



AUROLA

ANARE CLUB JOURNAL

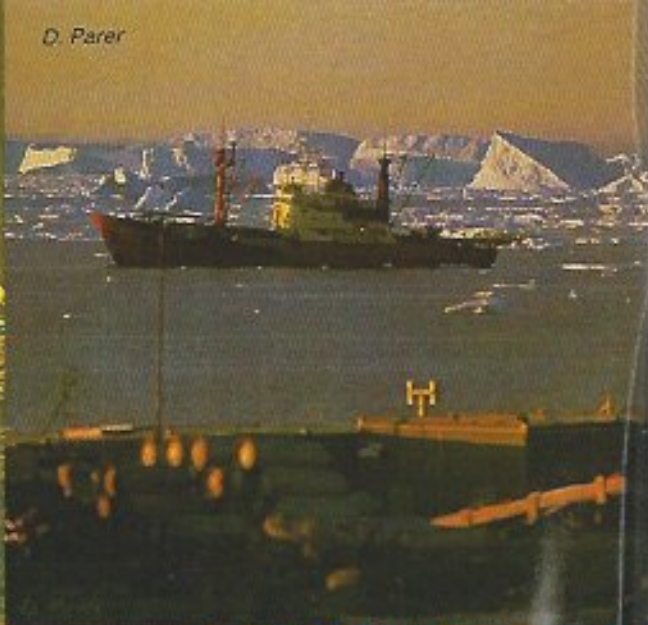
Vol 7 No. 3

March 1988

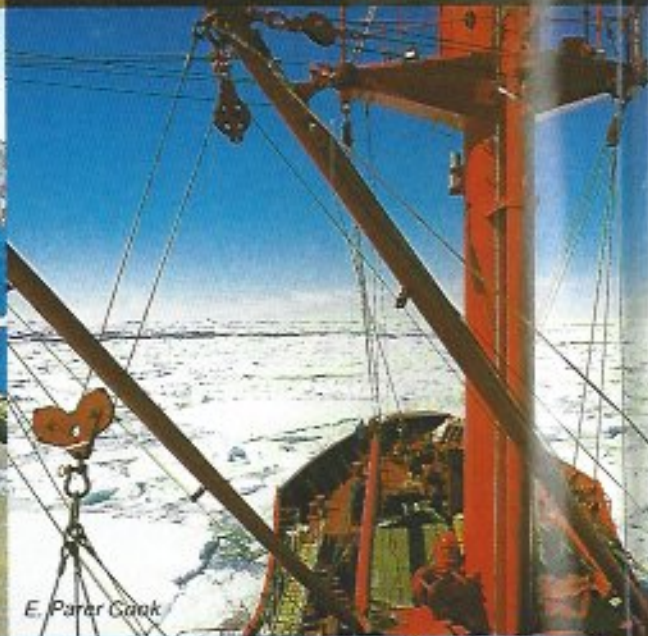
\$5.00

Published by ANARE Club Publication No. 0914548 Anare Club - P.O. Box 2531 W. Melbourne, 3001.

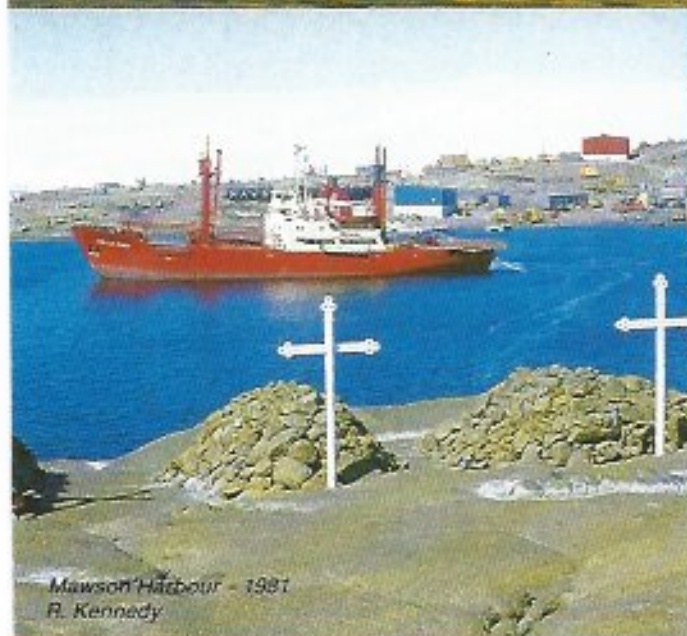
D. Parer



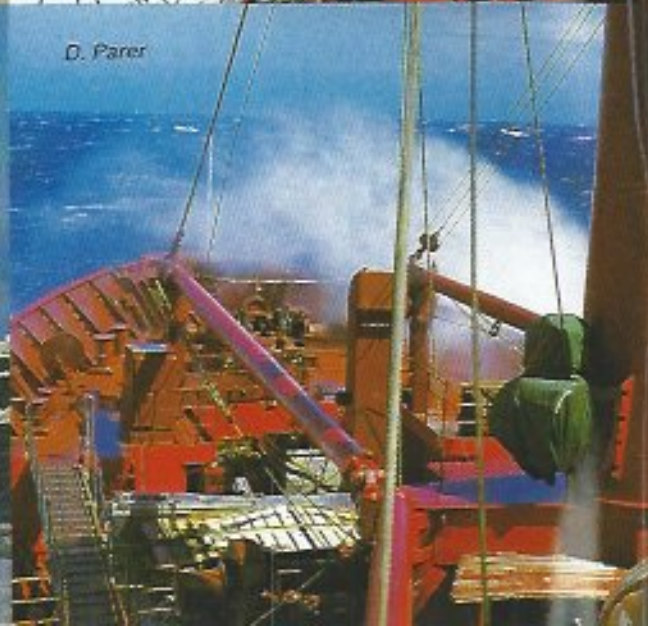
P. Ardens



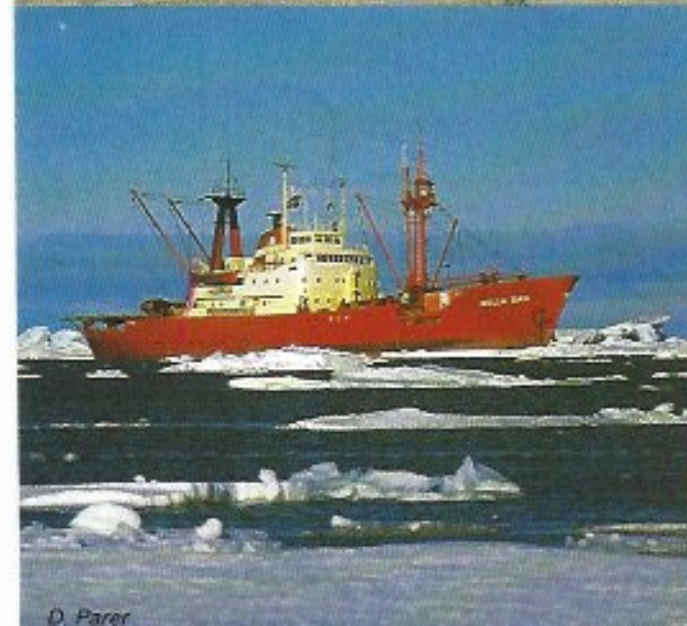
E. Parer Cook



Mawson Harbour - 1981
R. Kennedy



D. Parer



D. Parer

EDITORIAL

The *Nella Dan* has been lost and her friends mourn her passing. We pay tribute to a ship, and perhaps too to an era that we will not see again.

Nella represented the very special relationship — the camaraderie between those who went South, and the crews of the Dan ships which brought them safely home. *Nella* was the last of the Danish ships which have served ANARE so well. The *Magga*, the *Kista* and the *Thala* have changed their names and identities, but *Nella* remained — the familiar red ship, the embodiment of the best of ANARE, the focal emblem of adventure and Antarctic exploration.

The sinking of this ship has aroused emotions that some outside the Antarctic fellowship would not understand. Most have found it difficult to put their feelings into words, but *Aurora* thanks all who have written in or contributed to this special memorial issue.

THE EDITOR

Contents

Nella Dan - J. Béchervaise	2
Nella Dan - A Valedictory - R. Garrod	3
Memories of Nella Dan - G. McKinnon	3
Do you remember Nella Dan - P. Granholm	4
The History of Nella Dan	5
Nella - The Fourth of the Dan Ships	6
Captains of the Nella	7
The Last Days of Nella Dan	8
The Sinking of Nella Dan - P. Law	12
Farewell Nella Dan - S. Csordas	14
Macquarie Island Newsletter	15
A Profile of Polar Prowess - G. Smith	16
Death of More than a Ship - E. Chipman	19
The Sentimentalists - D. Keyser	20
Blizzard at Mawson	22
From the Mail Bag	23
Farewell Nella Dan - P. Reilly	24
Some Memories - F. Smith	25
Requiem - J. Rubin	26
Macquarie Island Changeover - D. Sharpe	27
Rock & Rolling with Nella Dan - N. Brandie	28
Repair Jobs on Nella - N. Linton Smith	30
A Dream-Time Legend - B. Hazelton	32
Letters to the Editor	33
Greenhouse 87 - R. Francey	34
An Australian Ice Breaker - I. Bird	37
Greenpeace Expedition	38
Live Television Broadcast - P. Magill	40
The Nature of Australia - D. Parer	41
Tagged Leopard Seals Found - D. Rounsevell	42
O.R.V. Franklin - D. Everitt	43
The Albatross - W. Twycross	44
ANARE Ski Club	46
Club News	47
Bicentennial Antarctic Expedition	47
Wandering Explorers	49

AURORA

AUSTRALIA'S ANTARCTIC MAGAZINE

Editor: Shelagh Robinson,
20/29 Upton Road,
Windsor, 3181. (03) 529 5990
Published by: ANARE Club,
P.O. Box 2534W,
Melbourne, 3001
(Copyright ANARE Club)

DEADLINE FOR JUNE ISSUE:
— 30 April, 1988

Contributions to the Editor at Windsor address

ANARE CLUB

President: Stefan Csordas (03) 836 0451
Secretary: Ian Mackie (03) 583 6702
Treasurer: Russell Marnock (03) 542 2820

All Club correspondence should be addressed to the Secretary, subscriptions and membership fees to the Treasurer.

Printed by Franklin Webb, Sunshine (03) 312 1022.

Annual Subscription - \$20.00 (note increase, necessitated by rise in cost of production, mailing etc.)
For advertising - Contact the Editor.

The views presented in this journal are not necessarily those of the Club.

PICTORIAL RECORD - ACKNOWLEDGEMENTS

Many superb slides and photographs were received, each one worthy of publication. The Editor regrets that all could not be used because of space and other limitations. Some arrived too late. The Editor thanks readers for their assistance. They include: D. Parer, P. Sprunk, I. McLeod, R. Marnock, N. Linton Smith, M. Corry, R. Butler, G. Scott, J. Rubin, G. Currie, V. Samsa, B. Hazelton, J. Hosel, T. Wishart, C. Simpson, R. Kennedy, A. Duke, B. Edgar, R. Jones, R. Fullerton, B. Tomkins, P. Arriens, G. Cook, E. Parer-Cook, R. Kirby.

Front Cover - photo by E. Parer-Cook

Back Cover - photo - B. Tomkins "Steaming past Macquarie Island"

photo - J. Rubin "Nella's Twilight Days".



NELLA DAN

Reef torn and blazing she outlasts us all
who to the timeless deeps of ocean probe;
She was the flying shuttle, we the weft
on warp of berg and storm, on tenter-hooks
straining the fabric of the coming years,
and spreading taut the memories of those past,
linking the splendour of the southern seas,
the world itself, from Bear to Cross, her loom.
Now, with the dreams that made her, she is one:
the small red ship, the last of her proud line,
thrusting, charging, butting through the pack,
grey growlers tumbling, thud of broken floe;
becalmed in mirrored pools with doubled sun,
beset in frigid labyrinth of stone,
the thousand stresses of antarctic night.

★ ★ ★

So you are held in honour, Nella Dan,
by all you ferried through the urgent years;
now woven in the tapestry of time,
intrinsic threads connecting hearths of home
with the bright arras of the polar sky.

John Béchervaise
New Year, 1988



Farewell ceremony 2nd Mawson & Davis Relief Voyage M.V. Nella Dan. 20/1/76 — Freemantle. Minister for Science, Senator Webster addresses the expeditioners, others on deck, from left, Captain Helmut Klosterman, Master; Dr. R.I. Garrod, Director of the Antarctic Division; (partly obscured), Alan Humphreys, Expedition Leader.

NELLA DAN — A Valedictory

To thousands, particularly in Melbourne, Fremantle and Hobart the name "Nella Dan" was household parlance immediately identified with the Australian Antarctic effort. To hundreds who over the years farewelled her and those aboard, the little red ship made a familiar and colourful sight as after the formal farewell she slipped away carrying friends and loved ones, most of whom would not be reunited with families until the next year. But to those of us who were fortunate enough to travel on her — expeditioners, army and air support groups, summer scientific and logistic personnel — and to the Antarctic Division's headquarters staff, the veteran Antarctic vessel was truly more than just a mode of transport, more than but one of several vessels used to maintain our activities and presence in Antarctica and sub-Antarctic territories.

"Nella" had been the mainstay of our logistic support programs for 26 years — longer continuous service than any of us in ANARE or the Division — and to us she epitomised Australians in the Antarctic — a logo for our efforts and our programs. We enjoyed the camaraderie we developed with officers and crew, we took keen interest in the sights around and above us on the long journeys, we cursed as the little vessel rolled heavily and to some of us terrifyingly in southern seas, we toiled with everyone else at station relief and we got to know our expeditioners personally and individually in a way that was only possible by joining them. And in all of this "Nella" was the familiar stage, the tried and trusted backdrop that over the years had become so much a central part of what we did.

We knew of course that, like the best and the worst of us, her active life was bound to come to an end, and some of us seethed at the seemingly endless frustrations and convolutions year after year that bedevilled us in striving to get the system to move positively towards a new replacement Australian vessel. But few, if any, of us imagined that in the end Macquarie Island would claim her as it had so many other vessels in previous times. It is ironic that only after her demise have plans finally been approved for a successor, and it is sad that in the end she is not even an historic wreck off Macquarie Island as a permanent reminder to the future of a long and distinguished service stretching right back to the post war heroic age of Australian Antarctic exploration. We of the past will certainly remember her — sic gloria transit.

R.I. Garrod

MEMORIES OF THE NELLA DAN



I find it hard to believe that I will never see the Nella Dan again. Over the years I was in the Antarctic Division I made thirteen voyages on her and have many affectionate memories of her, her Masters, officers and crews.

I'm sure all those who had just spent a winter at one of our stations were heartened at the sight of the little red ship approaching from the North. In October, 1969, I went to Capetown to accompany a relief party for the United States Pageos Geodetic Satellite Team on Heard Island. I had been in Capetown for several days before we went down to the docks to meet the ship, which the Americans had sub-chartered to go to Heard Island. I don't think I have seen such a welcome sight as the Nella Dan as she approached, but this was nothing to the effect the cry "hello Graeme" from the Captain, the Chief Engineer, the Radio Officer and the Hovmeister on the wing of the bridge. I was home, among friends, with the luxury of Cabin 15 to myself. I can understand the way the winterers felt.

Earlier in 1969, the Nella Dan was on her way north from Mawson, having relieved the station after taking us off the Amery Ice Shelf and after the re-opening of Davis. The passengers were in the saloon having dinner, the Captain was having his dinner on the bridge, I was operating the echo-sounder. I noticed on the recording paper that the bottom was coming up rapidly so I reported this to the Captain. He remarked that this was common around there, when suddenly — bang — we had hit something. The Captain leapt for the engine controls and stopped the engine. An extensive examination showed that we had not suffered any serious damage — a tribute to the strength of this little vessel. The rock we hit, only 2.5 fathoms below the surface, was later named "Nella Rock," so the ship will be remembered as long as ships go to Mawson.

There is a tendency these days to disparage history and to forget the lessons of the past. Let us not forget the greatest of the little red ships and her dedicated crews who did so much for the Australian National Antarctic Research Expeditions.

Graeme McKinnon,

THE HISTORY OF NELLA DAN

Nella Dan began her polar life in the Arctic waters supplying the remote outposts on Greenland, and bringing back coal and ore from this northernmost province of Denmark, during the short Arctic summer. She continued this role of servicing the Danish Arctic bases for most of her working life.

Her first Antarctic voyage with ANARE was in January 1962 when she sailed from Melbourne, captained by Hans Christian Petersen and with Don Styles as Leader. Her itinerary took in Davis, Mawson, Amundsen Bay, back to Mawson and Davis, Wilkes, Lewis Island, on to Macquarie Island, and returning to Melbourne on 18 March.

In the following year the ship had two voyages, the first leaving Melbourne on 9 January for Albany, on to Heard Island, then relieving Mawson and Davis, back to Heard Island, visiting Kerguelen Island, and returning to Hobart on 24th March. The Captain was Gunnar Bertelsen and the Voyage Leader, Phillip Law. The second voyage was to Macquarie Island, returning to Melbourne on 5 April.

From then on *Nella* undertook three to four voyages a

season, usually sailing from Melbourne, but on occasions from Hobart and Fremantle. In the 1974-75 season the ship sailed from Port Lyttleton, New Zealand on 20 November for Macquarie Island, returning to Melbourne on 29 November.

The transfer of the Antarctic Division to Tasmania meant that future departures would be from Hobart, and *Nella*'s last voyage from Melbourne was on January 9, 1981. Peter Granholm was Captain and Knowles Kerry Voyage Leader. With the introduction of the Heard Island program, the first voyages of the 1986/87 and 1987/88 seasons have sailed from Fremantle.

Nella has had two lengthy besetments — from 7th-31st January on Voyage 2 in the 1966-67 season, and 48 days on Voyage 1 which left Hobart on 16 September, 1985, the earliest voyage to date to the Antarctic continental waters.

In all *Nella* has had 85 ANARE voyages, and exceeded 500,000 nautical miles on Antarctic and sub-Antarctic voyages with ANARE. In addition there were five trial marine science voyages.



Loading Queens Wharf, Yarra River, Jan. 1963. Army Dukw on wharf - photo T. Wishart.



Beset. 8 Jan - 2 Feb. 1967 - photo C. Simpson.



Nella Beset 1985 - ANARE personnel - photo R. Butler.

Do you remember the "NELLA DAN"?



Peter Granholm,
former Captain, *Nella Dan*

Can you remember the days when the little red ship was to depart the wharf?

All the families, friends and others standing on the wharf waiting and listening to the speeches, and then the little red spot disappeared down the Yarra River and during the later years around the corner near the Casino in Hobart.

We, who worked on the ship for many years will always remember these departures as exciting moments and we have always been proud to serve the A.N.A.R.E. for such a long time. I was on the "*Nella Dan*" for the first time in the 1961-62 season as 3rd mate on her maiden voyage, and since then I have met a lot of nice Aussies, and am still in contact with a few of the old timers. It has always been a pleasure and sometimes an experience to bring the expeditioners from Australia to either Macquarie Island or the Antarctic stations.

It has been an era which has come to a stop. Not only because our last ship serving the A.N.A.R.E. — the "*Nella Dan*" — is now resting forever off Macquarie Island after 27 years of service, but also because the decision has been taken to build a new ship in Australia, and have the

West Germans to advise regarding sailing in the Antarctic waters.

My service on the "*Nella Dan*" 2½ years ago was my last — I left the polar fleet with sorrow and started on others of the company's ships, but my time on the "*Nella Dan*" will always be in my memory. I am sure that a lot of Australians who have been travelling down and up with the "*Nella Dan*" would have had a sad moment when they learned through the news, that she sank on 24th of December last year.

I am happy to know that she is now resting in the waters which she has been crossing a lot of times, and not ending her era on a beach in Taiwan as scrap iron.



Under the Westgate Bridge, Melbourne — photo J. Hosel.



Departing Fremantle — January, 1975 — photo A. Nutt & Associates.

NELLA DAN — THE FOURTH OF THE DAN SHIPS IN ANTARCTICA

The first Lauritzen ship to operate in Antarctic waters, the *Kista Dan*, was a successful experiment in construction of combined cargo and passenger vessels for polar conditions.

Built in 1951, the ship's hull was all-welded with very thick shell plating, stiffened by heavy ice frames arranged at half the normal spacing. "This construction introduced in the forepart of the ship a local strength approximately 16 times greater than that of a ship constructed along conventional lines". The all-welded construction gave the greatest protection against leakages to which rivetted vessels are exposed in heavy ice conditions.

A crow's nest was fitted at the top of the foremast and provided with all necessary navigation instruments. The elevated position allowed an excellent view of the ice both at long range and in the immediate vicinity of the ship; also from the crow's nest all manoeuvres could be carried out, such as manoeuvring the steering gear, adjusting the main engine revolutions as well as the propeller pitch.

As maximum manoeuvrability is vital in the pack ice, the length of *Kista Dan* was restricted, the rudder area increased, and the steering gear constructed and reinforced so as to provide double speed when manipulating the rudder. The vessel was also equipped with a specially constructed variable and reversible pitch propeller mechanism. For work in the ice the requirements of this propeller were (a) that it should fit into a general strong shape of aperture with a solid rudder post and without any projections, and (b) the hydraulic mechanism controlling the pitch should be inside the hull to enable repairs without having to dry dock the vessel; (c) the construction should be very strong and able to withstand any pressure.

