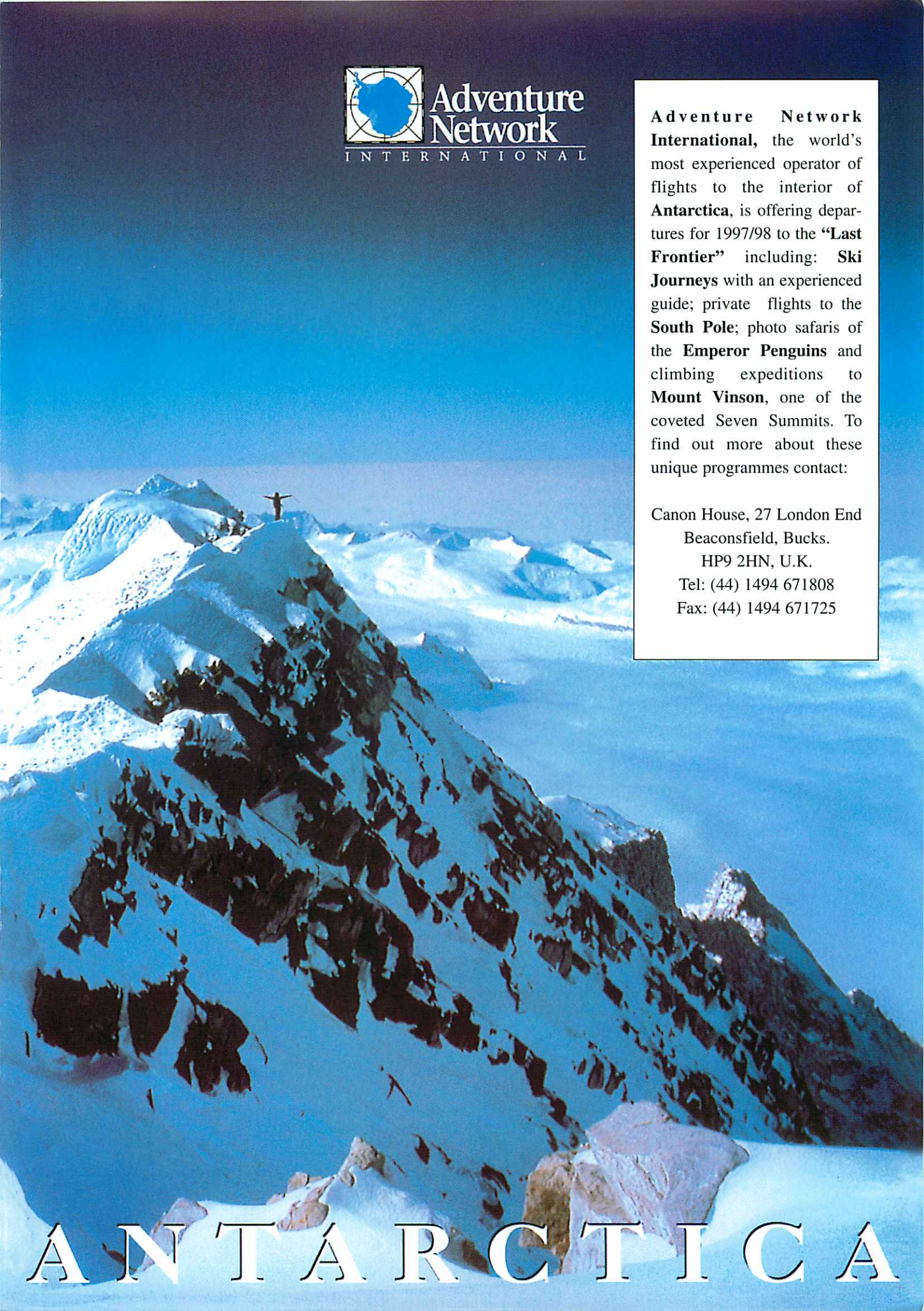
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