The outstanding success of *Kista Dan* in Arctic and Antarctic waters encouraged Lauritzen to build two similar but somewhat larger and more powerful vessels, the *Magga Dan* and the *Thala Dan*.

Nella in Brash Ice approaching Mawson — photo D. Parer.



On the Bridge, the day Nella was freed by "Shirase" 14/12/85. From left: Arne Sorensen (Capt.) Magnus Olafsson (1st officer) Knowles Kerry (voyage leader) Dick Williams, Arne Dethlefs (chief officer).

On June 13, 1961, a fourth ship in the series the *Nella Dan* was launched. Built at Lauritzens own yard Aalborg Vaert A/S, it was named by Mrs. Jytte Brinch, wife of Mr. V. Brinch, Managing Director of the Nordic Mining Company, Greenland. *Nella* was named for Mrs. Nel Law, wife of Phillip Law, then Director of the Antarctic Division. Although of almost the same dimensions as the *Magga* and *Thala*, she differed in having the engine 2/3 aft, and was provided with a double hull in approximately half the length. The space between the two shell platings was used as oil tanks, increasing her bulk oil carrying capacity and endurance. "By a special hatch arrangement lower hold No. 2 and a special cargo room can be used for dry cargo or bulk oil alternatively, whereby the vessel's total bulk oil capacity including bunkers can be increased to about 1100 tons" (J. Lauritzen Lines publication — "the J. Lauritzen Polar Fleet")

The *Nella* had a more powerful main engine than her

predecessors — 2 stroke single acting 8 cylinder engine 350 mm (4 x 620 mm stroke), 2240 break horse power (1648 kw). As well there were three auxiliary generators.

A permanent steel helicopter deck was fitted aft.

Nella Dan had facilities for 42 passengers apart from her crew of 32 Danes. Navigational aids included direction finder, echo sounding device, gyro compass, radar, radio telephone and satellite communication, and a very powerful radio station, Call sign OZKC.

All in all, she was very well equipped for her task in the Arctic and Antarctic oceans with her ice breaking bow, iceknife and icelins protecting the propeller. As Lauritzens said — "it was her job to get stuck in the ice sometimes in order to measure its thickness and find out the rate of drifting speed, and she always managed to withstand the pressure of the ice".

A truly remarkable ship.

S.R.

CAPTAINS OF THE NELLA DAN

Captain Hans Christian Petersen captained *Nella's* first ANARE voyage which left Melbourne on 4 January 1962. He was again in charge of the ship for the four voyages in the 1963-64 season, the first commencing on 11 December and ending in Melbourne on 1 April.

His last command on the ANARE run was for the three 1964-65 voyages, from 2 December to 24 March.

Captain Gunnar Bertelsen — two voyages in 1962-63.

Captain Wenzel Gommersen — three voyages in 1965-66 season, 6 December to 26 March.

Captain Bent Thygesen Hansen — three voyages in 1966-67, from 30 November to 20 March.

Two voyages in 1967-68, between 5 January and 1 April;

Three voyages in 1968-69, 28 November to 27 March;

Three voyages 1969-70, 28 November to 16 March;

Three voyages in 1971-72, between 2 December and 14 March.

Captain Hans A.J. Nilsen 1970-71 — three voyages between 20 November and 16 March.

Captain Frank Larsen — three voyages, 1972-73, from 14 November to 10 March.

Captain Helmuth Olaf Klosterman — three voyages 1973-

74, from 9 December to 18 March;

Three voyages 1975-76, from 15 November to 9 March;

Three voyages 1977-78, from 10 November to 3 March;

Three voyages 1978-79, from 15 November to 10 March.

Captain Peter Granholm — 1979-80, four voyages from 2 November to 20 March; 1980-81, four voyages from 20 October to 24 March (this includes marine science trials in Bass Strait.)

Captain John Jensen — 1981-82, three voyages from 17 October to 15 March.

Captain Arne J. Sorensen — 1982-83, four voyages, 22 October to 23 March

1983-84, four voyages, 15 October to 19 March;

1984-85, four voyages, 18 October to 17 March;

1985-86, three voyages, 16 September to 26 March;

1986-87, three voyages, 24 October to 2 February;

1987-88 Voyage 1, 8 September to 30 September, Voyage

2, 2 October to 23 November, Marine Science trial cruise, 23 November to 25th November, and her last voyage

commencing 25 November, to Macquarie Island.

Captain Arne Dethlefs — Marine Science voyage from Hobart to Davis to Hobart, 5 February to 3 April, 1987.



Capt. B.T. Hansen — photo D. Parer.



Nils Lied, Eric Macklin, Phil Law & Capt. H.C. Petersen, Jan. 1955 (photo M. Corry).

THE LAST DAYS OF NELLA DAN

The story of the drama at Macquarie Island from the time Nella Dan was reported to be aground on rocks at Buckles Bay was handled by the press, sometimes sensationally, sometimes sensitively, while we, the friends of Nella, could only wait, hoping the news was not as bad as it read, wondering if we were being told all the facts, optimistic and pessimistic in turn as to the ultimate fate of the ship.

Quotes from the newspapers during those fateful few weeks give a picture of the events shaping the destiny of Nella — her demise beneath the waters of an ocean she had traversed so often in the past!

Antarctic Division press release, 3 December, 1987 — "Nella Dan has run aground at Macquarie Island. The accident happened at 7.00pm this evening while unloading cargo. The cause of the accident is not yet clear. However, initial reports indicate that the ship's anchor chain parted during very heavy seas while at the usual anchorage point in Buckles Bay on the island's relatively sheltered eastern side. The vessel was apparently rapidly washed onto rocks near the station. The extent of damage is not known, but it is understood that the ship's hull has been holed and that water has entered the engine room."

The Age, 5/12/87 — "Authorities yesterday held little hope of salvaging the Nella Dan....." Mr Bleasel said he feared the vessel would sink on high tide..... "he had felt the Nella Dan was beyond its work since he became division director four years ago."

The Australian 5/12/87 — "Mr Jim Bleasel yesterday described the courageous rescue operation, in which the 50 expedition members and crew were brought to shore. 'The LARCS put to sea immediately', he said, 'even though it had been too rough for them to work. They needed to rescue everybody as quickly as possible in case the ship rolled. Those left on board clambered down over the side to get on to the LARCs which were rising and falling 10 to 12 feet in the surf. They got everyone off and only damage to one LARC. It must have been incredible', he said."

The Advocate, December 5, 1987 — "Mr. Bleasel said an immediate problem from the Nella Dan's loss was to ensure that Casey station could be kept open. The engineers tell us that the old Casey station is unsafe and they can't guarantee beyond March that it won't be blown to bits in a blizzard. He said the division needed to get a team of 50 to 60 builders down to make a new Casey station habitable, but this would mean a drastic rescheduling of the rest of the summer supply program. He thought it was unlikely the Nella Dan could be salvaged."

The Age, 7/12/87. "A salvage vessel, Lady Lorraine was being prepared in Gippsland, a replacement freighter, the Lady Franklin was being fitted at Montreal, Canada, while the other Australian Antarctic ship, Icebird headed for Macquarie Island to pick up stranded expeditioners". Mr. Bleasel said 'we're now hopeful we can rescue a lot of our summer program'. In Montreal, Lady Franklin was being fitted with extra fuel tanks and accommodation modules. Mr. Bleasel said it could be expected in about five weeks. He said the cost of chartering the Lady Franklin for the season would be offset by savings from the release of the Danish-owned Nella Dan."

The Australian, 7/12/87 "Mr. Jim Bleasel said yesterday the Nella Dan had been fastened to the shore with cables and its tanks had been filled with ballast and water to hold the ship down and prevent it turning over".



The Mercury, 8.12.87 "The 1816 tonne *Lady Lorraine*, one of the most powerful tugs in Australian waters, should arrive at the island on Thursday with a team of divers and investigators and with equipment to pump oil from the disabled *Nella Dan*".

"Mr. Niels Lund, the chartering manager of Lauritzen's polar department, said a salvage team was aboard the *Lady Lorraine*. We do have a hope that we can salvage the vessel", he said. "It's more positive now than it was a few days ago". He said he couldn't say how much money Lauritzen would lose if the *Nella Dan* was not salvaged, but the loss would be heavy in many other ways. "It's been operating for 26 years," he said. "You don't easily give that up."

The Examiner, Tuesday 8/12/87. "The *Icebird* is expected to arrive at Macquarie Island this morning and begin loading cargo and scientific equipment from the *Nella Dan*. Once loading is completed the *Icebird* will return to Hobart with 77 crew members and expeditioners from the *Nella Dan*.

The future of the *Nella Dan* will not be known until the end of the week, after salvage experts and divers from Victoria assess the extent of damage. The two options available to the Antarctic Division are having the ship's hull repaired and towed back to dry-dock in Australia or abandoning the ship."

The Age, 12/12/87 "Mr. Jim Bleasel, said a decision on salvage is expected next week. But he said it was highly unlikely that the *Nella Dan* could be returned to service. The master of the *Nella Dan*, Captain Arne Sorensen, five officers and five expedition staff have remained at Macquarie Island to assist with possible salvage attempts. The *Lady Lorraine* is expected to arrive at Macquarie Island next Monday with a team of salvage experts and special equipment to assess the possibilities of refloating the ship. The *Lady Lorraine* will also unload between 500 and 600 tonnes of fuel aboard the *Nella Dan*."

The Weekend Australian 12/12/87 "Twenty-seven of the ship's crew and 46 expeditioners arrived in Hobart aboard *Icebird*, to an emotional welcome from friends and relatives, some with red and white balloons and the red and white flag of Denmark".

The Mercury 15/12/87 "It appears all is not lost for the *Nella Dan*. Salvage experts are hoping to refloat her at high tide on Saturday. Capt. Arne Sorensen said he was very optimistic the ship would be back on its run next

year. Mr. Ole Amelung, the vice-president of J. Lauritzen A/S said from Hobart that every effort would be made to see that the *Nella Dan* saw out her contract".

The Australian 15/12/87 "Although no details of damage have been given, the plan is for the *Lady Lorraine* to tow the *Nella Dan* off with the next big high tide on Saturday. If her condition is good enough the *Nella Dan* will be towed back to Australia. We are realistic rather than optimistic or pessimistic", the line's Vice President for Polar Services, Mr. Ole Amelung, said.

"Experts are understood to be considering using an inflatable sack inside the hull to salvage the ship".

The Age, Saturday 19/12/87 "The fate of the *Nella Dan* rests with salvage experts. Patched up, she could be brought home"..... "A spokesman for the Division said: "The critical time will probably come after the refloating when they have to make a decision whether to write it off on the spot or try to bring it back to Australia. The final decision will be made by a representative of J.L. Lauritzen. If the *Nella* is to be scuttled, the Environment Minister, Senator Richardson, will have to give permission." An officer of the department said an application for a permit to sink the ship was in the hands of the Minister.

The Mercury, Monday 21/12/87 "*Nella Dan* was refloated in the early hours of this morning. In a delicate operation in darkness a team of salvage experts used last night's high tide to free the vessel.....the bow of the ship had been swung 90 degrees into deep water and she was 'well and truly afloat'....it was anticipated it would take two days to complete the first stage of salvage operation of freeing the ship and assessing its stability...the Deputy Director of the Antarctic Division, Mr. Rex Moncur, told **The Mercury** the *Nella Dan*'s owners were very keen to get the ship back into operation...he said Lauritzen were sensitive to the idea of the *Nella Dan* becoming a museum piece at a later date. But with huge seas frequently prevailing between Macquarie Island and Hobart the towing of an unstable ship would be hazardous. The cost of such a tow has been estimated at between \$500,000 and \$1,000,000 with a further \$1,500,000 possibly needed to repair the engine room. Capt. Ken Ross, the head of the salvage company, recommended before the rescue operation began that the *Nella* be sunk in waters 5,000 metres deep between 5 and 10 nautical miles east of the island."

Afloat and free - high out of water.



The Age 21/12/87 "Australia should pay to salvage the *Nella Dan* and convert it into a museum" according to Dr. Phillip Law. "The Victorian Government had backed the museum idea," he said, "and the Port of Melbourne had already allocated a berth on the Yarra River at the bottom end of the North Wharf..."

"Tasmania's Environment Minister, Mr. Peter Hodgman, has written to Canberra suggesting that *Nella Dan* be hauled ashore at Macquarie Island for use as a reserve base. The A.L.P.'s Senator John Devereux and a Liberal M.H.R., Mr. Warwick Smith, have called for it to be returned to Hobart for use in an Antarctic Centre on the city wharves."

The Mercury, Tuesday 22/12/87 "In a delicate operation early yesterday the ship was partly freed when the bow of the *Nella* had been swung 90 degrees into deep water. The bow is floating at high tide but not at low tide. At low tide it sits back on the rocks...the stern was still on the rocks," Mr. Jim Bleasel, said. "They tried again to free the ship at midday yesterday with about 50 percent of strength from the salvage ship's engine. They could have pulled it off, but as the back is on the rocks and that has got the rudder and propeller, they are trying to do it as gently as possible. They are going to ballast the bow tanks with much more water and this will lever the stern up about 350mm. As well the tide is 450mm high and they will attempt to get her off at 1.15 tomorrow."

"The Tasmanian Government wants the ship to be part of a proposed International Antarctic Centre in Hobart. It has approached the ship's Danish owners and the Federal Government. The Premier, Mr. Robin Gray, last week wrote to the Prime Minister, Mr. Bob Hawke, calling for a co-operative State and Federal effort to bring the ship to Hobart."

The Age, 23/12/87 "The *Nella Dan* rode at anchor at Macquarie Island yesterday while a final damage assessment was begun. As a decision whether to salvage or scuttle approached, it was confirmed that the ship's

Danish owner believed saving the ship was financially worthwhile but a salvage expert opposed it. The *Lady Lorraine* used 40 percent of its available 7040 brake horsepower to pull the ship of 2186 gross tonnes free of a rocky bottom on an early-morning tide yesterday...the *Nella* was now 500 metres offshore at its usual Macquarie Island anchorage. A Division official, Mr. David Lyons, said salvage divers taking their first look beneath the hull found more holed compartments than they had expected 'but all of those have now been secured in various ways and the ship is sitting quite comfortably at anchor at the moment'.... Mr. Jim Bleasel has confirmed that the salvage company at first advised that recovery was unlikely, possibly dangerous, and the ship should be scuttled. Despite this objection J. Lauritzen recalculated the cost of salvage and restoration...Lauritzen had decided last weekend that it would be worthwhile...the options being considered are towing the *Nella Dan* to dry dock in Australia for repair, and towing to the nearest sheltered deep water harbor to rendezvous with a semi-submersible ship which could carry it to a shipyard for repair."

Media release - Antarctic Division 23/12/87 The *Nella Dan* is to be scuttled tomorrow. The decision to abandon further salvage efforts was taken today by the ship's Danish owner after exhausting efforts to find ways of saving the veteran Antarctic vessel...It is understood that the damage to the hull was much worse than first thought and it is understood there has been difficulty in keeping the ship afloat during the assessment by divers."

The Australian, Thursday 24/12/87 "Dr. Phillip Law last night made a bold 11th hour plea for the Federal Government to prevent today's scuttling of the *Nella Dan*."

★ ★ ★ ★

"Despite Lauritzen Line's willingness to spend \$3 million (six times her market value) to tow her back to Australia the hazards of the voyage across the Southern Ocean were considered too great. The salvage crew today will tow her off Macquarie Island to where the sea is 2500 fathoms deep. They will open the sea cocks..."

The Mercury, December 24, 1987 The *Nella Dan* exploded in flames before sinking late on Christmas Eve...the planned scuttling was aborted when *Nella Dan* listed 30 degrees and the salvage team abandoned the ship and \$500,000 worth of equipment."

The Age, 26 December, 1987 "An expedition on the



"Lady Lorraine" towing *Nella* out to deeper water.



island reported that the fire started at 8.10 am on Thursday...within half an hour, the inside of the ship was fiercely ablaze. The oil rig tender *Lady Lorraine* stood by...a lot of water was hosed into *Nella* during the afternoon...she went down stern-first and disappeared at 5.42 pm... 'Nella' is a Norse ship, and it had its own Viking funeral. It's much better that it went out in a blaze of glory in southern waters rather than end up in a scrap yard somewhere'.

Australian 5/1/88 "Captain Arne Sorensen, Master of *Nella Dan* for six years: 'There were six Danes from the ship down on the island during the salvage' he said. 'It was the opinion of all of us that the ship could be salvaged...it was our professional opinion that all the damage could have been repaired temporarily to make her seaworthy for the tow home. That opinion was

supported by three officials who arrived on Macquarie Island with the salvage team on the *Lady Lorraine*. The representatives of the shipping line, her hull underwriter, Baltica, and her third party insurer, the West of England Protection and Indemnity Club, thought she could have been salvaged. As far as the Danish officers and the shipping line representative were concerned it was the case that we thought she would be salvaged.'"

The Sun, January 6, 1988 An engineer with Austpac Salvage, the company which scuttled the ship, said that after being pulled off the rocks, last minute hedging on whether the *Nella Dan* could be saved meant it sat for hours with no action taken to remove the equipment."

'IT COULD HAVE BEEN SAVED - ANYTHING CAN BE SAVED, BUT WHEN DO YOU STOP COMMERCIALY?'

S.R.



THE SINKING OF M.V. "NELLA DAN"

by Phillip Law

The scuttling of the "Nella Dan" was a national disgrace. Viewed in terms of our national heritage it was an act of vandalism on a grand scale. If any structure of equal historical importance on the Australian mainland had been allowed to be so wantonly destroyed, there would have been a massive public outcry. But a ship 'way down at Macquarie Island.....?

At the time of writing this, the report of the official enquiry into the causes of the ship going aground at Macquarie Island is not available. From verbal statements by people who were at Macquarie at the time, it would appear that there were several contributing factors: a change of wind direction from off-shore to on-shore; the fact that fuel was being discharged and, hence, the ship was closer to shore than is the case when it is unloading general cargo; only one anchor was out (according to these statements) and, when this anchor began to drag, the ship's main engine could not be started.

The confirmation or denial of such statements is a matter for the marine enquiry into the disaster, and is not one that concerns me here. The ship ran aground and suffered damage. It is the events subsequent to this that need examination.

The salvage company appointed to determine whether the ship could be saved was chartered by the ship's insurers, not by the ship's owners. I have been informed that the insurance company concerned instructed the salvage company that the fuel oil should first be pumped out of the ship and then, if the ship could not be salvaged, it should be towed out to sea and sunk in deep water.

The media reported that the salvage operators said before going to Macquarie Island, that there was little chance of salvaging the ship. A similar statement was reported from Macquarie Island before divers had examined the underwater damage to the hull. It is well known that the owners desperately wanted to save the ship. There were apparently serious arguments between the owners and the salvage company concerning the feasibility of salvage. The Captain and officers of "Nella Dan" stated after returning from Macquarie Island that they still believed that the vessel could have been saved.

The salvage engineers reported massive internal damage as well as a large star-shaped fracture of the hull beneath the engine room. The ship had not become impaled on the rocks as many of us had surmised — it was lying on gravel. Some 150 tons of fuel oil had spilled from the ship when it was wrecked. Apparently transverse bulkheads had ruptured where they joined the hull, to the extent that compartmentalization had been destroyed, and water entering the hull could spread inside over most of the length of the ship. Such loose water in the hull, if in sufficient quantity, can produce instability, resulting in the ship listing heavily and, eventually, running the risk of capsizing.

Pumps and compressed air were used to expel water from the wrecked ship during the refloating exercise but, apparently, after having been refloated, the ship was taking in considerable water, despite the use of these measures. The salvagers believed that to attempt to tow the ship back to Australia would place at unacceptable risk any men placed on board, and that the chances of completing such a tow were low in view of the climatic conditions expected. The salvage officer in charge faced

what he considered to be a state of emergency when finally *Nella Dan*, in Buckles Bay, developed a heavy list and he recommended immediate action to tow the ship out to sea and scuttle it.

Two more facts are relevant: First, the ship floated for almost three days after being towed off the reef and, second, when scuttled it obstinately refused to sink. I should mention, too, that the haste arising from the state of emergency mentioned above prevented the unloading of much very valuable gear from the ship before it sank.

So much for what I have been told are facts. What were the options available when the ship was lying aground and what consideration was given to these options?

Let me say, first, that I do not criticize the insurance company. It is engaged in a commercial enterprise, and must make its decisions according to their financial implications. It apparently decided that it would prefer to pay out a known sum for the insurance cover of the ship, rather than become involved in an "open-ended" salvage procedure with numerous unforeseeable future possibilities of very large costs. For example, if crew members were to lose their lives during an ill-fated tow to Australia, compensation to their families could be very expensive or if the ship were to sink on the final stage of the journey in the Derwent Estuary some massive salvage costs or compensation payments could be involved. Likewise, the instruction to sink the ship in deep water arose probably from a desire to avoid any possibility of facing charges of environmental damage, or "obstruction to shipping" should the ship be finally stranded on the shore at Macquarie Island.

When the ship was lying aground there were two options. One was to haul it off as soon as possible after its fuel oil had been pumped out. The other was to leave it aground while further investigations, both at Macquarie Island and back in Australia, were being made.

The first option was adopted. This immediately closed off certain other later options, in particular, the possibility of carrying out repairs on a stationary, grounded ship, rather than on a floating, leaking ship liable to sink; and the option of leaving the ship stranded on the shore should it prove impossible to effect adequate repairs for a tow back to Australia.

I believe that the first option was adopted with undue haste. In part I think this was due to ignorance of statistical climatic data at Macquarie Island. Conditions at the wreck during the gale that caused it were bad, and I believe the salvage operators considered such conditions fairly common. In fact, winds with an easterly component at the island are uncommon and rarely last more than 24 hours. At all other times a ship in Buckles Bay would lie in the lee of the island and, if close to shore where the wreck was, would be in calm water when the normal westerlies were blowing.

The salvage operators were reported to have stated that, if they had left the ship aground, it would have broken up within two years. This, of course, is absurd. The wreck at that position would have remained there, deteriorating gradually to a skeleton, for fifty to one hundred years!

I believe, too, that the salvage operators' assessment of the dangers of towing the ship to Australia were exaggerated, because of their concept of expected weather conditions. Our ships have, on a number of occasions, made journeys between Australia and Macquarie Island in calm conditions. In January and February there would be a seasonably high possibility of choosing, in collaboration with the Bureau of Meteorology, a departure time for the tow that would ensure a reasonably smooth passage.

As to sinking the ship in deep water, it should be realized that the criteria applying to scuttling a ship in the normal seaways of continental waters have little relevance to a remote island such as Macquarie.

All credit must go to the owners, the Lauritzen Company, who fought to the end to try to arrange for the return of the ship to Australia, despite the "open-ended" costs entailed and the very high further costs of dry-docking and repairing the ship, costs in excess of what the salvaged ship might later earn. However, when they received the emergency report of the leaking, heavily listing ship sent to them by the salvage operators at the end, they had no choice but to agree to the scuttling.

A complicating factor in the whole matter was the responsibility of the Tasmanian Government for its territory at Macquarie Island and its attitude to environmental considerations arising from the circumstances of the wreck. This factor would have needed time to resolve, but I believe an environmental impact assessment would have shown that any possible detrimental effect would be negligible. On the lee side of the island any effluent would wash out into the Pacific Ocean; already the spill of 150 tons of oil, so far as I know, has caused no damage. There was no oil left in the ship after the pump-out. The rusting of steel in the location of the wreck would have had little deleterious effect and would, in any case, have been limited to a tiny area of the Macquarie Island coast. And so on.

Any environmental concern would need to have been weighed up against the desirability of preserving the most important existing artefact in the history of Australian Antarctic endeavours. The Tasmanian Government had previously declared its deep interest in preserving the "Nella Dan" as a marine exhibit in the Port of Hobart, and I do not believe it would have been hypocritical enough to raise hypothetical environmental objections to the preservation of the wrecked ship at Macquarie Island.

So we come back to the question of the time factor in the decision-making process. All government decisions take time. From all points of view, time was needed in the "Nella Dan" exercise. The undue haste with which the original decision was made to haul the ship off the shore and refloat her was, to my mind, a bad error of judgment.

"Nella Dan" could have been left aground for several weeks, or longer. During this time the valuable equipment — lifeboats, oceanographical gear, etc. — could have been taken ashore. Work on patching the holes in the hull could have proceeded. A thorough examination of the transverse bulkheads and the possibility of taking action to restore compartmentalization of the interior spaces could have been made.

Finally, if all salvage attempts failed, the ship could have been allowed to rest where it was, any governmental approvals having been obtained in the meantime.

What was needed, of course, was for the Commonwealth Government to have taken over all responsibility for the ship. This would have involved negotiations with the owners, a "waiver" agreement with the insurance company absolving it from any claims arising from subsequent salvage operations, a different set of instructions to the salvage company, and, if it were not prepared to place the required men on the ship for the tow back to Australia, a call for volunteers from Australia. I know a number of ex-ANARE men who would gladly have taken the risks of such a salvage voyage.

All very complicated, you might say. Of course! But, then, most difficult but worthwhile projects are complicated. What is needed is devotion to the objective, the will to succeed and the driving energy to achieve the set goal.

The authority at the centre of the whole episode was the Antarctic Division. It would have had to initiate the procedures described above and to fight to obtain the approvals required. The question arises, what action, if any, did the Division take? Did it involve itself in the matter, or did it stand on one side and simply watch what was going on between the owners, the insurance company and the salvage company? Did the Division give any practical consideration to the option of leaving *Nella* ashore as a historic monument to ANARE work? Did it make any official request to the Tasmanian Government for such an option?

In general, did the Division put up any real fight to save the "Nella Dan"? A lot of ANARE personnel would be interested to know.

Antarctic Division
Channel Highway, Kingston
Tasmania, Australia 7150

Mrs Shelagh Robinson
Editor *Aurora*

Dear Mrs Robinson,

Thank you for sending to the Division a copy of Dr Phillip Law's article "The Sinking of MV *Nella Dan*", and for providing the opportunity to comment.

All of us who have had an association with *Nella Dan* will understand Dr Law's sense of loss, and his feeling of frustration at not being able to change events at Macquarie Island last December.

Following the publication of the report of the investigation by the Department of Transport and Communications the facts of the grounding will be a matter of record. I would also draw your readers' attention to the next edition of ANARE News — March 1988, which will contain a report on the incident.

I must, however, comment on the final paragraph of the article which criticises the Division. From the time of the grounding, the Antarctic Division was in close contact with the Lauritzen Company. Throughout the saga we shared their objective of saving *Nella Dan*. We were also able to obtain and relay to the owners, within a 24 hour period, a guarantee of a significant contribution towards the towing cost if the ship was found to be towable but not economically repairable, so that the ship could in this eventuality be preserved as a museum in Hobart. The company was, however, quite confident that the ship could be towed to a shipyard and repaired.

The option of leaving *Nella Dan* grounded while some reasonable hope remained that she could be repaired was not the owner's wish, and we fully supported their efforts.

The company has subsequently issued a press release clarifying their reasons for the decision to scuttle. A copy of this release is enclosed.

Nella Dan's true memorial will always be her unmatched record of service to ANARE.

Rex Moncur,
ACTING DIRECTOR

COPY OF PRESS RELEASE ISSUED BY J. LAURITZEN
A/S on 11.2.88

NELLA DAN OWNERS CLARIFY SCUTTLING DECISION

The decision to scuttle the Antarctic supply vessel *NELLA DAN* off Macquarie Island on December 24 rested with the owners, Lauritzen A/S of Denmark, and was made on the basis of reports from experts on the spot, according to Mr Peter Weitemeyer, the company's President in Copenhagen.

He was commenting on speculation that it would have been possible to tow the 26-years old ship to a safe port and effect repairs.

"Initially, we all hoped that *NELLA DAN* could be saved, but after a detailed inspection of the vessel had been made, it was clear that a long ocean tow was out of the question, also considering that it would have had to have been undertaken with a riding crew", he said.

Mr Weitemeyer paid tribute to the Austpac team which went to Macquarie Island to remove the fuel oil from *NELLA DAN* and to subsequently refloat the ship.

"A notable feature of this unhappy incident was Austpac's outstanding work", he said.

"We had every confidence in them, their work was of the highest standard and they performed a most difficult task with great skill".

Mr Weitemeyer added that the role of the Australian Army team with their amphibious craft in initially evacuating the ship's passengers and crew and later assisting the Austpac effort was also outstanding.

"Although *NELLA DAN*, which played a key role in the

Australian Antarctic effort for a quarter of a century, is no longer with us, we hope it may be possible to re-establish our involvement with this important work at some time in the future", he said.

FAREWELL NELLA DAN

Christmas 1987 is a blackletter day in the Australian Antarctic history. A tired old ship disappeared under the sea, but it is only the empty shell and not the soul of *Nella Dan*. Nobody can destroy the memory and the love of hundreds of expeditioners who sailed in the little red ship during the past 26 years.

I don't know what really happened, but I know Macquarie Island...I spent three years there. Every one knows how treacherous the weather can be and how dangerous the coastline is. Why was *Nella Dan* allowed so close to the well known rocks? We may never know the true answer. After she got into trouble and the rescue looked doubtful, why did not the authorities listen to Dr. P.G. Law and declare *Nella Dan* an historical wreck, secure her on the beach, and enable expeditioners to preserve her?... Enable people to raise enough money to refloat her at a later date and bring her back to the mainland and completely restore her? It has been done before and there are several such ships all over the world in maritime museums to prove it.

One of the best examples in Australia is the story of the *James Craig*. She was an old iron sailing ship which was beached in Tasmania and left there for several years. Finally the Sydney Maritime Museum refloated her, brought her back to Sydney and now she is a valuable exhibit in the museum. *James Craig* was just an old sailing ship and not historically important. Why could not it have been done with *Nella Dan*? She was in much better condition than *James Craig*, so why was it not possible to wait until enough money was collected for restoration, even if we had to wait for ten to thirty years? Why was it necessary to scuttle her so suddenly? There are so many questions, but not enough answers.

Nella Dan rests now at the bottom of the sea, but she will live forever in the hearts of thousands of her friends. God bless you *Nella Dan* — rest in peace.

Stefan Csordas

Macquarie University,
School of Biological Sciences.

Dear Mrs. Rob,

Nella Dan — a Passenger to Remember

Everyone who sailed on her grew to love *Nella Dan*, and no praise from me is needed for that magnificently safe old ship — safety in any sea and in any pressure of ice being beyond value to those on board.

I would like to recall one who did sail in her — Hannelore Lauritzen. What a magnificent Dane she is. My abiding memory is of her striding into the distance towards the Scott Glacier and appearing later as a tiny speck atop an ice cliff — flaunting all safety considerations with the happy confidence of substantial age and great experience. When we were tied up to the Shackleton Ice Shelf unloading for the Bunge Hills/Edgeworth Davis expedition in January 1986, she was out among the chaotic ice of the nearby glacier each day. I wondered about her safety, but I should have known better — she is an old Greenlander, after all.

DON ADAMSON



Hannelore Lauritzen.

MACQUARIE ISLAND NEWSLETTER FOR DECEMBER, 1987

The December newsletter from Macquarie Island gives a graphic account of the situation on the Island when *Nella Dan* was grounded. Relevant extracts tell the story of how the Station coped:

"We were all pleased that our little red ship, *Nella Dan*, managed to get us away pretty well on time, but also somewhat sad at the prospect of leaving you for such a long time. We also felt just a little bit sorry for the rest of our expeditioner compatriots who would be left behind cooling their heels for a bit longer than expected due to *Icebird* encountering difficult ice conditions near Davis.

Our voyage to Macca was a lot quicker than expected due to trouble with marine science gear but the three and a half day trip was very relaxing with sunburn being more of a threat than seasickness.

We dropped anchor in Buckles Bay in the afternoon of 1st December.....Getting off the *Nella Dan* onto an amphibious LARC really got the adrenalin pumping because of the 3 metre swell. The idea is to climb down the side of the ship on a rope ladder until one is ten feet above the water, wait, then jump into the arms of an ugly Larcie when the waves lift the craft to just below your feet.

For the next two days we were all kept very busy with unloading of cargo, transferring fuel from ship to shore, and spending as much time as possible with our '87 counterparts ... becoming familiar with the station and our work routines.

In the early evening of 3rd December our orderly routine came to an abrupt end with the unfortunate grounding of *Nella Dan*. It was a night we will never forget. Howling easterly winds, a ship on the rocks and the sight of the Larc crews battling big waves to evacuate the passengers and most of the crew. Phil, Dudley, Scottie, Bimbo, Tim and Greg — you did a great job that night and lived up to your motto — "Work Hard, Play Hard, No Guts, No Glory".

Then came the problem of coping with shocked people, and the immediate need to find sleeping places

and bedding on the station for an additional 72 guests. Mattresses, pillows, blankets and sleeping bags were in extremely short supply, but our searchers quickly began to turn out the required items from all over the station. Even the curtains from our dongas and packing foam from pallets of cargo in the store were pressed into service. By 1.30 am there were people housed in every conceivable corner of the station — in workshops, in stores, the emergency power house, "Sealers Inn", the science and meteorology buildings and other nooks and crannies. Within 6 hours a 30-person station had been converted to a 103-person station! The next few days were certainly interesting and colourful with rich mix of personalities that we had unexpectedly acquired. Particular thanks must go to Mal Ellison and Michael Nehrmelmann for the tremendous catering task that they performed without a hitch.

The diverted *Icebird* arrived on December 8 to take home 74 people and leave behind 29 people to complete summer and winter work programs. Our changeover ceremony was an emotional but humour-filled one and we thank the '87ers for the well-maintained station they have left us and for the help willingly offered to us.

On December 13, the salvage crew arrived on the M.V. *Lady Lorraine*. The remainder of the *Nella Dan* story is now history and unfortunately too long to tell here, except to recall with sadness the passing of a great ship. We consider it very fitting that the *Nella Dan*'s final resting place will be close to one of the ANARE stations she served so well over the past 27 years.

The words of her captain, Arne Sorensen provide an appropriate final tribute to the little red ship:

"A Viking Funeral"

"She was from a time when ships were built to last, and she had a mind of her own."

However, life goes on and during all the drama, work routines around the station continued to be carried out with breaks occasionally to watch salvage attempts or to help get more cargo from *Nella*.



photo G. Currie

"NELLA DAN" — A Profile of Polar Prowess

— by Geoff Smith,
Retired Logistics Officer,
Antarctic Division.

A modern merchant vessel, whether built for polar or conventional service, is essentially, a braced steel box, strengthened and stiffened to resist certain external and internal forces, and equipped with a means of propulsion. It is also a material example of the skill of the naval architects, engineers, fabricators and other specialists who designed and constructed her. Shipbuilding being a competitive industry, the finished product usually displays a high degree of professional excellence; nevertheless a ship is, and can only be, an inanimate assembly of inanimate materials.

Nothing more!

Why then, did so many of us veterans of numerous "Nella Dan" voyages, develop moist eyes and lumpy throats as we watched the television news coverage of her pitiable exit as she was scuttled off Macquarie Island? Why for instance, did I, who had long since retired from active involvement in Antarctic affairs, and who had always claimed to possess a rather pragmatic outlook, feel such a painful sense of loss? I found it difficult to analyse this feeling, as I mentally reviewed my many Antarctic voyages, thirteen of which were taken aboard "Nella Dan". I particularly recalled my first meeting with her.

This took place in the days when expeditioners departed for the South wearing grey-green uniforms, and when beards were rarely seen except for the faces of alcoholic derelicts and returning Antarcticans — I hasten to disclaim any other similarity. In early 1961, therefore, I was one of the wide-eyed and innocent new wintering party which was delivered to Mawson by m.v. "Thala Dan". Before the ship departed, we were told that we would most likely return, at the end of our year, aboard a new ship currently being built in Denmark. We were also told that this ship would be called "Jetta Dan". Well, 1961 — that eventful and fruitful year — was approaching its end, when our Head Office informed us that the new ship had, in fact, been named "Nella Dan", honouring Mrs. Nel Law, the popular wife of our Director Phillip Law. She had participated in a relief expedition during the previous summer, thus becoming the first Australian woman to visit the Antarctic continent.

Our first view of "Nella Dan" was unforgettable. My immediate impression was of strength and toughness, from her sturdy bi-pod main-mast to her pugnacious bow. With her superstructure sited amidships, and her rather high fore-deck, her silhouette suggested a stocky, aggressive animal, bristling and anxious for a fight. Yet this tough appearance failed to detract from her pleasing proportions and neat lines. Her efficiency was demonstrated immediately upon her arrival. The sea-ice was reluctant to leave us that summer and Horseshoe Harbour was still almost entirely covered in fast-ice. Guided by her captain, the legendary Hans Christian Petersen, she glided around the harbour and within half-an-hour had restored the surface to open water.

In those days, cooking and heating appliances at Mawson burned solid fuel, so thousands of sacks of briquettes and coke were shipped to the station. Moreover, there were just a few small bulk tanks. Consequently, fuel oil for diesel-powered generators and vehicles was delivered in a seemingly endless supply

of 200 litre drums. Despite having to unload and stack this cargo by hand, that 1961/62 changeover was completed rapidly. Some of us then departed aboard "Nella Dan" for a program off the Enderby Land coast. While "rumdoodling" in Amundsen Bay, we encountered heavy pressurised pack-ice and were stuck for 8 days in that same region where, twenty-four years later, "Nella Dan" was again to be beset for 48 days. A Russian aircraft flew over us and dropped a map showing the location of the nearest open water. The Russian ship "Ob", which was passing, tried to break a channel through to us but could not make any headway. Meanwhile, a large iceberg was steadily making its dramatic way through the pack and apparently aiming for the entrapped "Nella Dan". This may have succeeded in loosening the congestion, however, as the ship was able to wriggle her way out to open water soon after the "Ob's" visit. She emerged unscathed, her hull having been designed to withstand the worst pack-ice conditions. (Despite the many besetments which she experienced in subsequent seasons, she was never seriously damaged.)

After recovering the rest of our party from Mawson, we started our lengthy homeward journey, during which, all other stations were visited and some scientific tasks were performed at several locations around the Antarctic coast. I have many vivid memories of that trip: the captain hurling an inebriated steward out of the dining saloon for spilling coffee over him; the Argentinian observer conducting Spanish lessons; the War-Between-The-States being stirred up again among the northern and southern Americans who were returning from Wilkes; encountering Japanese whaling vessels; rollicking parties — and our homecoming.

Like most Antarctic trippers, I suffered some physical discomfort during those early "Nella Dan" voyages. To quote Captain H.C. Petersen... "a good ice-ship is not a comfortable sea-ship — and this is a good ship in the ice". Eventually, however, the day came when her gymnastics in the giant Southern Ocean swells gave me a feeling of enjoyment and exhilaration instead of that gut-wrenching devastation which even Avomine could not suppress. It was then that I had the fanciful thought that the ship was expressing a benevolent goodwill and I had been accepted. Of course, I hastened to remind myself that this was rubbish: a ship was merely a convenient mode of transport — a commonplace steel box.

Her life was not a serene one. From the outset, sudden boisterous drama was an everyday occurrence. On her very first Greenland voyage prior to her first Antarctic season, while in heavy seas, a fork-lift truck in No. 3 'tween deck broke free and, smashing its way through a bulkhead, penetrated the dining saloon. While at Mawson in 1966 and again in 1967, her moorings failed during hurricane force winds; the situation being saved by the captain sliding her bow on to the smooth rock of the up-wind shore and keeping her screw turning throughout the blow in order to maintain position. In 1971, while "Nella Dan" was in the Mawson area, a member of a Heard Island summer expedition broke his leg and was isolated in a tent in an inaccessible, crevassed area of Big Ben. Altering course, the ship

rushed to Heard Island and her helicopters extracted the injured man, who rapidly recovered from his ordeal. Twice in recent years, Army LARCs have sunk while loading alongside "Nella Dan". In one case, the LARC was recovered.

"Nella Dan" received major structural modifications on two occasions. The most spectacular re-fit took place in the early 1970s, when her helicopter deck was extended, two extra 4-berth passenger cabins and two security store-rooms installed, and the very popular observation saloon erected on "monkey island" above the bridge. In recent years, special winches and other sophisticated gear, for use in the current oceanographical research program, have been installed. Structural alterations again were necessary, in order to effectively mount the equipment.

I voyaged in "Nella Dan" in sundry roles, ranging from green expeditioner to Expedition Leader. In time, the ship became as familiar to me as a favourite dog and almost seemed to possess a consciousness of her own. This absurd fancy appeared to inspire others too. At her arrivals and departures in the ports of Melbourne, Fremantle and Hobart, large crowds gathered to welcome and farewell her. These included many who had no definite connection with ANARE or the ship — they just liked her! The Antarctic fauna also appeared to react to her friendly aura. Most old hands will have stood on her decks as she approached the Macquarie Island roadstead, accompanied by a squadron of cormorants at masthead level; albatrosses and skuas weaving over her wake; a flutter of mixed prions petrels and other small birds close to the deck rails; and a convoy of penguins porpoising alongside: all keeping pace with her stately glide towards her anchorage. I well remember a breath-

taking reception she received one summer as she made her way through open water towards Casey. Suddenly, the Southern Ocean erupted with killer whales; literally many hundreds of them as far as the horizon all round; each one leaping vertically, completely clear of the water, before crushing down again in a fountain of foam. This royal welcome was more spectacular than any firework display — even a bi-centenary one!

I do not know whether all other ships inspire people with these extravagant fancies. I suspect that naval vessels do; and I know that polar vessels do. As we watched the T.V. screen, and saw that familiar bow disappear beneath the sea, my daughter, who has known "Nella Dan" for as long as I have, said to me, "That ship has a soul". If one were to pursue these speculations further, one might envisage an incident of the future, in which a beset ANARE ship is joined by a spectral "Nella Dan" emerging from the frost-smoke. I am sure that such an apparition would be an omen of hope and liberation — a benign version of the "Flying Dutchman".

If salvage was out of the question, then it is fitting that she was consigned to the Southern Ocean depths. If she had been abandoned on the reef in Buckle's Bay, it could have caused deep mental anguish to the expeditioners at the Macquarie Island station; for they could not have avoided witnessing her final degradation as she slowly disintegrated. It would have been tantamount to leaving the corpse of a pet animal to rot on one's front lawn. However, I guess that all this is just irrational sentiment. When all is said and done, "Nella Dan" was just a manufactured article: an inanimate thing of nuts and bolts.

OR WAS SHE?



Farewell Ceremony, 2nd Mawson & Davis Voyage 1974. Mr. A.F. Bennet M.H.R. addressing expeditioners, their relatives and friends. Behind him is Dr. Garrod. Others from the left: Capt. H. Klostermann and D.G.P. Smith, Antarctic Division Expedition Leader, Fremantle 29.1.74.



REQUIEM

I. McLeod

Your stout red presence sailing up the river
Signalled the arrival of spring
And the soon coming of summer
For us.

For you, ahead the long summer's striving
Across and across and across.
Through the heaving rough hewn patterns of ocean, commanded
By the four winds
Jostling for supremacy in an infinity of unfettered space.
Always seeking the unguarded moment
To claim
That which dared to challenge and use omnipotence.

Past the long white sentinels, heralds of the icy land
South distant.
Swallowed into a glittering white wilderness.

Ah here's the test.
Never was a Hercules so small nor triumphed so often
The breaching of the final ramparts
To the Land.

Sometimes God would push aside
A bumbling nimbus
And look and crease a brow.
His masterpiece of blue and white, red-speckled somehow.

And then arrival and rest.
And human hands to ease your burden, soothe your wounds.
And turn you back to do the same again.

You did not seek a Viking pyre
Is growing old so wrong?
Just a quiet slipping beneath the waves
To hear at last
Poseidon's song.

ANON.

DEATH OF MORE THAN A SHIP

She may not have been the Australian-owned vessel that ANARE has been clamouring for for thirty-four years to my knowledge, but the *Nella Dan* has a unique place in our maritime and polar history.

Built in 1957 at Aalborg, and refitted at Frederikshavn during 1975, the *Nella Dan* is described in the particulars provided by Australia for our exchange of information under the Antarctic Treaty as: "... motor ship 2,206 tons gross register, 2,240 B.H.P., carrying capacity 1,920 tons deadweight on board, speed 12½ knots. No armaments. Under charter from J. Lauritzen, Copenhagen, Denmark".

Ah, but she was much, much more than this!

She has meant many things to many people. Not least of her attributes was the goodwill she engendered. Many an expedition has set sail as a raggle-taggle band of strangers to become, after several days on board, an integrated team of mutually supportive and tolerant individuals.

For my own part, I visited the *Nella* at North Wharf in Melbourne several times every summer for more than fifteen years. Her red masts and crows nest stood out from the rest, and she was visible to the workaday traffic rumbling over the Spencer Street Bridge. Her arrival in Melbourne from Denmark signalled the culmination of a year's work for all of us at Head Office.

My first voyage south was aboard the *Nella* in March 1967. It was her last voyage for the season. She had just returned from months in the ice and was to make a short dash to Macquarie Island to land the wintering medical officer, top off the biology program and return the summer scientists to Australia. Some of us flew from Melbourne to Hobart in time to meet her. It was the summer of Tasmania's devastating bushfires, and Hobart lay blackened and exhausted in the searing sun. The little red ship sailing in towards Macquarie Oil Wharf seemed to bring with her a refreshing and rejuvenating air from the frozen southland. About five hundred yards off-shore some returning expeditioner yelled to the group on the wharf: "I don't know who you are, but I'm bloody glad to see you!" Before the gangplank was down, two young children were passed aboard to their daddy, and one expeditioner jumped onto the wharf to greet his tearful wife.

Mention of the *Nella* is enough to trigger memories of daring deeds, trepidation, hilariously comic situations and, most of all, good companions. Some names of those who stepped ashore and others who were aboard that first intrepid voyage of mine, names that are part of Australia's Antarctic history: Don Styles, Ian Bird, Doug Twigg, Geoff Smith, Alan Brown, Frank Soucek, Graeme McKinnon, John Evans, Eric Macklin, Chris and Robert Carrick, Sven-the-Hovmeister, Jim Doohan and Shorty and Robbie, Bruce Cooke, Don Alexander, Alan Gilchrist, Knowles Kerry, Duncan MacKenzie, John Reid, John Annexstad, John Phillips, John Greenhill, Peter Granholm, Captain Petersen. The *Nella Dan* was a repository of all these names and many more; her passenger and crew lists are the Who's Who of modern Australian Antarctic endeavour.

Who committed her to the deep?

The *Nella* should have been RTAd or left where she went aground. Many of us would like to know who comprised the Powers-That-Be responsible for the decision to scuttle the *Nella*, and why and when this

decision was made. "They" must be accountable to the Australian public, to those thousands of ANARE expeditioners who went aboard her over the years and the hundreds of thousands — perhaps a million — who came to watch and cheer the *Nella* each time she arrived and departed the ports of Melbourne, Fremantle and Hobart. "They" are guilty of robbing the nation — on the eve of the Bicentennial celebrations — of a national monument.

For the *Nella Dan* was our *Discovery*, our *Aurora*, our *FRAM*!

Elizabeth Chipman,

A NIGHT OUT ON NELLA

Although I'm sorry never to have voyaged on the *Nella*, I hold as a special memory the one night I had on board. I was the MO for Davis in 1986 and had planned a fairly complex research program to keep me busy over the year. Like most research workers in the Antarctic, I had arrived on station only to realize there remained some rather prickly problems in my program's design. As well, I realized I had not adequate computer programs to analyse all the data I was accumulating.

Fortunately for me, help arrived in the form of the little red ship, who had on board two roundtrippers with enough expertise to solve my problems. With the okay given by Rob Easter, the OIC, I boarded the *Nella* for an evening of fruitful discussion, first with Dr Hilary King and then with Dr Harvey Marchant.

My worries alleviated, I had a tour of the ship and then joined the rest of the passengers for the evening meal. Well, those who have experienced *Nella's* hospitality as they first depart civilization have often commented on the wonderful silver service and friendly Danish staff, but after two months of queuing for food in the station kitchen, it was a treat to remember.

The rest of the evening was spent visiting various cabins for coffee and conversation before retiring to a cosy cabin for the night. Early morning we saw me transported ashore by chopper but not before farewelling one of the loveliest ships to grace the Antarctic.

Gillian Deakin

NELLA DAN MEMORIAL

The ANARE Club is investigating a proposal conceived by Brian Harvey to erect a monument or memorial plaque, probably at Macquarie Island. Suggestions are for either a bronze model of *Nella Dan* or a bronze plaque with the ship in bas-relief. A committee consisting of Brian Harvey, Shelagh Robinson and Max Corry will consider ways of implementing the proposal, and Dr. Phillip Law has consented to be a patron. Public subscription will be involved, and Club members are asked to submit any comments or suggestions.

THE SENTIMENTALISTS

by Dave Keyser
(M.I. 59, Mawson 61)

The conversation at the "Chelsea Pensioners (weekly luncheon gathering of old Antarcticans at a suburban watering hole) had been most animated, what with the sinking of the *Nella* and all. When George Smith, without any warning — we didn't even have a chance to brace ourselves, threw in:

"Back in 1947....."

Stunned silence. I mean, 1947! In an effort to relieve some of the awe this opening created, I countered with, "But George in '47, there were palm trees growing in Antarctica, it was still part of Gondwana land!" Bestowing upon me a look of which Attila the Hun would have been proud, George continued his story....

A fresh conversation had sprung up about the *Nella* and the other Dams. Shelagh Robinson was there trying to solicit articles for the *Aurora*. On being asked to provide something I said:

"Nothing much happened the year I was on *Nella*, besides I only travelled on the more luxury liners, not the tinny *Kista*.

"The *Kista* was also a luxury liner, you should have been on the *Tottan*."

One small distinction did occur for the brief time I was on *Nella*. On the first return voyage in 1962 *Nella* got trapped in the ice. Over the years the *Nella* became stuck in the ice quite a few times, this coupled with the resultant media coverage, makes me feel that it would be far more attention-getting and impressive to be able to say, "I was on the *Nella* and didn't get stuck in the ice".

Hans Pedersen was the Captain that year. As everyone knows, the Dan ships could roll violently in the Yarra. I'm sure Bill Haley got his inspiration for "Rock and Roll" from either hearing of or seeing a Dan. Hans Pedersen always dismissed this shortcoming in his goulash of non-apologetic, pride, conviction and heavy Danish accent the now famous, "She's a good ship in der ice".

In 1962 the *Nella* was to carry out exploration and land a shore party at Amundsen Bay. Whilst making good progress through packice the wind changed to a northerly, compacted the ice and *Nella* became frozen in. Contrary to the picture the media likes to provide, all on board far from worrying about another winter in the Antarctic, were more concerned with enjoying the period of relaxation. Even the 20 degree list provided more of a conversation piece than any feeling of Shackleton-type disaster. Rod Hollingsworth's unsanctioned foray onto the ice to take photographs of *Nella* only provided comic relief. Infinitely more comic to the brash Aussies was

their oft repeated, "But she's a good ship in der ice!" If homicide had been legal, I'm sure Hans would have carried this out at regular intervals.

Word having reached the Russians of our plight, they kindly despatched the "Ob" which was in the near area to attempt a rescue. Hans was mortified. The Ob, although a vastly larger ship of 18,000 tons versus 2,000 tons, was nevertheless only an ice-strengthened ship, as was the *Nella* Dan.

Hans found it difficult to hide his delight when the Ob, in attempting to break through the ice, became fixed herself. Only after some difficulty did the Ob get free, and after the warning, continued on her way. Imagine Hans' glee when the next day a wind change saw the ice pressure lessen and the large build-up of ice start to separate. A few full speeds in reverse and forward, and the *Nella* was free. Hans could once again justifiably say with pride, "She's a good ship in der ice."

Australians are very loath to show sentiment. To suggest to many that they were sentimentally affected by the loss of the *Nella* Dan would be met with a degree of derision. However, the repeated conversations heard at the "Chelsea" among hardened "old sweats" about the plight of the ship casts a lot of doubt on any lack of sentiment. Some of those present had never sailed in the *Nella*, but they had voyaged in the *Kista*, *Thala* and *Maggie* Dams.

With the departure of the *Nella* Dan we are not just feeling sentimental about this ship, we are talking about the Dan ships in toto. We are talking about an inseparable part of Australian post-war Antarctic involvement, 35 years in fact. That is a human working life time. There is much more than that though, for with the sinking of the *Nella* so ends the long relationship between Denmark (Lauritzen Lines) and Australia (Antarctic Division). For thirty-five years the Danes were an integral part of Australia's research and exploration of the Antarctic Continent. The cynic could say the Dan ships were chartered. However, I would be very surprised if many more experienced than myself could not relate many instances when Danish co-operation extended far beyond the parameters set in the contractual arrangements.

Already there is talk about the project to erect a plaque or something of that description to ensure the perpetual remembrance of our long successful association with the Danish. Hopefully talk will quickly become action, then reality.

NEW ANTARCTIC BOOK

Dedicated to *Nella* Dan, "her Crew and all who sailed in her", a new Antarctic book will be published in July or August this year. Rowan Keith Butler is the author and his book "Breaking the Ice" covers his years in Antarctica between 1981 and 1987, including the days of besetment in 1986.

Rowan, an electronics engineer, served at Mawson in 1981, Casey in 1984 and was a member of the Bunge Hills expedition in 1986.

WANTED to buy or borrow for research project.
BOOK, Downes, Ealey, Gwynn & Young — 1959
"THE BIRDS OF HEARD ISLAND". ANARE
REPORTS, SERIES B, Vol 1, Zoology.
(Now out of print).

Write to Alan Gilchrist, 3 Odenwald Road,
EAGLEMONT 3084. Tel. (03) 45-1443.

GASTON RENARD

Fine and Rare Books

Established 1945

We maintain the largest stock of "for-sale" Antarctic books in the world.

Telephone or write for our latest catalogue (over 500 items).

A Selection from our Current Stock:

JUST PUBLISHED

- 1 **Huntford, Roland**; Edited and Introduced by. **THE ADMUNDSEN PHOTOGRAPHS.** Med. 4to, First Edition; pp. 200; 3 full-page maps, 168 illu. from original photographs taken on Amundsen's expeditions (over half in colour), epilogue, index; a fine copy in d/w. Hodder & Stoughton, (1987). ***Including Amundsen's North-West Expedition 1903-06, the South Pole Expedition 1910-12, and the Maud Land Expedition 1918-23, with maps of each; a most interesting book and essential for any polar collection. #19370 **A\$55.00**
- 2 **Mawson, Sir Douglas.** **THE HOME OF THE BLIZZARD:** Being the Story of the Australasian Antarctic Expedition 1911-1914. 2 vols., cr. 4to, First U.S. Edition; pp. xxx, 350; xiv, 340; 3 col. folding maps (in pocket), 37 text maps & plans, etc., 18 col. plates, 9 double-page & folding panoramic views, 189 b/w. plates; appendices, glossary, index, Errata slip; a very good copy; scarce. Philadelphia, Lippincott, [1915]. ***The sheets were printed in England and the book is identical to the London edition except for the imprint and some difference in the arrangement of the plates. [Spence 773; U.S.N. 23-66.16]. #4009 **A\$550.00**
- 3 **Murray, James & Marston, George.** **ANTARCTIC DAYS.** Sketches of the homely side of Polar life by two of Shackleton's men. Illustrated by the Authors, and introduced by Sir Ernest Shackleton. 4to, First Edition; pp. xxi, 200; 4 col. & 29 b/w. plates, 8 full-page other illu. (drawings), several chanties, with scores & head illu.; orig. pictorial blue linen (faded; spine spotted); top edge gilt, others uncut; rare. Andrew Melrose, 1914. ***Edition limited to 280 numbered copies, signed by both Authors and by Sir Ernest Shackleton. #17812 **A\$1750.00**

Have you books to sell? We are always interested in purchasing books in good condition - single items or entire libraries. Telephone or write for an obligation-free quote.

Head Office:
51 Sackville Street,
Collingwood,
Victoria, 3066, Australia.
Telephone: (03) 417 1044

Correspondence:
Gaston Renard Fine and Rare Books
P.O. Box 5235BB,
Melbourne, 3001,
Australia.

The World's Leading Specialist in Antarctic Books

BLIZZARD AT MAWSON — FROM DANISH REPORTS

An article in "Lauritzen News" May 1979 gives an impression of tasks facing a polar ship during blizzard conditions. The Dan ships kept their Company informed of their movements and conditions in general through daily reports:

Telegram from *Nella Dan*, 10 January, 1979:
 "PENETRATED FASTICE KISTA STRAIT AND HORSESHOE HARBOUR MOORED MAWSON 10/01 UNLOADING DELAYED BY BLIZZARD ETD 11 PM FOR DAVIS".

The report enlarges on this telegram and gives a vivid picture of the demands on ship and crew of a never routine polar voyage:

"On Tuesday, 9th January, the storm slackened, and we again approached the skerries north of Mawson. A new ice-recco showed that the storm had blown almost all the pack ice away. Continued between the skerries, where we passed through a single narrow belt of drift ice, concentration 8-9/10.

By 1618 hours we were in Kista Strait, where there was still fast ice, almost one metre thick. Began breaking the fast ice and reached Horseshoe harbour itself three hours later. We had just about got the stem through the entrance when a storm began to blow up. It soon became impossible to break more ice because every time we went astern the wind pushed the stem of the almost empty ship off course. Then we brought the ship up as tightly as possible in the ice, which enabled us to get the stern clear

of Mawson west arm. This ice-breaking work in the entrance itself took a further 3 hours so that it was now about midnight: in the meantime the wind had reached force 10 from the south-east. There was now no doubt about it — we had been taken by a blizzard.

As a further safety precaution, we pulled two lengthened mooring ropes in over the ice and fixed them in position: this work took about two hours and was made very difficult by the fact that the men working with the hawsers found it difficult to stay upright in the stiff wind. The men down on the ice couldn't have kept their footing at all if they hadn't been wearing spikes on their boots. By about 2 in the morning we got both hawsers in position, and with them to support the stem and the engine still running at full speed, we could only wait for the wind to drop and hope that the ice in the harbour would hold until the storm was over — which it did: even though the wind reached 70 knots during the night, there was no movement to be seen.

During Wednesday the wind dropped again, and on Wednesday evening it was calm enough for us to break the rest of the ice in Horseshoe harbour and moor in the normal way with 6 headropes and 2 stern ropes. By 2300 hours that evening we had finished mooring *Nella*. As soon as we had moored, the discharging was commenced".



Changeover Mawson 1971. (Note mooring ropes) Far right: Len Macey, Far left: Bob Nicholson, Terry Weatherson, Bill Young. Sitting: Roy Mitchell, Geoff Callaghan on his left — photo D. Parer.

MEMORIES OF 25 YEARS PAST

We sailed from Queens Wharf, Yarra River, on January 8 1963, under the leadership of Phillip Law, then Director of Antarctic Division, wondering how we all fitted in that little red ship — Heard Island summer climbing party, Mawson and Davis wintering-over party, plus two DUKW's and crew from the Army.

First stop Heard Island to land a party under the leadership of Major Warwick Deacock, (later the founder of the successful Austventure) mainly to attempt to climb Big Ben. This venture proved unsuccessful.

Onwards to Mawson...how that ship rolled, the clatter and the smells from the galley, clinging to the railings and into the ward room, fiddles up, tablecloth wetted, breakfast two eggs swimming in oil! We thought that

Nella Dan could not roll any more or any longer — it did!

At last Iceberg Alley and calm; then Horseshoe Harbour, Mawson — unloading, last minute letters, the little red ship over the horizon, and we were on our own. But she was to reappear late in January 1964; not all of us boarded *Nella*, we had a death at Mawson during 1963.

A stop at Davis to close down the station. The rocking and the rolling did not seem to bother us this time — we were going home.

Finally entering the Derwent, Hobart, to drop anchor on March 20 1964. Most of us flew home; I never saw *Nella Dan* again, yet the memories linger. So farewell, *Nella Dan* — you went with pride and dignity, a fit and proper ending of a great Viking ship.

Ted Wishart, T.O. Glaciology,
 Mawson 1963

THE SINKING OF NELLA DAN

Letters have been received from all over Australia expressing the genuine deep feeling of loss experienced by past expeditioners:

From Pieter Arriens, Canberra

"The loss of the *Nella Dan* breaks a tangible link in the continuity of the ANARE. New station buildings have replaced some of the old ones; the Head Office was shifted to Hobart, and the relevant government department seemed always to change from one ministry to another. But the *Nella Dan* just kept on going through it all. The great tragedy is that the chance has gone for laying up the ship in Australia as part of an Antarctic museum.

I shall forever remember the poignancy of the departures from North Wharf, and the sheer relief of getting out to sea when the departure was during a heatwave in Melbourne. Perhaps the most enduring memories are of the view from the shore as the little red ship left Davis at the end of summer, and of her re-appearance over the horizon a year later, threading her way in between distant icebergs.

Although a ship is a non-sentient thing, the shared experiences of so many expeditioners and crew is something else, and for most of them I imagine that Christmas will never again approach without a pang of memory for the *Nella Dan*.

Geoff Kirby, who was at Mawson 1973, expressed his feelings in verse —

"In Memory of the Little Red Ship".

With my pen in hand I'm sad to say,
That the end of an era comes to mind today,
Of the Little Red Battler who used to sail
To the Antarctica and back.
Through wind, ice and raging seas,
The *Nella Dan* would take it at her ease.
With fresh supplies, equipment and men,
Several times a year.
After a quarter of a century it has gone to rest,
In a lonely continent that it liked best.
Myself and scores of other men,
Will be left with wonderful memories.

Peter Stickland ("Stix"), Mawson '80,
Davis summer '81, Casey '83.

My memories of the *Nella* are all fond memories as are most of the expeditioners who sailed on her rolling decks. Indeed, my thoughts of her are more compounded today as it is just on 40 degrees here in Perth and I remember *Nella* sailing through packice at this time of the year when the temperature was a lot colder than today's heatwave.

I guess that I was one of the lucky ones who does not suffer from sea-sickness (I guess that may be because I stuffed myself with all the tasty buns and cakes that *Nella's* kitchen hands cooked up for us each supper time).

My first contact with *Nella* was when she sailed from Melbourne in December 1979 bound for Mawson; her very competent Captain and crew made life very bearable on board for the entire trip. *Nella* collected me again 12 months later and we set sail for Davis where I spent the summer in the Radio Office of VLZ.

In late March of 1981 *Nella* sailed into Davis to collect "Big D" (Brian Gaul) and myself, together with most of the last of the Davis 1980 crew; we up anchored and set off for Port of Melbourne again where the usual family gathering took place upon our arrival. I miss that little red ship. Antarctica has its heroes, but for me that ship should take its place amongst the honour rolls of Antarctic travel and survival. In closing I wish the Danish crew "Mungatak *Nella Dan* (thank you *Nella Dan*) for what you have done.

John Stalker, Perth, who was on *Nella's* maiden voyage to Macquarie Island in 1962 writes:

We mourn the final voyage of this gallant heroine of the ice. Ironically, the location, or area of her demise, was only a few hundred metres from where she first anchored on her maiden voyage in December 1962. A few affectionately derogatory comments made by expeditioners over the years about the *Nella*:

"The Little Red Ship; she rolled on the drawing board; she would roll in a heavy dew; but she's a good ship in the ice."

She was virtually a flat-bottomed ship because of necessity — basically designed for her sea-ice penetrating capabilities and strenuous activities in the Antarctic.

David Carstens of Brisbane

"Queensland members of the ANARE Club have noted with great sadness the grounding and subsequent loss of the *Nella Dan* at Macquarie Island.

Five of the 1962 Mawson Party who travelled south on the maiden voyage of *Nella* now live in Queensland — Peter Frost, Mark Single, 'Frosty' Ken McDonald, 'Mumbles' Walker, David Carstens.

The sadness of Queensland members who have travelled in *Nella Dan* or any of its sister ships, is heightened by the loss of a ship in a comparatively safe anchorage, considering the scope of its travels in southern waters.

It is also sad to observe that this disaster was necessary to spark a wide media coverage. The successful negotiation of so much hazardous and uncharted water has never rated such interest.

FAREWELL — all little red ships, past and future."

Will Twycross (Davis '79) remembers —

"As your average ship's doctor travelling down and back, I have many very clear memories, ten years on...the boards at the dinner table on a rough day; visits to prostrated expeditioners battling seasickness in their bunks; playing cards, reading or bird-watching in the uppermost 'deck' above the bridge, where all pitches and rolls seemed to be magnified tenfold; running around the helicopters on the stern deck, where you were alternately struggling uphill or being propelled at lightning speed downhill; icebergs sweeps; the *Nella* as 'ice-breaker' battling into a frozen Horseshoe Harbour; the *Nella* as villain when a proposed October pass (with helicoptered mail) at Davis was cancelled; cards and whisky with the crew somewhere in the bowels of the ship; sunbaking on

the foredeck as we neared home. And finally, of course, the *Nella* as a dream fulfilled — perhaps like playing for the footy team you barracked for as a small boy — a voyage on a boat which you had known about from when you were that same small boy, and which in its very unspectacular steadiness somehow embodied what it was, and what it took, to go South."

FAREWELL NELLA DAN

Three times I travelled on *Nella*, twice to and once from Macquarie Island, the first trip after a hectic two days notice. *Nella* was partly obscured by wharf buildings that first time and I didn't have time to reflect on how small she looked. But the second time round was different. *Nella*, way off in the distance down river, looked little bigger than a fishing trawler and I approached her with trepidation. I was ready to chicken out but, once on board, all fears evaporated — temporarily.

The problem was the same each time: *Nella's* roll. Even wedged into the bunk with kitbags and clothing, I suffered sheetburn as I slid down, down, down until I was almost standing erect. Surely *Nella* could roll no further without capsizing? But yes, the old girl (both *Nella* and me) stopped rolling and came up, up, up, paused and then over to slide down, down, down the other side. I now stood on my head, something I had never achieved in my normal state of equilibrium. But fear that aborts at each recurrence, finally loses its power and eventually I learned to trust *Nella* and slept.

Untidiness in the cabin was rewarded by a mess on the floor, a mess that migrated from side to side with each roll. And the lucky occupants of the lower bunks, who could reach into the drawers beneath, often left them open. Shins were sore and words rude. Showers were sketchy, the trickle never centred, but nobody seemed to pong noticeably!

The old practice (since discarded) of slinging last year's eggs and flour at the departing expeditioners caused great hilarity, although I was not amused when a hard flung googy got me in the eye. By the time the DUKW reached the swaying rope ladder of *Nella*, my eye had closed but the ascent, always something of a hazard to those of us less than agile, was made with the help of willing hands to heave me aboard. Lack of agility was contributed to by the gorgeous meals, a subject no doubt covered by everyone else who mourns *Nella's* destruction.

Perhaps what stands out most clearly in my memory was the joy of watching seabirds. Identification of seabirds is challenging at the best of times and it was almost impossible to home in on them with binoculars as *Nella* rolled. Photography was also fraught with difficulty as we clung to stays and hung over the rails to get the perfect shot — and occasionally did.

I have often dreamt of going south again. Other ships may be more comfortable, safer, faster but they can never hope to possess the charm of *Nella*, a charm possessed by so many old things — houses, paintings, people. Of course, *Nella's* charisma may all have been in the mind but, even so, to know her was to love her.

Pauline Reilly

SOUTH ON THE "NELLA"

In southern seas, more southern yet,
The *Nella* Dan, with purpose set,
Assaults the waves, enjoys her work
Like some majestic, blood red, cork.
As one of the intrepid crew,
And conscious of the honour too,
Adventures thrill now starts to pale;
Oh hell — force 12 — is that a gale?
I've had a shot, I don't know why
I feel so sick I want to die;
I walk along and then I find
I'm hurtling down a steep decline;
A sickening lurch, and then, it's strange,
I'm climbing up a mountain range.
I tried to eat my dinner mate,
While hanging on to seat and plate;
And yes, I had a shower today,
It's not my fault I missed the spray,
But through my misery I feel,
The little ship will surface still;
Her bottom down, her decks to sky,
She'll get me there before I die;
And through a solid wall of white,
The landlubbers will see a sight,
A red princess, they'll give a cheer,
And I'll begin my southern year.

Ron (M.81) & Lois Kennedy

Typical Anare Farewell — photo R. Marnock.



Some Memories of "Nella Dan", 1962

Frank Smith was a supernumerary on *Nella's* first journey for ANARE in 1962. A veteran of 17 trips on the Dan ships, he has many memories and shares a few of the laughs with *Aurora* readers. Each little snippet could be the subject of a story, the details of which could be filled in by the men who sailed with Frank on the *Nella*.

Capt. Hans C. Petersen on *Nella* — "She's a good ship in der ice!"

Harry Redfern after a rough voyage:

"Thank God for that, because she's no b...y good in the water!"

When Don Styles was trying to explain to a steward as to how rare he would like his steak, in desperation Frank Smith interjects — "Just knock the b...dy horns off and singe it!" (*Aurora* 1964)

Who was the cad who made and presented Alex Brown with a pair of spurs and whip? (Alex had only been married a short time prior to spending a year at Davis).

Frank McMahon to Frank Smith — "Can you give me a hand in the hold for a few minutes?" "Yeh mate, no worries".

"We were at sea and Frank had decided to open a few cases of grapefruit and oranges to sort out all the bad fruit. Have you ever tried to pack less fruit in a case than the original number? Frank McMahon become squeamish and left it to yours truly who spent days chasing fruit all over the hold."

Remember the little bar in the lounge where one could enjoy a few pre-dinner drinks, and Alan Campbell-Drury armed with a candid camera would lie on the deck floor and take everyone's photo upside down?

An after dinner party with Phil Law happily playing his accordion and smoking a huge cigar, when Bill Edgar decided to accompany him with the bagpipes. "Should more be said?"

Capt. Hans C. Petersen was known by the troops as "Hans Get off my Bridge" Petersen, whereas Capt. Wilhelm "Bill" Pedersen would walk on the bridge and count heads, then say something like "with so many Australians in charge I can go back to bed!"

"Snow" Williams in a latex female mask, blonde wig and looking very sexy in his sister's dress as he flitted sylph-like through the curtains and cabins.

Then there was the time when *Nella Dan* was down Amundsen Bay area and the icebreaker *Ob* sailed into

Mawson Harbour to unload some fuel drums. After all hands helped to roll the drums across the frozen harbour, all Australians disappeared into the bowels of the ship and all the Russians went ashore. "Snow" was again seen flying through the *Ob* but who from the Aussies tried to date the 100Kg. laundry maid?

Frank adds to his reminiscences with a quotation from a Danish news item when a Lauritzen public relations officer was commenting on the *Nella Dan* stranding: "She is a dignified old lady, but is suffering from an abdominal disease".

Other expeditioners on that first journey will probably be saying, "I remember that, and how about the time when". So, how about writing it down and telling the story of a typical voyage on the happy ship where everyone soon felt they were at home.



Peter Baggott & Capt. H.C. Petersen (left).

NELLA DAN — 1965

From Peter Baggott (Mawson 65, M.I. 67)

"This tale of reminiscence should create a grin or two from those who remembered the times when a box of beer was as scarce as that other pleasure that men enjoy most:

In the wee hours of the morning in January 1965, the little red bottle top blessedly arrived in the pack ice. Such joy and jubilation to be in the "state of still".

A lone character surreptitiously was making his way down the passageway — "Giles" — It was the voice of the Assistant Expedition Leader deliberately breaking the silence. "What do you have there?"

"It's a donation from the crew to Phil".

"Rubbish, that's a subterfuge".

"No, Eric, I was on destroyers".

"I'm sorry Giles, you cannot have it".

"But, Eric, other members of my cabin are expecting it. Indeed young Alan needs it to remedy his unseaworthy condition".

"My sympathies, but in this instance the contents of that box in your arms shall go to another destination".

"I assume then that this object is confiscated".

"Yes".

"Well, it's not paid for!"

REQUIEM

I will never forget the day I learned that proud "Nella" was really gone. Walking past a Sydney street-corner newspaper stand, my eyes were jumping over the front pages when *The Australian's* black-and-white photograph struck my heart the way I imagine a long, thin knifeblade would.

Bows raised high in the air and her name still clearly visible, "Nella's" stern was engulfed to just forward of the bridge when the photographer caught her final agonies. I could only stare at the picture, stunned to realize that I had sailed with her on her last-ever trip to reach Antarctica.

Whatever else "Nella" was to others — a vehicle, an asset, a home — she will forever remain to me a treasured collection of people and experiences, my introduction to the great white wilderness of the south. These things I remember most vividly: quiet conversations on night-watch with Anders, the bridge's blackness lit only by the pale green radar screens; singing Rasmus's Greenland folksongs down in the "Frozen Inn;" Chinese "break-dancing" with K.Y. and Albie as Nella's messdeck rose and rolled in a Force 10 storm; the camaraderie I felt while drinking Gammel Dansk and Carlsberg in the seamen's mess early the morning after; the awesome sight of huge blue blocks bobbing to the boiling surface after her stern while breaking through the ice.

"Living Dangerously," her last shipboard newsletter was called, a thinly-veiled reference to an uninformed comment once made to the press about "Nella's" seaworthiness. But the gallant red ship's record speaks for itself, and on my voyage she achieved a record-early arrival at Davis. This gave us an extra two weeks ashore, unheard of for round-trippers, and for this I will always be grateful to "Nella" and her crew. From them I learned something of the sailors' spiritual love for the sea and their ship, and I myself began to feel this.

Jeff Rubin

(*TIME-Australia* journalist Jeff Rubin sailed on "Nella Dan" on voyage 2, Hobart-Macquarie Island-Heard Island-Davis, and returned with "Icebird" to Macquarie on December 8.)



Jeff Rubin, Harry Alderdice and Chief Engineer Erling Hesler in Nella Dan Engine Room, Voy. 2, 1988 — photo G. Scott.

Left hand side of mural in the "Frozen Inn", — photo R. Butler.



MACQUARIE ISLAND CHANGEOVER MEMORIES 1973 & 1974

David Sharpe

Obviously most expeditioners will carry mental pictures of The Little Red Ship, *Nella Dan*, set or perhaps beset, amidst that scrunchy white stuff. Having been a Macquarie Islander, (O.I.C. 1974), my memories are painted in more sombre hues. Whatever colours are evoked, I'll wager everybody has a warm feeling towards *Nella* which so often started and finished a year of adventure for us.

Our adventure began at No. 6 North Wharf on Friday 23 November, 1973, with a freshly painted ship and a bright sunny day. As the day progressed our expected departure time receded from 1700 hours to 1900 hours to 2300 hours to an actual departure time of 0020 hours the next day. Even so a few Head Office stalwarts stayed on to wish us a final farewell which warmed our hearts greatly.

Following one day of rough seas the *Nella* sighted Macquarie Island about 2000 hours on 28 November. What magic it was to watch North Head materialise out of the gloom swathed in mist and cloud, followed by the twinkling lights of the Station spread out along the isthmus. *Nella* tooted, flares were exchanged but further contact awaited the morn.

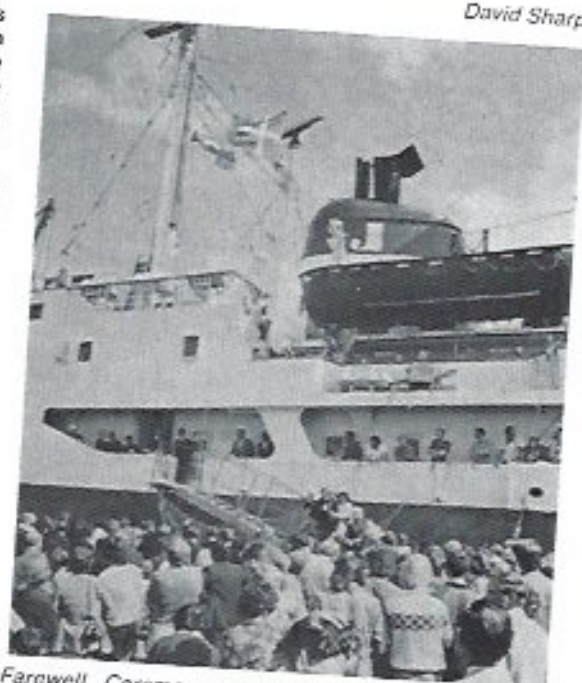
Unexpectedly the sea was dead calm and it stayed so all next day as we completed about half the unloading. It was too much to expect calm weather for the third day when it was planned to use the LARCs for the first time to resupply as many of the field huts as possible. 1974 was to be a busy year for our two biologists, Evan Jones and Irynej Skira, who amongst other tasks were beginning the study of the rabbit population with a view to its control with myxomatosis, using a flea as the vector. The efficiency of their work would be increased if they did not have to carry much food and fuel to the field huts.

Saturday 1 December dawned with reasonably calm seas and two LARCs went to Bauer Bay at first light with gas bottles, drums of kerosene and crates of food. Bauer Bay faces the prevailing westerly wind and swell, and despite relative calm in Buckles Bay, it was all the LARCs could do to put their cargo ashore at Bauer Bay through the crashing breakers.

By 0930 hours the LARCs were back, and together with a third one were packed up with goodies for the huts along the east coast, and hopefully, even Caroline Cove, which has a nor'-westerly aspect near the southern tip of the island. Now LARCs are very reliable and rugged but a return trip of about 150 km. with deteriorating weather was no sinecure, so the good old *Nella* came along as chaperon.

As we battled through ever rougher seas and the odd snow squall it was a real comfort to look out to sea a kilometre or three and see The Little Red Ship ready to make a rescue dash if needed to a stranded LARC. We headed straight for Caroline Cove but one LARC was lagging, so it put into the beach near Hurd Point Hut at the extreme south-east tip of the island. Its propeller had been partially fouled with the tough kelp found around the shores. The other two LARCs headed straight into the strong westerlies, rounded the South West Point, then Caroline Point and so into a relatively smooth Caroline Cove. We had made it.

With a glance over our shoulders to see the *Nella* still with us, we could relax a little and enjoy the snow edged scene of Caroline Hut perched above the beach amongst the tussocks. A flash of sun through the clouds showed up the royal penguins porpoising with obvious delight.



Farewell Ceremony, 1973 Macquarie Island Relief Antarctic Division photo.

On our return the third LARC rejoined us and kept up, only to sustain a big dent under its bow as it struck a rock coming through the surf into Lusitania Bay, our next 'port' of call. It was not their day, the LARC's wheels spun ineffectively in the wet shingle and it had to be towed back into the surf. About this point I dipped me lid to the Larcies who not only drank hard and worked hard, but showed such skill under pressure. They obviously looked forward to their trips with the *Nella*.

My log entry describing the Lusi Bay 'Hut' is best left unreported, but later in the year I was very glad to crawl through its tiny hatch into this dank, dark old ship's container to get warm, dry and revictualled thanks to this resupply by the LARCs.

It was snowing again but what the heck, we weren't going to have our record spoilt as we landed the last lot of supplies into the Green Gorge Hut which was already bursting at the seams with those 'summer tourists' who cadged a ride on the *Nella* and had been squeezed into our cabins.

The LARCs, the *Nella* and the ANARE Station were all back together again by 1800 hours. The next day my log reads "Last LARC left earlier for ship at 1830 hours because of wind getting up. Ship well out. Dragged anchor so steamed about for awhile." It seems the problem of dragging the anchor was an ever present hazard off Macquarie Island.

By coincidence it was 23 November again in 1974 when we first sighted the *Nella* coming back to get us. To quote from my log "Spirits now high of course. See *Nella Dan* from Hut Hill at 2010 hours. Several there and most people came out and looked. In the bay and tooting by 2030 hours. Request Twiggy to send mail in as still some light and sea dead flat. No deal. What a frost!" Never mind Twiggy, all is forgiven!



This was an unusual changeover. The *Nella* was late leaving the Northern Hemisphere and came via Panama with agricultural machinery for New Zealand. The only way Macquarie Island could be relieved before March 1975 was for the new expeditioners and a minimum amount of food and gear to be flown to Lyttelton, New Zealand.

This expedient saved enough time for our party to get home as hoped before Christmas. The LARCs could not be shipped to New Zealand in time, so the trusty old rubber pontoons were blown up, checked for leaks, folded up and flown to New Zealand. The old hands soon

Australian High Commissioner for N.Z. addressing Expeditioners at Lyttelton, N.Z. Bob Thompson, Director N.Z. Antarctic Division beside O.I.C. Ivan Hawthorn.

showed the new boys how to haul the pontoons along the rope line. By using every photon of daylight between 0330 and 2030 and blessed with a calm sea, we achieved this scaled down version of a changeover in just one day.

But boy, were we pleased to see the *Nella Dan* after contemplating the possibility of an extra spartan Christmas and an extra three months on Macquarie Island. To hear of her demise was very sad to say the least.

ROCK AND ROLLING WITH NELLA DAN

by Neil Brandie

Life on the Dan ships had its trauma as well as humour. Neil Brandie (Mawson 78) tells of the agonies suffered by so many who were victims of seasickness.

A SORRY TRAVELLER'S TALE

On the morning of the 2nd December 1977 I was assembled at Victoria Dock with 25 other scientists, technicians and tradesmen from all parts of Australia, about to embark on the *Nella Dan* for a year of solitude and excitement at Mawson, Antarctica, just a dot on a map I had studied for the previous 9 months.

We had been instructed on the ferocity of the seas we were to face over the ensuing three weeks of travel but, having been a power boat owner for many years and experienced a wide range of water conditions, this was the least of my worries.

My family and friends had gathered at the ship, my duty-free goods had all been delivered to the care of the Hofmeister and my pulse quickened as the time grew closer to our departure time of 11.00 am. In true ANARE fashion there was an abundance of tinnies, and the beer flowed almost as freely as the tears. There was an air of carnival excitement on the wharf but our departure was delayed by two hours. There must have been twenty separate parties on the go at the same time, and I have recollections of visiting most of them during the next two hours and sharing many a tube of "Brown Slime" with expeditioners I had not previously met.

The hour of departure had come, the speeches were all made, the tears and farewells to family and friends were over, and the *Nella* was towed out from the wharf under the power of two tugs, backwards of all ways, not very fitting I thought for such a proud little ship. After a few

minutes of manoeuvring, we were heading down the Yarra River under our own power for Port Phillip Bay; the journey had begun and excitement was at a high. It took the next five hours to reach the Heads. In that time, a mountain of tinnies had been consumed and there were quite a few seedy looking characters, not so sharp in their "Sharp Anare's". We were summoned to the evening meal and most of us experienced our first try of Danish cooking. After dinner, we were instructed as to what was expected of us during the voyage and what we were, and were not, allowed to do. The formalities all over we resumed our pre-dinner activities until the wee hours.

Although we had left Melbourne in moderate weather, the morning brought a complete change, we had travelled through a "bad" section of water and the ship would not stop its rock'n and roll'n. My body was paying me back for all the punishment I had given it on the previous day. I was accommodated in cabin number four, on the port side, and on wakening I headed straight for the toilet opposite, where I made myself as comfortable as one could under the circumstances. Space was at a premium on the *Nella* and the toilets were not an exemption to the rule, there was barely enough room to kneel on the floor and hang ones head over the cold stainless steel bowl. I had never before experienced a hangover of such magnitude, but when coupled together with the most agonising experience of sea-sickness, I would not have dismissed the thought of dying as a cause of it.

Much to the annoyance of other desperates I remained there for the next one and a half hours during which time the silence of my day was broken by the hooting of horns and alarms; my agony was so intense that I remember thinking to myself that if the ship was sinking, this would ease my pain and solve everything. I ignored the sound of the alarms and the knocks on the door until the snib on the door was unlocked from the outside by one of the Danish crew. He muttered in very broken English that the alarms were for a "Fire and Lifeboat Drill" and that all passengers should be up on deck, and besides, you can throw "IT" further from the top deck! My thoughts were different to his, but he was more persuasive and besides, he would not go away.

During the next ten days I only ventured out of my cabin to attend to the weather obs that I was required to perform, and for my frequent trips to the small room opposite. I heaved until there was nothing left to heave and then heaved some more. In that time, I was to learn of the ferocity of the "Roarin' Forties", the "Furious Fifties" and the effect that these notorious waters can have on the VERY small, round-bottomed hull of the *Nella*. She bobbed around like a cork, and my stomach bounced around with every wave that crashed against this little ship. I didn't realise that a ship of this size could endure such savage seas for so long without suffering some structural damage, nor did I quite understand how a human body could endure such pain and agony for so long without breaking.

I had not really eaten for the duration of the voyage, except for the occasional piece of dry toast, which didn't stay down for too long. I was a physical mess and my mental state wasn't much better. I had made many visits to Doc Birss for those ineffective sea-sickness pills but I was too far gone for any help, they just rattled around in that empty pit of a stomach.

I thought we were in heaven when we reached the pack-ice, the seas had become very calm and I sat out on the deck for the whole day and spent the most comfortable night since boarding the ship. I woke very early the next morning and was looking forward to my first "real" meal. I felt that my body was ready to accept and retain food for the first time on the voyage and decided to have a complete meal — toast, cereal, main course and follow up with a quiet cup of tea to wash it all down, all was well in my world. I decided to take it easy and not to rush into it; I was feeling very happy with myself after two slices of buttered toast and a small bowl of cereal. I was thankful for the delay in the delivery of the main course, allowing me time to digest what had already been consumed and also to meet some of the expeditioners I had not seen during the voyage. I was almost a stranger to those who were having a peaceful trip.

The steward finally arrived with the main course. The platter served in fine fashion and tradition, together with its gleaming silver dome lid, was placed on the table and the steward departed. I was feeling that there was a life after sea-sickness after all and removed the lid to find that the main course was, yes, KIPPERS. That was all my sensitive stomach needed, and in my desperate rush to reach the outside world and ease the churning pain, I looked back only to realise that I had started an avalanche effect and was being pursued by ten other expeditioners all looking for the same eighteen inches of railing.

For the remainder of the voyage, I always consulted the menu before attending a meal and only ate familiar foods.

In preparation for my RTA a year later, I was given a course of injections prior to departure and popped pills for the duration. I am happy to report that the only meals I missed were by personal choice. I hadn't realised that a trip on the *Nella Dan* could be so enjoyable, not that my voyage south would have been a fair indicator.

The Nella BLUES

Bobbin' up and down on the Nella Dan,
On seas both high and low,
There are three men sick on the deck above,
and the rest are sick below.

Even the engineer is crook,
And the dogs howl through the night
Someone's yawnin' into a bowl
And another's on the motorbike.

I'd rather die than go downstairs
To face another stew,
Just bring me up a slice of bread,
Then I can bring that up too.

I don't feel like me dinner,
Can't face that Danish blue
And just the sight of Soupe Danoise
Is enough to make me spew.

The Nella's only making five knots,
But me bowels are tied in six,
The doc sez that I'm all clogged up
But I feel like I'm full of bricks.

So wrap me up in my ventiles and mukluks,
And throw me to Davey Jones,
Let me come to rest on the ocean floor,
Where the fish can pick me bones.

WILL TWY-CROSS (Davis 1979)

Glossary: The motorbike — "Handlebar-shaped pieces of metal on the side of the boat usually used to secure ropes, but also handy for grasping firmly while yawning over the side."

MEALTIME HAZARDS

"Snow" Williams (Mawson 62) recalls a rough day on *Nella's* maiden journey to Antarctica:

"Having travelled on both *Magga Dan's* and *Nella Dan's* maiden voyages to the Antarctic, and experienced the warmth of the crews' welcome, the wonderful impressions that the sight of luxurious fittings, polished teak and mahogany, beautifully presented meals, and the distinctive smells of Danish food, engine room and sea air, it is no wonder I suppose, that memories could be from either little red ship.

One of the funniest incidents that I recall happened one day when most of us were sitting down for a meal in the saloon with the ship rolling and pitching. The tables were set for rough weather — that is, no unnecessary items on the tablecloth which had been dampened to stop our meals sliding, wooden fences were up in place, and the few condiments were lying down, not standing up. A sudden movement of the ship sent a latecomer hurtling across the saloon at high speed, throwing his hands and arms flat down on the table. One of those plastic squeeze bottles of tomato sauce was directly under one hand pointing at the chest of a fellow traveller. The entire contents of the bottle shot out bespattering the white shirt and face of the luckless expeditioner. All in the saloon roared with laughter."

EXPEDITION REPAIR JOBS ON NELLA DAN 1970

by Norman Linton-Smith

Norman Linton-Smith tells of repairs carried out on equipment damaged by sea water during a rough voyage in *Nella Dan*. Help and cooperation of the engineers on board *Nella* made it possible to rebuild vital parts under difficult conditions. Norm was a member of the four man team led by Max Corry — who were to survey 600 miles of steel marker poles and take soundings on the Amery Ice Shelf. The year was 1970 and the other members of the expedition were Trevor Luff and Allan Foster.

We sailed from Melbourne on the MV *Nella Dan* on December 16. The ship was crammed. She carried men and cargo for the 25-man station at Mawson and the 20-man summer inland field station at Moore Pyramid, 258 km (160 miles) SSE of Mawson. As the Amery expedition was to be first off, our equipment and stores had to be easily accessible. Hence our three OMC 12kW (16 hp) Snowcruiser snowmobiles or "skidoos" and four Nansen-type 3.7 m (12 ft) dog sledges were lashed on the hatch covers amongst three Hughes 500 helicopters and a Pilatus Porter fixed-wing aircraft. Sledge spares, skis, stocks and ice axes had been lashed to one of the sledges. The helicopters were to land us and our gear on the shelf and then be based at Moore Pyramid for the summer geological and geodetic surveys.

Bad weather and heavy seas came to us after a few days and remained for about 10 more days. The ship's speed had to be kept to only a few knots and for a couple of days she just maintained steerage. The aircraft and deck cargo were constantly wet from lashing sea spray which was thrown over the ship when she buried her bows in the waves while facing 40 to 50 knot winds.

One day, while inspecting aircraft tie-downs, Peter Smart, chief helicopter engineer, found that the tail rotor pitch change bell cranks were seriously corroded. The magnesium alloy in them had succumbed to the salt water. On one bell crank, metal 12.7 mm (½ in.) thick had been eaten away to half that thickness.

This was a blow indeed, and Peter and the other engineer, Dave King, had to get very busy. The cranks had to be removed and all aircraft minutely inspected for other damage. Then the cranks had to be repaired with DCA approval. Long radio signals were exchanged with Bob Dalton, the Antarctic Division aviation officer back in Melbourne. Approval for the proposed repairs was obtained and the bell cranks were rebuilt in the tiny machine shop in a corner of the engine room, a noisy

fume-filled hell-hole in the madly rolling vessel. I was relieved to see how well the steel-reinforced cranks turned out as both summer parties (Moore Pyramid and AIS) were so dependent on aircraft.

The salt water was also rusting the Snowcruisers under their tarpaulins and the metal parts of ice axes, skis and tent poles, in spite of protective coatings applied before embarkation. The English ash timber in the sledges was turning white and the polyethylene soles of the lightweight timber skis, which were to be outriggered on the ice radar sledge to minimise capsizing on rough surfaces, were coming unstuck.

Thus there followed more work for me in the tiny hobbies workshop, fighting off seasickness while trying to hold on with one hand and work with the other. Again, the chief engineer was generous with repair materials and tools so everything was put right again. As it was I already had a job to do in my cabin, whipping end fittings to lengths of aircraft shock absorber cord which were to be used as hold-downs on our sledges.

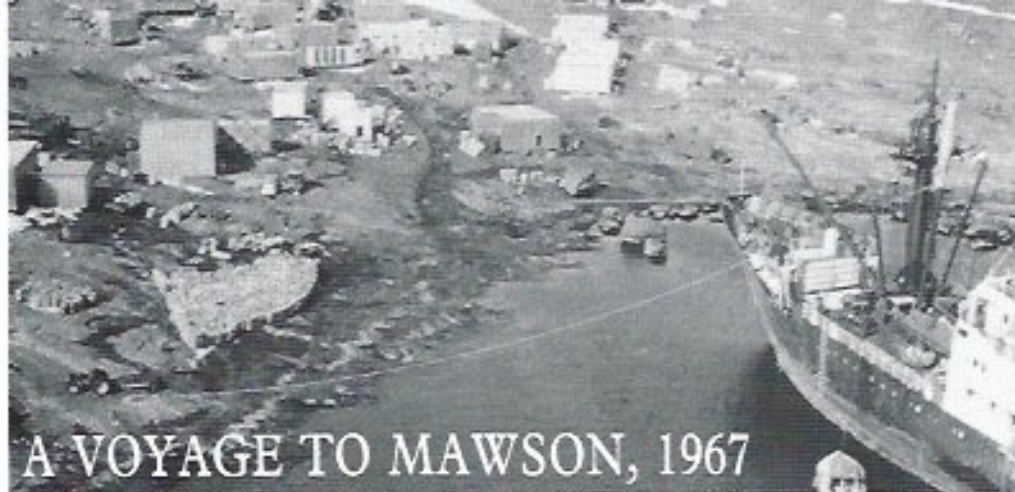
More problems showed when I checked my field equipment lists against the packing notes issued by the store. Quite a lot of equipment had not been recorded! We could not be sure we had everything. There was only one way to find out so Max, Allan, Trevor and I spent an uncomfortable day in the hold — the ship was still rolling abominably — where we had to open every case to check the contents.

We found most of the unlisted equipment but could find no matches or kitbags. The former had to be taken from the ship's amenities scater and the latter from the ship's emergency field equipment store. Some things had been provided in double the quantities requested and we rejected the excess.

*From an article in
"Australian Outdoors"
November, 1974*



Hughes 500 Helicopter on Nella 1970 — photo N. Linton Smith.



Ship purposely grounded during a blizzard - "Who needs DUKWS?"

From the diary of Chris Simpson; entry for Thursday 16 February, 1967 written, as he said "in the hand of a 25 year old"

"This trip must be one of the most eventful in the history of ANARE expeditions! One thing after another has produced awkward situations, all of them due to causes beyond ANARE's control. The first was the QANTAS strike, delaying equipment and more important, the parts for the helicopters. The parts had been hastily fitted and no time remained to fit floats to the choppers, resulting in a delayed departure date and a severe restriction on the use of choppers over water, hence limited reconnaissance in the packice.

The next major calamity was besetment (3½ weeks), which although probably inevitable, might have been

avoided with better reconnaissance. The besetment caused the cancellation of the visit to Wilkes, offloading building materials, and supplies for REPSTAT and the Amery Ice Shelf projects, besides requiring American help for our two ships (Nella and Thala).

Now, having more or less stumbled through these setbacks, we have another most curious event. Yesterday's strong wind has developed into a blizzard — a moderate one — with winds up to 80 mph and 100 mph forecasted. The ship would have been exposed to considerable danger in 100 mph winds, should the mooring lines have given way, so while it was still daylight, an emergency measure was taken and the ship was purposely DRIVEN AGROUND by Capt. Pedersen, right on Mawson's doorstep and the engines left running!!! Quite fantastic. One can almost jump ashore.

The Little Red Ship Rides Through a Blizzard Bill Edgar

Luck was very prominent with the twenty odd years service of our little red ship — our temporary home. Over those years many stories could be told of the many close shaves which could easily have ended in an earlier fate than that which overtook her.

On the trip south in 1965 we encountered a storm which damaged the Beaver aircraft, rendering it useless for aerial survey that year. After crashing through about sixty miles of packice we reached our destination, REPSTAT, where we spent about two weeks assembling buildings, a workshop and a temporary powerhouse. We then proceeded to Mawson where our changeover took place. With the hard work finished, the change over party had commenced, with part of the Nella's crew joining us.

During the celebrations a sudden blizzard blew up, which at Mawson can arrive without much warning.

The crew were unable to get back to the ship, but those on board were very alert to the situation with engines already running. Resulting from the very high winds of the blizzard, the little ship's mooring lines broke, and she had to head onto the bank near the vehicle park. She held this position until the blizzard was over, then all lines were run out again and all got back to normal.

The blizzard was so severe that it blew two of our caravans towards the bay; luckily they jammed against each other or we could have lost them in the water.

Nella on bank during blizzard, Feb. 1966.



MAWSON 66

What can I say about the loss of the *Nella* that hasn't been said more eloquently by others? I'd have to describe my reactions as a deep sense of loss, sheer thunderstruck amazement, and more than a tinge of anger at what appears, at the least, to have verged on unnecessary nautical vandalism.

My main impressions of *Nella* were her extreme solidity, her absolute reliability and the way she rolled. The 1966 New Year's Eve party was held during a full gale, with the *Nella* rolling heavily. I can still picture an expeditioner happily lying on his back in the mess, and sliding backwards and forwards from one side of the deck to the other.

Later that trip, during the changeover party, a 100 knot blizzard sprang up, trapping Phil Law and most of the ship's crew ashore. Phil spent what was believed to have been his only night ashore in Antarctica in the recreation room. Meanwhile, the ship's mooring cables parted and she began to drift across Horseshoe Harbour. Captain

George Cook,
(Mawson '66, Macquarie Island '68)

Gommessen, who was aboard with a skeleton crew, promptly drove her aground and held her there on half-throttle through the night. Next morning the wind and drift eased. As far as I am aware, there were only a few slightly buckled plates.

Perhaps the saddest thing was the way that, in recent years, the Antarctic Division set unrealistic tasks for *Nella*, then implied that any failings resulted from her inadequacies. I presume this was largely to bolster the case for an Australian ship. The end result though, was a fine old vessel's many years of honourable service were replaced in the public and media view by epithets such as "jinxed", "trouble-prone", and "unreliable". Hence the sub-editor's caption to a photo "The *Nella Dan* goes down, but hardly in glory" (*Canberra Times*, 2/1/88). She deserved far better. Maybe the *Aurora* feature will help set the record straight.

A Dream-Time Legend: How it Begins

Bill Hazelton (Casey 1986)

I went looking for my earliest Antarctic memories. Some kind soul had sent me a First Day Cover of Antarctic stamps; I was two at the time. When I was four, a set of Mawson's 50th Anniversary covers arrived, postmarked at each of the four stations. A small book on Dr. Phillip Law was given to me when I was nine. Mother said that if you were going to the Antarctic, you would sail down on the "*Nella Dan*".

By the time I joined ANARE, "*Nella*" had grown old, but legends, tales and dreams sailed the more easily with her. "She's a good ship in da ice", said the Captain (Klosterman).

"She'll roll on wet lawn", said The Captain (Mainwaring).

Amundsen Bay in late 1985 only confirmed it. A happy ship, safely home and tales to tell the grandchildren.

We sailed on "*Icebird*" in December, just days after "*Nella*" returned. The departure photos show her in the background, a reminder that perhaps small boy's dreams can come true. By February, we were out on traverse; all at sea in ice of another kind. "*Nella*" dropped in to Casey. Vital supplies were left: five bottles of "Bailey's" and some perfume for Anne's Christmas present.

"Papa" George reminisced about the ships: was "*Nella*" better than "*Thala*"? The old hands told us stories of the "*Nella*", the "*Thala*" and "*Nanok*". "*Nanok*" was gone. "*Thala*" in South America. "*Nella*" had been around before they were here and was still going strong. Her flaws were now virtues, the reasons why it's "not like it was back then". No-one ever complained about the "*Nella*".

The last traverse finished at Christmas and completed a long, hard year. I was to RTA on the "*Nella*". I could have gone on the "*Icebird*", but would have passed up the "QE2" for the "*Nella*".

For me, the hardest ten minutes of the year were standing on the ship leaving Hobart, waving goodbye to Anne. The second hardest ten minutes were standing in the LARC, waving goodbye to Casey. But soon the routine of the ship took over and you looked forward to the next adventure. "*Nella*" didn't disappoint.

We pushed into fairly heavy pack ice, trying to get in close enough to fly off the Bungee Hills party. The pack was a touch too heavy, so we stayed put for about six days. Following an exceptionally laconic IMMARSAT phone call, the "*Mikhail Somov*" appeared and broke us out. Due to the pressure of the pack, the work was rather slow, prompting a suggestion that the Soviets were working to a 5-year plan.

Heading westwards, the Bungee Hills party were deployed at Law Base in the Larsemann Hills. A brief visit to Davis followed, then a quick trip to Macquarie Island. On to Hobart and the Little Red Ship brought yet another expeditioner home.

To have sat on grass on Wireless Hill and watched a tiny "*Nella*" riding quietly at anchor in Buckles Bay; to have savoured the pungency and touch of green, growing plants after more than a year away; to have felt Macquarie facing forever four-square to the world's wildest waters; to have seen the island rearing from the ocean as a tear-soaked tombstone over the grave of an old, old friend....

I think the island that she saw so often is a fitting mausoleum for her.

Requiescat in pace, "*Nella Dan*".



Beset - photo B. Hazelton.

LETTERS TO THE EDITOR

Yeerongpilly, Q'land

Dear Shelagh,

Code of Personal Behaviour

The first article I read of my just received *Aurora* was that on the "new" Code of Personal Behaviour.

Indeed "O tempora o mores", and you might well have said "Sic transit gloria mundi".

The irony of the introduction of such a formalised code is that, in my 1980 experience and conversations with other recent expeditioners, the expeditioners are still overwhelmingly the same as those of the past to whom the spelling out of such a code would have been ridiculous to the degree of being insulting.

Most expeditioners still want, above all, to get on with a job they believe in, do it well and feel proud of themselves, their comrades, their purpose and the Division. If they can do these things all else follows, if not there is little point in anything else.

Syd. Kirkby

Correction

In a letter from John Simmonds, Adelaide, he has pointed out that the Santarctica in the December *Aurora* was present at Davis in 1979, not Casey 1976, and that Al Crombie was the old gentleman concerned. The photo was taken coming through the manhole in the old recreation room before transferring to the new one on the hill. The other photograph of Santarctica was snapped near the old power house.

John adds that he would like to see the ANARE Club present a history data of the *Nella Dan* as a feature in *Aurora*, so this edition should make up for the mistaken identity of Santa in December issue. Ed.

Hawthorn 3123

A member of the Heard Island 1950 party adds to the story of the Huskies in Antarctica.

Dear Mrs. Robinson,

Thank you for your excellent and I don't doubt time-consuming work on the ANARE Journal *Aurora*.

I regret I have nothing to offer in recollections of the *Nella Dan*. What happened to LST.3501, the *H.M.A.S. Labuan*?

My main purpose in writing is to draw your attention to what I feel is an omission in your article "The Huskies of Mawson". I very well remember them. Their compound was within fifty yards of the "sleeping" huts on Heard Island!

Two members of the 1950 party deserve special mention in regard to the training of these huskies. They are Jack Walsh pictured in the Corinth Bay photograph and Frank Keating. Neither had any special training in dog handling or breeding, yet throughout the year they devoted their waking and often sleeping hours to the care and schooling of these dogs. That they survived their first year in the care of ANARE is certainly attributable to the care and devotion of Jack, supported by Frank, gave them.

Peter Wayman (alias Gus).

Dear Mrs. Rob.,

Sydney

My one return paid trip on the *Nella* in '79-'80 left me with a great fondness for the little ship that left a sadness when she was stricken so sadly recently.

Unfortunately, during my two trips I was to see no wonderful blue seas, no darting fish or free flying birds, there was no thrill of spying the first ice berg and float, or the first land! My initial 11 of the first 17 days was spent prone in my bunk, not even to be propped up to enjoy the cook's labours, as any slight movement sent me pea green. Alas, the return journey was a carbon copy with eight days of horizontal idleness.

I wonder if any other intrepid adventurer could pass my 'infamous record'! Good luck with the March issue. I look forward to it greatly and many thanks for your care and love.

Warren Cannon, Mawson '79-'80

WANTED

Graeme Manning, Antarctic Division's station manager for Casey and Bicentennial Project Manager, is very anxious to learn the whereabouts of two expeditioners who wintered with him at Casey in 1979. They are Brian Clements and Mike Stone and the reason for the search is associated with a Bicentennial project. Anyone with information should contact Graeme at the Division (002) 29 0277.

PHOTOGRAPHS REQUIRED

The Antarctic Division is preparing a model of the Wilkes Station during the ANARE Occupation. Clear photographs are needed of the station and environs. Please contact the Public Relations Officer, Peter Boyer, at Channel Highway, Kingston, if you are able to assist.

SCHOOL SCIENCE PRIZE WINNERS SAIL FOR ANTARCTICA

Two more students have won a chance to visit Antarctica. The two winners of the 1987 Antarctic School Science Prize, 16-year-old students, Jason Burgess and Cameron Cash, sailed in January on *Icebird* for a five-week voyage to Davis and Mawson.

The boys are from Tasmania and Queensland, Jason, from Geeveston High School, and Cameron Cash from Albany Creek State High School in Brisbane. They will be accompanied by their teachers, Mr. Kevin Fagan from Geeveston and Mr. Bruce Trenerry from Brisbane.

The students will undertake controlled science experiments while on the trip. Jason will be studying plankton at Davis, while Cameron will be investigating the efficiency of storage batteries in cold conditions.

GREENHOUSE 87

When Shelagh rang and asked me to report on the GREENHOUSE 87 conference at Monash University, 30 Nov - 4 Dec, I added it to a long list of "chores to be completed by Christmas"; a high priority chore in recognition of the outstanding efforts of Aurora's editor, but a chore never-the-less.

Having attended the week-long conference, the chore is now a challenge to put on paper impressions from a very unusual, and remarkably entertaining experience.

The conference rated daily reports in *The Age*, plus a swag of other press, radio and TV interviews. Many of these were often little more than announcements of impending doom, and as such completely missed the point!

Firstly, atmospheric scientists around the world now have incontrovertible evidence of the large and growing impact of industrial and agricultural practices on global atmospheric composition. Secondly, the models that translate these chemical changes into changes in climate are still extreme simplifications of the real world, yet a decade of intensive effort by many top scientists continues to yield a strong consensus that there will be global warming in the lower levels of the atmosphere. Thirdly, given such global warming, a wide range of perturbations might be expected — sea level rises, rainfall redistribution, changes in storm activity, glacier retreats and a host of associated ecological adjustments. For all of these "third tier" of consequences, it is true to say that our modelling efforts are still totally inadequate — we expect change but do not as yet have the tools to describe them in any detail.

On top of all this there are very good reasons to anticipate ecological changes due to the direct influence of some trace gases on living organisms.

The GREENHOUSE 87 organisers, CSIRO Division of Atmospheric Research and the Commission for the Future, devised a "scenario of climate changes". (To repeat them here would run a further risk of them being interpreted as predictions.) Key spokesmen and women from a wide range of occupations — atmospheric, oceanographic, ecological, biological and hydrological scientists and engineers, planners, lawyers, representatives of the insurance industry and of all levels of government — were asked to study the impact of the climate scenarios on their fields of activity. The principal objective was to identify those areas of the community and environment most sensitive to climate change, permitting a sharper focus on how and where to direct limited national (and international) resources.

The remarkable thing about GREENHOUSE 87 was the consistently high quality of the presentations, a compliment not only to the speakers, but also to Graeme Pearman of CSIRO who has laboured long and hard throughout 1987 identifying, approaching and wheedling a contribution from a wealth of talented and no-doubt busy people from the wide range of disciplines.

On the serious side, my most lasting impression stemming from the conference will be that there is a very firm foundation of talent and common sense at the "working level" of Australian society (as distinct from the "verbiage" level) upon which to base an adaption to climatic and ecological change.

Roger Francey,
(Mawson 64, M.I., Summer, '85, '86)



Dr. Francey, (Principal Research Scientist C.S.I.R.O. Div. Atmospheric Research).

On the less serious side, there are some pretty good jokes and quotations. Since the serious side of the conference is to be published jointly by the Australian Academy of Science and Cambridge University Press (enquiries to CUP or CSIRO/DAR), I will not attempt to give a balanced summary, rather randomly relay some recollections and try and remember some of the jokes.

As is often the case in inter-disciplinary exercises, the potential for misunderstanding and irritation was always present. Addressing the problem of communication between scientist and policy-maker, Jim Peterson (Dept Geography, Monash) quoted the plea-to-heaven uttered by an American senator, "Please give me a one-handed scientist!" — the scientific evidence at a senate enquiry had run along the lines "On the one hand while on the other....".

Balancing this view, Ian Lowe (Energy Policy, Griffith Uni) quoted Mencken, "for every complex problem there is a simple solution which is elegant, neat and usually wrong". He went on to quote a certain State Minister for the Environment who vigorously defended his sensitivity to environmental issues with "I care about the environment, I have just planted native fauna (sic) all around my garage!"

Speaking on possible actions to ameliorate the consequences of industrial emissions, Ian provided comprehensive information on energy use patterns in Australia, condemning the extravagant and inefficient use of fossil fuel within society, and strongly advocating the development of renewable energy sources. In a session of considerable drama, his eloquent and visionary approach was immediately followed by a sober and pragmatic description of the operation of the Electricity Commission of NSW by Garth Coulter. Even complete cessation of electricity production in NSW (90% coal generated) would have negligible effect on global CO₂ emissions; in the next decade or so they could cope with postulated climate changes (main influence through increased air conditioner use); in the longer term alternative renewable energy production strategies were inadequate, nuclear electricity generation offered the only clear alternative. The session was a graphic demonstration of a conflict in values and terms of reference.

After an excellent introduction by the Hon. Barry Jones, key speakers established the background and ground rules for the conference: Graeme Pearman (trace gases); Brian Tucker (climate modelling) and Barrie Pittock (regional effects) of CSIRO; David Karoly (Australian temperature trends) of Monash Uni.; Eric Bird (sea-level trends) and Bill Budd (Antarctic warming) of Uni. of Melbourne, and Roger Gifford (vegetation response) of CSIRO.

Bill Budd described detailed modelling studies of the Antarctic ice sheets (with emphasis on the West Antarctic, sometimes mentioned in the context of possible rapid slippage and subsequent dramatic sea level rise). Bill estimated the likely contribution to sea level rise from greenhouse warming of the Antarctic ice as "up to 1m in 500 years and 3.5m in 1000 years, with a maximum rate of 0.6m/100 yr".

Sea level rise of around 1m due to thermal expansion of the surface oceans is anticipated from an effective doubling of CO₂. Several following speakers highlighted the very great difficulty in currently distinguishing such sea level rise from that due to other causes (such as land subsidence) — a factor leading to some cynicism early in the conference (who was it that commented the conference theme should have been the "Outhouse Effect", referring to the combined effects of hot air and flatulence of the scientists?). Doug Cocks (CSIRO) further encapsulated this cynicism with the suggestion that the GREENHOUSE 87 poster did not represent the Sydney Opera House being submerged by rising sea-levels, rather "it was the fins of scientific sharks looking for grant money".



Not that the looking might do much good according to Ian Lowe, who suggested that the small and diminishing outlay on research in Australia might lead to a future situation where research becomes "an activity for consenting adults in private".

On a more positive note, Kevin Stark (James Cook Uni.) said that allowance for climatic change was already being incorporated into the construction of the Townsville Casino and "in the 1 in 500 year severe storm it would still be safe in the gaming room!" He also indicated that a necessary condition for cyclones to move further south (out of Qld) might involve approval from Joh (the fact that Joh got his marching orders the following day probably doesn't alter the sentiment!).

On the subject of cyclone frequency, location and intensity, Greg Holland (Bureau of Meteorology Research Centre), gave an excellent analysis of cyclone genesis and behaviour in the Australian region, substantially ameliorating the impacts suggested by the GREENHOUSE 87 scenario.

Prof. David Hopley's (James Cook Uni.) in an examination of the Great Barrier Reef system, concluded that a sea level rise would lead to coral recolonisation of ancient raised platforms and likely enhancement of the reef environment.

Likewise with Peter Rothlisberg's (CSIRO) examination of the prawn industry in the Gulf of Carpentaria (50-60% in value of the Australian fishing industry), with the banana prawn very sensitive to rainfall in the mangrove areas, while sea-grass spawning species showed more sensitivity to cyclones. Similar sensitivities are exhibited by insects like mosquitoes, and Peter Liehne (Commonwealth Department of Health) gave an excellent overview of the climatic sensitivity of vector-borne diseases such as malaria, dengue, epidemic polyarthritis (infection with Ross River virus) and Australian encephalitis (infection with Murray River encephalitis virus).

Moving onto ground water supplies we were introduced to a theme which re-occurred in several sessions (particularly in relation to ecological communities) — the current systems were already under enormous change and stress — the likely greenhouse influences were perceived as ranging from "more of the same" to the "straw that may break the camels back".

Phil Macumber (Victorian Department of Water Resources) highlighted the knife-edge upon which some Victorian agriculture was balanced — less rain meant drought, more rain meant widespread salinity problems (because the ground water table has been rising 2 to 2.5m a year since 1900!).

The water supply problems of Sydney and Adelaide were perceived as perhaps improving in a GREENHOUSE 87 scenario, however the picture for Perth and environs has already been deteriorating and, with greenhouse amplification of the current trends, looks very grim indeed. Brian Sadler (Water Authority of WA) saw a 35-45% decline in sources of water for Perth, exacerbated salinity and a very uncertain future for ecologically important wetlands in the area. Serious consideration was being given to pumping water from Lake Argyle or desalination of sea water (the less expensive option). **Towing icebergs from Antarctica was seen to be "well beyond the cost of current alternatives".**

Iraphne Childs (Uni. of Queensland) focussed on the problem of initiating political action by analysing the results of a survey of public and local government awareness and attitudes to the greenhouse effect. As if to emphasize the point, Nadia McLaren (Social and Ecological Assessment P/L) showed a slide of a newspaper clipping in which a SA local council was claiming a first in recommending a council action to ameliorate impending greenhouse effects. Unfortunately the quoted rationale in the clipping was a little askew — "The greenhouse effect was caused by a build up of gases in the ozone layer which prevented heat radiation from escaping. Increased temperatures melted polar ice caps causing sea-level rise". (Then perhaps this is not so important, as Jim Peterson said "I've driven in screws with a hammer before — it's inappropriate but it works!").

The necessity for improved public awareness was taken up by several speakers and again by Graeme Pearman in summing up GREENHOUSE 87. Despite



Speaker Dr. Graeme Pearman (Principal Conference Organiser) left, Hon. Barry Jones, Dr. Brian Tucker C.S.I.R.O.

limited awareness at a community level, Robert Fowler (Faculty of Law, University of Adelaide) detailed the "enormous international dialogue on Greenhouse issues", suggesting the government should appoint a diplomatic spokesperson. His talk detailed discussions on minimisation measures — reduced emissions, controlled deforestation and reforestation, agricultural policies and population control. **This last factor was surprisingly absent from the litany of human sins and penances listed by Bill Hare of the ACF.**

Gerhard Berz (Munich Reinsurance Company) and Brian Peele, representing the Australian Insurance Council, identified an area where we might all first become aware of the consequences of greenhouse effects — in insurance premiums and excess levels with already rapidly escalating "catastrophes" — globally 3 per annum in 1900 and about 25 per annum now. The insurance definition of catastrophe, depends more on the insurance payout rather than the severity and frequency of natural disasters. The October hurricane in England resulted in a world record \$1.4 billion insurance payout, and costs of up to \$18-20 billion are now anticipated by the insurance community for 1 in 100 year type severe storms.

Incidentally, in relation to the England hurricane, Ian Lowe described the UK's weather bureau defence of their forecast in the terms "it doesn't matter whether you win or lose but where you lay the blame".

Roger Gifford (CSIRO) presented two excellent talks on interactions with vegetation, his introductory talk cast on a global and eon scale, his second addressing the complexities of measuring the physiological plant response to increased CO₂ in the atmosphere. Both he and Snow Barlow of Macquarie Uni., who reported on growth chamber experiments with *Pinus radiata* seedlings, left the impression that some species at least will respond positively to CO₂ fertilization, but that much work was still to be done. The opening verse of the definitive poem (referring to Snow's colleague Jann Conroy) goes:

"While working with true devotion
A student once found her salvation
when she noticed the trees
grew with much larger ease
under high CO₂ concentration"

Bert Main (Uni. of Western Australia) introduced the sensitivity of native species in the context of nature conservation. This was dramatically illustrated by John Busby (Bureau of Flora and Fauna) with a bioclimate

analysis and prediction system, BIOCLIM, developed in collaboration with CSIRO. Looking at the current distributions of (i) alpine flora and fauna, (ii) temperate rainforest (via *Nothofagus cunninghamii*) (iii) the long footed potoroo and (iv) the antelope kangaroo, and applying the climate scenario, there were predicted sharp reductions in available suitable habitat in all 4 cases.

Bob Galloway (CSIRO) entertained with his analysis of the sensitivity of the Australian Ski fields to climatic change. The North American criterion for a viable snow field is a 100 day season for at least 9 out of 10 years. Very few ski fields in Australia meet this criterion, but remain viable "because Australians will ski on anything!". Under the warming climate scenario very few Australian ski fields will remain viable.

Graham Chittleborough, consultant to the Antarctic Division, examined the ocean circulation on the Antarctic coast. I understood him to suggest that an appreciable fraction (about half) of annual fossil fuel CO₂ release disappears into the deep oceans in this region, with significant implications for control of greenhouse emissions. (This certainly does not represent the present net carbon flux, and our CO₂ monitoring at South Pole, Mawson and Macquarie Island over the last several years suggests, if anything, a slight net source at high southern ocean latitudes; this includes a small late summer sink sometimes observed at Mawson and representing no more than 1/500 th of the fossil fuel release.)

John Russell, also Dean Graetz, of CSIRO concluded that both positive and negative effects on agriculture are likely, particularly on the land use frontiers of the Australian arid zone (70% of the continent). Dean described those extrapolating CO₂ fertilization effects to the field situation as resembling a goldfish in a bowl of heavy water commenting on the "Nuclear Winter". Roger Gifford's response was that someone standing alongside the bowl and waving his hands about, might not know much more than the goldfish.

To conclude this report I have saved up the contributions by Greg McKeon from the Brian Pastures Research Station, spokesman for a large group describing methods for assessing the impact of climate change on agriculture in Queensland. Early in his talk he established his Irish ancestry. He borrowed his basic approach to the problem from his wife — "to get through each day take the worst possible scenario...". About half

GREENHOUSE 87 contd

way through an informative talk he observed "when I told my Irish grandmother I was going to a GREENHOUSE conference, she replied 'it's about time too, those orange men have been getting too much attention lately!'" P.S. I almost forgot. It has nothing to do with GREENHOUSE 87 other than I agreed over wine at the

conference dinner to give Nigel Wace's drifting bottle scheme a plug. Nigel arranged to have a couple of hundred corked bottles (it's not clear what happened to the original contents) cast from Antarctic supply ships. Finding a bottle and returning it to Nigel at ANU (as per enclosed instructions) wins a free subscription to Dick Smith's *Australian Geographic*.

AN AUSTRALIAN ICEBREAKER

by Ian Bird

Amid the dark clouds of sorrow which accompanied the scuttling of our much loved *Nella Dan* off Macquarie Island, was the silver lining of an all Australian icebreaker with supply and research capabilities.

After 40 years of ANARE operations, Australia will at last have its own polar vessel. This historic government decision was widely heralded in the local press: "The \$124 million Australian icebreaker will uphold Australian sovereignty and provide a symbol of this Nation's commitment to Antarctica".

In announcing Cabinet approval for the vessel on 16 December, 1987, Senator Graham Richardson (Minister for Arts, Sport, the Environment, Tourism and Territories) remarked, "the \$124 million project represents the biggest boost to our Antarctic program in many years. The new vessel will be built in Australia, crewed by Australians, fly the Australian flag and be funded by Australian dollars". Opposition spokesman on science, Mr. Warwick Smith, welcomed the decision to build an Australian icebreaker. It is planned for the new ship to commence operation in October 1989.

Design:

Wartsila Marine Industries of Finland is providing design expertise. This company has built more than 50 icebreakers. Forward container storage, central bridge, helicopter hangar and a stern trawling ramp are features of the design. A concept drawing and summary specifications are given below.

Construction:

The Government has recognised the long-term benefits of building the new vessel in Australia and is negotiating with P. & O. Polar, a joint venture company of P. & O. Australia and Polar Schiffahts Consulting GmbH of the Federal Republic of Germany. The Polar Schiffahts Company will provide local technical expertise, e.g. crew training, through its Australian agent, Ice Marine Services, in Hobart.

Carrington Slipways in Newcastle, NSW, has been selected as the ship builder. The contract is expected to create some 300 jobs. *Aurora* understands that Carringtons provided a very competitive tender price in comparison with overseas proposals from Japan, West Germany and Finland.

Crewing

A major factor in the successful operation of an Australian icebreaker will be crewing. Editorial comment on this factor in the *Canberra Times* (11/1/88) notes that, "Australian crews have priced themselves out of the market" and that it might be better to call on the Navy, despite the Treaty implications. A further possibility raised by the *Times* was to crew the ship from trainees at the Australian Maritime College in Launceston.

A recent paper by Lt. Commander Kildey (RAN) published in the *Journal of the Royal Australian Naval Staff College*, made a strong case for an Australian ice-

breaker to be crewed by the Navy: "To demonstrate its resolve to uphold sovereignty over the Australian Antarctic Territory, Australia needs to acquire the capability to conduct sustained marine operations in the Southern oceans and should maintain a minimum level of competence in the force-in-being". However, such views if extended to Antarctica would appear to be in conflict with the Treaty and ANARE's traditional role.

Whatever ultimate crewing arrangements are decided, an Australian crew (naval or civilian) will require training by experienced foreign experts. *Aurora* understands that crew training will be co-ordinated through Ice Marine Services and their German connection. The long established association of ANARE with the widely experienced Danes of the Lauritzen Line is now set to cease, despite the fact of their unique experience over the past 35 years as ice navigators for Australian expeditions.

Press speculation suggests the most favoured name for the new icebreaker is the *Sir Douglas Mawson*. Prime Minister, Bob Hawke, on a visit to the Antarctic Division following announcement of the new ship, initiated a competition among young Australians to name the vessel. The competition is open to people in the age group 8 to 19 years (which should preclude a few ANARE old salts from the fray). The naming prize will be a voyage for two aboard the icebreaker to Antarctica.

SUMMARY SPECIFICATIONS

Length: 92 m.

Ice Capacity: Canadian Arctic Class 2 minimum (continuous operation through 1.5m of ice)

Economical Cruising Speed: 13 Knots

Endurance: 90 days

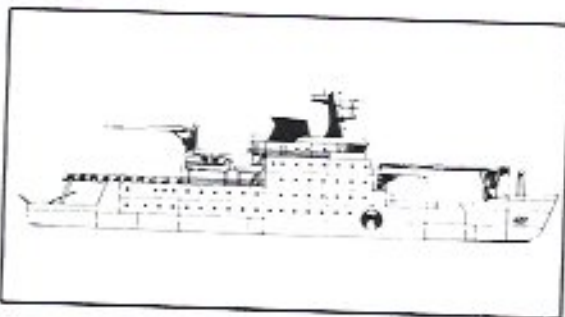
Range: 14,000 nm

Engines: Twin engines, with bow and stern thrusters

Hull: Double skin throughout; stabilisers

Capacity: 70 expeditioners, 22 crew, 1500m³ dry cargo, 1000 m³ liquid cargo, 2 medium lift helicopters.

Charter: To commence October 1989, for an initial 10 seasons.



GREENPEACE EXPEDITION TO ANTARCTICA 1987-1988

The third Greenpeace Antarctic Expedition was scheduled to leave Christchurch, New Zealand, in early January, 1988, using the M/V *Greenpeace*, a 191-foot ocean-going tug.

The vessel is 887 tons gross, 603 tons net and is of welded and riveted steel construction. It has been ice-strengthened in the bow area and has fins to protect the rudders and propeller from ice. Built in 1959 in the Netherlands, it is American-registered and owned by Greenpeace Rainbow Warrior Holdings in Britain.

The goals of this year's voyage are:

- to resupply the Greenpeace World Park Base which was established in January 1987 at Cape Evans, Ross Island
- to continue the program of environmental monitoring at government stations in Antarctica, and
- to protest environmental abuses that are discovered during the expedition.

Environmental-protection measures are priorities on the expedition and at the base. The ship has internal sewage processing as well as storage facilities for all non-organic waste including chemicals used in the on-board photolab. Once in the Antarctic Convergence, all organic waste is stored on board until the first port of call outside Antarctica. Waste oil is stored for disposal at the end of the Expedition. At the base, a "bio-loo" will be introduced which will turn all human wastes into compost, making for easier removal from Antarctica during the next resupply.

The first leg of the 1987/88 Expedition will focus on the resupply of the World Park Base, and the current wintering team will be exchanged with four new Greenpeace volunteers. The new team are Keith Swenson (Leader), Dr. Lynn Horton (Medical Officer), Sjoerd Jongens (Radio Engineer) and Dr. Sabine Schmidt (Geologist).

Although no major construction work is anticipated, some modifications will be carried out. In order to provide additional workshop space, it is planned to re-erect the hut that was used by the "In the Footsteps of Scott" expedition.

The satellite radome, currently installed on the roof of the base, will be moved and placed on a 10 meter tower. A renewable energy project will be initiated in the form of a 600 w solar panel and a 2 Kw wind generator. The solar panels will be fitted against the sides of the main building to prevent wind damage. Being in a vertical position, they will also take optimum advantage of the low elevation of the polar sun, and will avoid snow and ice accumulation. The wind generator will be placed on a 13 meter tower close to the base and will provide energy during the Antarctic winter.

The 1987/88 Base Leader, Keith Swenson, brings considerable experience in the Antarctic to Greenpeace. He worked in McMurdo Station as a utility mechanic, survival instructor and search and rescue team member. During the 1986/87 Greenpeace Expedition he was backup Base Leader, which included training over-winterers in basic mountaineering and Antarctic survival techniques in New Zealand. He has been on mountaineering expeditions in many parts of the world including Nepal, Canada and Antarctica.

Sjoerd "Sojo" Jongens (37) will be well known to many ANARE members. He wintered at Mawson in 1980 working on radio communications and Upper Atmosphere Physics, and was a member of the 1986 Macquarie

Island team. In 1983 he was a leader of the "Cheynes II" expedition to Heard Island. Sojo will be researching and developing the alternative energy system for the Greenpeace base camp, and says "this would further reduce the human impact on Antarctica, and I hope it will stand as an example of applied technology, which is appropriate to the Antarctic environment".

Greenpeace will visit other bases both officially and unofficially, and in turn will continue to welcome government scientists and support staff at their World Park Base. In late February or early March the M/V *Greenpeace* will return to New Zealand. All scientific materials gathered from their base will be offloaded and sent to laboratories for analysis. After refuelling the ship will travel to the Peninsula area of Antarctica and pick up additional crew and provision, before spending a month in the region visiting as many bases as possible on King George Island.



Keith Swenson



Sabine Schmidt



Sjoerd Jongens



Lynn Horton

HELICOPTER RESOURCES

Formerly Vowell Helicopters
Antarctic Division Contractors since 1975



Operators of the Aerospatiale AS350B
Squirrel helicopters on Antarctic Expeditions

Head Office
WESTERNPORT AIRFIELD
TYABB, VICTORIA 3913

Phone: (059) 77 4506
Telex: AA35638 (HELVIC)

Hobart Office
CAMBRIDGE AIRPORT
HOBART, TASMANIA 7170

Phone: (002) 48 5130
Telex: AA58385 (HELTAS)

also at — Perth — Darwin

LIVE TELEVISION BROADCAST FROM DAVIS

Peter Magill

January 1st, 1988 saw the first live television broadcast from Antarctica. The five minute transmission from Davis was part of the opening ceremonies of the Bicentennial year celebrations — the four hour "Australia Live" television spectacular, broadcast on the ABC and Nine networks.

The Davis segment was widely acclaimed by the media and the public as the highlight of the night. This was mainly due to the inventive and spontaneous nature of the ANARE men who in their inimitable fashion presented a brief but entertaining insight of life in the GWH. The introduction of Met-man, David Wythe to his new daughter via the television link-up, capped-off a top production.

The television broadcast, being as it was, the first from Antarctica, was a technical feat of no mean proportions and was the culmination of several months of negotiations, organizing and testing. However, on the night it was a case of crossed fingers all round.

Utilizing the recently installed ANARESAT satellite system at Davis, a 2.34 Mbit digital video signal was transmitted via Intelsat's Indian Ocean satellite to Ceduna (SA) and on to Sydney. The bandwidth of this signal enabled video-conferencing standard television to be used for the transmission. The single voice channel on

Anaresat has a 4 KHz bandwidth but the extra bandwidth was achieved by using several digital channels (on a different transponder) on the satellite.

The technical production at Davis was controlled by Trevor Lloyd (Radio Tech) and Derek Roach (UAP Engineer) and it is to their credit that such a professional transmission resulted. The performance of the anchor-man, Doug Cameron (Diesel), rated highly in the press and it is rumoured that several networks are knocking on his door with lucrative contracts!

Several organizations and people outside the Division contributed in no small part to achieving this "first" for Australia in Antarctica. These include OTC who paid for the circuits from Davis to Sydney and coordinated the Australian end of the link; GE-Marconi, Telecom and Sony who loaned equipment; and the Bicentennial Authority's communications consultant, Jan Land, who drew the project together.

Data-links to and from Antarctica with capacities in excess of 2 Mbits now puts Australia at the forefront of Antarctic communications. Our ability to capitalize on this capability to move large quantities of scientific data, will show how genuine we are about doing science in Antarctica.

"AUSTRALIA LIVE" — THE ANTARCTIC STORY

When the Antarctic was selected as an important site for the project, it posed considerable problems for OTC Manager Video Services, Peter Feely, and for the Telecommunications Producer Jan Land from Land Space Communications. Together, they worked to resolve the problem and came up with the idea of using digital video-conferencing techniques to overcome the uplink difficulties from the selected site. With a lot of help from their industry friends, they managed to piece together all the necessary equipment. The next problem to overcome was to provide training for the scientists in the Antarctic, as it was not practical to send professional technicians to the Base. There were numerous volunteers, however, given the length of time involved it simply wasn't feasible.

The OTC Earth Station in Perth was selected as the ideal training site and Ansett Air Freight handled transportation of all the equipment to Western Australia. OTC engineers, Peter Burgess and Roger Carvosso, supervised the training of the selected voyagers — Derek Roach, a physicist and engineer from Perth, and David Glazebrook, a technical officer from Telecom, in Brisbane. Due to the prevailing weather conditions, only Derek was on hand at Davis to produce the Antarctic segment. David arrived several days after the program went to air.

Intelsat, the international satellite system, provided many hours of testing time to check the signal path over their Vista system through the Ceduna Earth Station and then into Sydney. In fact, a private videoconference was a byproduct on the final day involving Earth Station staff in Perth (simulating the Antarctic) and some very surprised but very delighted old colleagues in Sydney.

Once the week-long testing was completed, the equipment was flown back to Sydney. The OTC store at Marrickville made special heavy duty crates to house the special equipment on its long journey south. All the

crates went down on "Ice Bird" voyage three, which departed from Hobart on 16 October, 1987. The return journey was in late January, 1988 — some four months later — a long time for this state of the art equipment to be away. There was also some concern that everything would work in the colder climes, as normally testing is carried out in the other extreme.

At Davis Base, the Sony CCD domestic cameras (the same type of camera used by tourists throughout the world), plus microphones and monitors captured all the action and fed the signal into a GEC Marconi Codec recently purchased by OTC. Here the analogue signal was coded into digital (data) and passed to an NEC satellite modem on loan from Telecom. From there, the 2 megabyte stream was fed into the 7 metre satellite dish installed within the radome for protection from the Antarctic weather. The digital signal was then uplinked via Intelsat's Vista system and downlinked into the Ceduna Earth Station in South Australia. Still as 2 megabytes, the signal was then fed across to OTC Paddington in Sydney. Here, the matching codec converted the digital information back to analogue and passed it onto the Central control centre at TCN Channel Nine in Sydney. The program itself was fed back the reverse pathway to Davis enabling the expeditioners to be part of the program and to see live television there for the very first time.

When a little baby girl with chicken pox and a little boy with a wobbly tooth appeared, there was a tear in the proud father's eye at Davis, and a lump in the throat for many viewers around the world. The pictures from Davis will long be remembered as the highlight of "Australia Live". Apart from the technical achievement, it gave a window to the Antarctic world, a view few will forget, and for the people at the Base, an opportunity to be part of history. Something they too will remember.



Doug Cameron - compere Davis Broadcast - photo P. Sprunk.

THE NATURE OF AUSTRALIA

Dave Parer

A six-part series by the ABC Natural History Unit tells the story of the formation of the Australian continent, and why our plants and animals are so distinctive when compared with those from other parts of the world.

The programs are of one hour length, and the first of the series goes to air on ABC-TV, at 7.30 pm on May 15th, and will run for the following five Sundays.

Although today Australia flanks the equator and forms the lower part of South East Asia, it has not always been so. ... 150 million years ago our great island continent lay thousands of kilometres further south, and was joined to Antarctica, together with Africa, South America and India, forming the giant super continent of Gondwana. This giant land mass had plants and animals in common. It was a lush, warm world with little or no icecap.

The land was dominated by dinosaurs, ferns and conifers. Then about 130 million years ago Gondwana began to break up. Africa and India drifted north towards their present positions. The world's climate gradually cooled and coastal areas were flooded. The old vegetation was replaced by flowering plants (those that predominate today), and by 65 million years ago the dinosaurs had all but died out. They were replaced by the mammals, and in particular the group that was to become most distinctive in Australia — the marsupials or pouched mammals.

Forty-five million years ago Australia finally broke away from the Antarctic with its complement of primitive marsupials, and drifted north towards the tropics. Huge new current systems formed. Some encircled Antarctica and isolated it from the warmer tropical waters, and the Antarctic icecap gradually formed.

As the "Australian Ark" drifted north in isolation a whole range of distinctive plants and animals emerged that we recognise today as being uniquely Australian — kangaroos, platypus, koalas etc. The lush forests of Antarctic Beech that predominated when our continent was part of Gondwana, gave way to grasslands, and finally deserts, and Australia's characteristic trees — the eucalypts — emerged.

The life in seas that surround our continent were also affected. As we approached Indonesia, new currents from the north brought in thousands of new species of fish and corals. And it was this influx of new animals that would give rise to our Great Barrier Reef.



About 15 million years ago Australia collided with Asia and the island of Papua New Guinea was formed. This provided an almost continuous landbridge with Asia — a stepping stone for the migration of aboriginal man who arrived more than 50,000 years ago. He brought fire, and, by the use of fire stick farming, changed the face of Australia forever.

The final chapter of our story began 200 years ago with the arrival of European man. He introduced domestic animals, and they too have left a permanent mark on our continent.

Many research institutions, universities and government agencies have helped with the series, including the Antarctic Division. In the summer of 1985/86 we sent an ABC underwater cameraman to Davis for two months to film material for the marine program. The main aim of the trip was to do some detailed filming of Emperor penguins underwater at Amanda Bay. Due to the breakdown of a chopper our cameraman didn't make it to Amanda Rookery. Instead he did a good deal of filming in the fiords around Davis.

The *Nature of Australia* programs were written by John Vandenbeld, and narrated by Robyn Williams. They have been produced by Diane Gilmour, David Parer and Liz. Parer-Cook.

LEOPARD SEALS TAGGED AT MACQUARIE ISLAND FOUND BY RUSSIANS IN ANTARCTIC PACK-ICE

by David Rounsevell

I recently received a letter from Yuri Bukhtiyarov, a marine mammalogist of the Russian Scientific Research Institute for Fisheries and Oceanography, saying that a Russian seal research expedition working in Antarctica had found two leopard seals which had been tagged at Macquarie Island.

The seals were found in late January 1987 some 375 kilometres E.N.E. of Commonwealth Bay. They had travelled south about 1,500 kilometres S.S.W. after being tagged at Macquarie Island in early October 1986. The seals, a male and a female, were found about 50 km apart over the edge of the Antarctic continental shelf just south of Vink Bank, a shoal 250 km north of Cape Freshfield.

Joint research on leopard seals by the Tasmanian Department of Lands, Parks and Wildlife and other A.N.A.R.E. staff at Macquarie Island resulted in the tagging of 75 seals in 1986 and 800 over the past 12 years. Previously, tagged leopard seals have been recovered at Bicheno, Tasmania, Campbell Island, south of New Zealand, and back at Macquarie Island up to 4 years later, but no where south of Macquarie Island until now. Australian antarctic seal research has been centred in pack-ice much further west in the Prydz Bay region near Davis and Mawson stations.

Leopard seals, the largest antarctic seals, are carnivorous, eating krill, fish, penguins and other seals. They normally live and breed in the pack-ice zone, but juveniles and non-breeding individuals move north to Macquarie Island and beyond in varying numbers from year to year, probably in search of food. The recovery of these seals in pack-ice after being tagged at Macquarie Island demonstrates that some at least of these wandering seals return to their natal region. Previous evidence for this was indirect. Some tagged seals return to Macquarie Island, most a year later, but in one case up to 4 years later, presumably having visited the pack-ice zone in the interim.

The significance of the latest result is that leopard seals appear to move along a north-south axis during their Antarctic peregrinations rather than around the Antarctic continent. This is important for the future management and protection of Antarctic seals under international treaties for the conservation of seals and the Convention for the Conservation of Antarctic Marine Living Resources, and not to mention, Australia's contribution to them.

ANARESAT PHONE LINK TO MAWSON

Communications between Australia and Antarctica advanced a significant step on 29 January when a second Australian Antarctic station officially joined the ANARE-SAT network.

Australians will now have access to high-quality voice and data communications with Mawson. An ANARESAT service from Davis began operation last year and Casey is scheduled to link up at the end of this year.

ANARESAT is a satellite communications system being installed by the Overseas Telecommunications Commission, linking the Antarctic Division's headquarters at Kingston, Tasmania, with Antarctic stations. It also provides greatly improved telephone communications between stations.

To inaugurate the Mawson link the Assistant Director, Operations, of the Antarctic Division, Mr. Jack Sayers, spoke with Mr. Phil Barnaart, Station Leader at Mawson, at 5 o'clock EST on Friday 29 January.

NEW MINISTER FOR ASETT

Antarctic Division's new political chief, the Minister for Arts, Sports, the Environment, Tourism and Territories (ASETT) is Senator Graham Richardson (the former Assistant Minister), following the resignation of Mr. John Brown from the Federal ministry.

Mr. Brown resigned in mid-December. His admission that he misled Parliament in his response to Opposition questioning on the tender for Australia's Expo display was "one mistake too many" according to the press headlines. Widely known as "Minister for Koalas, desks and good times", Mr. Brown came to ASETT with a controversial reputation (September *Aurora*), and controversy followed his administration of the Department, although it has been generally admitted that tourism in Australia has benefitted during his term of office.

Soon after his elevation to Cabinet, Senator Richardson announced Government plans to build an Australian ice-breaker for ANARE (see article elsewhere in this issue). The new assistant Minister for ASETT is Mr. Gary Punch.

ANTARCTIC ARTIST'S SUCCESS

Mr John Caldwell, who travelled to Antarctica last year as guest of the Antarctic Division, visiting Heard Island as well as the continent, has two of his paintings showing in the 1987 Archibald Exhibition, Sydney Art Gallery.

His paintings of icebergs outside Davis was awarded the watercolour prize. This work, measuring 100 x 148, has captured the jewel-like beauty of the bergs, whilst retaining the feeling of the huge mass of ice.

The portrait entered in the Archibald Award is of Jan Senberg who was a fellow artist on board the *Icebird*. In acrylic on hardboard, the painting measures around 180 x 130 cms. Jan sat for his portrait whilst on the ship, and the painting shows him in a blue parka against a background of ice.



"Jan Senberg at Mawson."

ICEBIRD: "Is She a Good Ship in The Ice"?

by Ian Bird

Unlike the *Nella Dan* which was regularly "trapped" by pack-ice, the Antarctic Division euphemism for similar problems experienced by *Icebird* is "delayed". The general ice performance of *Icebird* was recently analysed by Melbourne *Herald's* Canberra reporter, Jonathan West (26 December, 1987).

Under the headline "Freed Icebird Cold Comfort for Antarctic": "12 days of going backwards", Mr. West analysed an event in the pack-ice 150 Km NE of Davis as recorded in situation reports of the voyage. Performance of *Icebird* under the moderate ice conditions were reported to prove "mighty embarrassing" to Antarctic Division management who had earlier contended that *Icebird* could push through most ice conditions. *Aurora* understands that the Division submission for an Australian icebreaker is based around an Icebird-like vessel. Mr. West suggests this design criteria is now "looking a little shaky"...

Evidently *Icebird* offers little improvement in ice performance compared with *Nella Dan*; it may not even be as good! *Icebird's* square hull design ensures it stays flush with the ice rather than being safely pushed above it in familiar rounded hull *Dan* ship fashion.

Without an enormously powerful icebreaker (as used by US and USSR in their Antarctic operations), which would cost much more than our Government wishes to spend on an Australian ship, being trapped and delayed

by pack-ice will remain an ever-present danger for the new Australian ship.

Expedition Leader, Rex Moncur's (Deputy Director of the Antarctic Division) situation reports on the 12 days of going backwards off Davis are given below:

Nov. 12: Stopped last night because cold temperatures due to clear skies reduced temperature of snow on heavy pack causing it to stick to and retard vessel.

Nov. 16: Because of large floes progress is likely to be slow and take four to six days to reach Davis.

Nov. 19: Had to stop last night because of low temperatures freezing floes to ship. Ice has not improved as fast as we had thought from earlier reconnaissance (distance to Davis 189 nautical miles).

Nov. 20: Backtracked yesterday afternoon. Now seeking path to north east (distance to Davis 195 nautical miles).

Nov. 21: Made useful progress yesterday morning. Since then delayed by heavy floes and then poor visibility which has prevented us moving since 1900 late yesterday (distance to Davis 200 nautical miles).

Nov. 22: Due to poor visibility and high winds it was not possible to conduct helicopter reconnaissance yesterday. Accordingly ship held position except for drift with ice (distance to Davis 201 nautical miles).

November 23: Have made a further 6 nautical miles to north since special report this morning (distance to Davis 210 nautical miles).

ORV FRANKLIN — ITS FIRST SOUTHERN OCEAN CRUISE

David Everitt (Davis 1977)

RV Franklin is owned by CSIRO and operated by the Division of Oceanography which is based in Hobart. A 55-metre vessel she is run by 14 officers and crew, and can accommodate up to 12 scientists and technical staff. She is stabilized and air-conditioned and has a sophisticated propulsion system which enables her to be kept on station in weather conditions of up to a half-gale. She is comprehensively equipped for chemical, biological and physical oceanography and as well has a powerful scientific computing network and a high-accuracy Global Positioning System.

RV Franklin operates primarily in Australian waters, but her range of 7500 nautical miles also permits deployment to equatorial and sub-antarctic latitudes. It was to about 60 deg. South in the vicinity of the Antarctic convergence that she undertook a marine science research cruise in November 1986.

RV Franklin was named in honour of Sir John Franklin, the British explorer and mariner who mapped vast regions of Canada's northern regions, and whose disappearance resulted in remarkable and persistent attempts at rescue which eventually achieved the discovery Franklin himself died searching for — the North West Passage. Sir John Franklin (who was knighted for surveying achievements in the Canadian north) became the Governor of Van Diemens land from 1836-1843. He was chosen to lead an expedition to find a North West Passage, and in May 1845 sailed from England in *Erebus* and *Terror* (the two ships that James Ross had taken to the Antarctic six years before). Accompanying him was F.R.M. Crozier. The ships were seen for the last time by a Scottish whaler heading into

Lancaster Sound in July, but diaries and notes later found, enabled the journey to be reconstructed. After spending the winter trapped in slowly drifting ice, *Franklin* died in June 1847. A second winter later, Crozier, now the commander, decided to abandon the ships but no one survived the cold and starvation. Twelve years of searching by the Government and a determined Lady Franklin revealed a cairn built by Franklin's team. This yielded records regarding the expedition and ended the search.

Our small excursion into southern waters was of course in marked contrast to the conditions and privations that accompanied the explorer in whose honour the ship was named, however we did experience (in great comfort) the beauty of the Southern Ocean wildlife and the thrill of Southern Ocean weather. After finding the convergence at 57.8 deg. South, the ship turned and headed into a force 7 gale in order to maintain station while the wind persisted and to not drift any further south. (*RV Franklin* is not covered by Lloyds insurance further south than 60 degrees). The spindrift, frothing water and wheeling of giant birds made us feel we were in Antarctic latitudes, even though the comfort of the ship belied this. When the wind had died the oceanographic program was commenced, and stations at each half a degree north were monitored until the sub-tropical convergence was reached at about 44 degrees South.

The Southern Ocean birds provided their usual treat of splendour, colour and beauty, well known to those lucky enough to have travelled south. Each station stop became a treasure trove of wildlife (with a bit of help from the galley slops bucket — for good close-up shots) that

allowed us to observe, enjoy and photograph many of the ocean birds that abound in these latitudes. At the southern end of our transect we feasted on sightings of many thousands of petrels. The Mottled petrel, the White Capped petrel, the Blue petrel, Mother Carey's Chicken (Wilson's Storm petrel, apparently the most numerous bird in the world), the Black Bellied Storm petrel, and the Antarctic petrel, not normally seen out of the vicinity of the pack. The great albatrosses, which seem to have divided up the Southern Ocean for themselves, were constant companions. The Grey headed albatross delighted us further south, and the Ancient Mariner's Sooty (Light Mantled) albatross was a near constant companion throughout the trip. The lovely Slender Billed Prions, seemingly so fragile, yet flitted around in the great expanse of the Southern Ocean without a care. Further north in the latitude of Macquarie Island we were

joined by the cumbersome looking Northern Giant petrel, a Goliath in contrast. The great Wandering albatross, the anything but "shy" Shy albatross, and the delightful little White Chinned petrels appeared more numerous in this sub-Antarctic latitude. The Kerguelen and ubiquitous Pintado or Cape petrels were with us all the way.

Whales were also sighted heading south, sadly in smaller numbers than one imagines after reading about earlier travels and exploration. Long Finned Pilot whales were the commonest with an occasional pod of 30 to 40 individuals heading south to their feeding grounds. A final sighting of a small group of Southern Right Dolphin whales, playing and performing for us before heading off, crowned our trip and left me again in no wonder why most people who have seen the wildlife of the Southern Ocean have a yearning to go back.



THE ALBATROSS

On the stormy ocean's vast expanse
The bird glides surely on,
And casts her eyes into the wake,
The wake that knows her song.
Over the ocean's steady swell
Over the ocean's foam
And in the wake of a southbound ship,
A seabird finds her home.
She's seen the icebergs floating free
And the beauty of the whale
She's felt the stillness of the lull,
And the sting of southern hail.
She's seen the ships beset in pack,
In a sea that's hard and white,
She's seen the Southern twilight glow,
And the sun shine through the night.
And in the far-off southern land,
She's seen the high, white plain,
And remembered Australia's warming sands,
And the warmth of falling rain.
So over the ocean's steady swell,
In time again she'll roam,
And in the wake of another southbound ship,
She'll find another home.

WILL TWYLCROSS



"Caterpillar — 30 years of reliable service"

In January 1957, two Caterpillar D4 track-type Tractors were delivered to the Australian Antarctic Division at Mawson. They were used to haul sledge trains on journeys of up to 1000 kilometres in hazardous weather conditions.

Today there are 20 Caterpillar-built machines working in the Australian Antarctic Territory. Specially modified Cat D5 Tractors, 950 Wheel Loaders, 518 Skidders and 931 track-type Loaders work in site excavation around the bases in temperatures down to -60°Celsius and at altitudes of 3300 metres. In addition, Cat 3306 Generator Sets supply prime power at each of the four Australian bases.

This is another example of the adaptability and reliability of Caterpillar-built equipment. All round the world you'll find Caterpillar machines on the job in every extreme of climate and terrain.

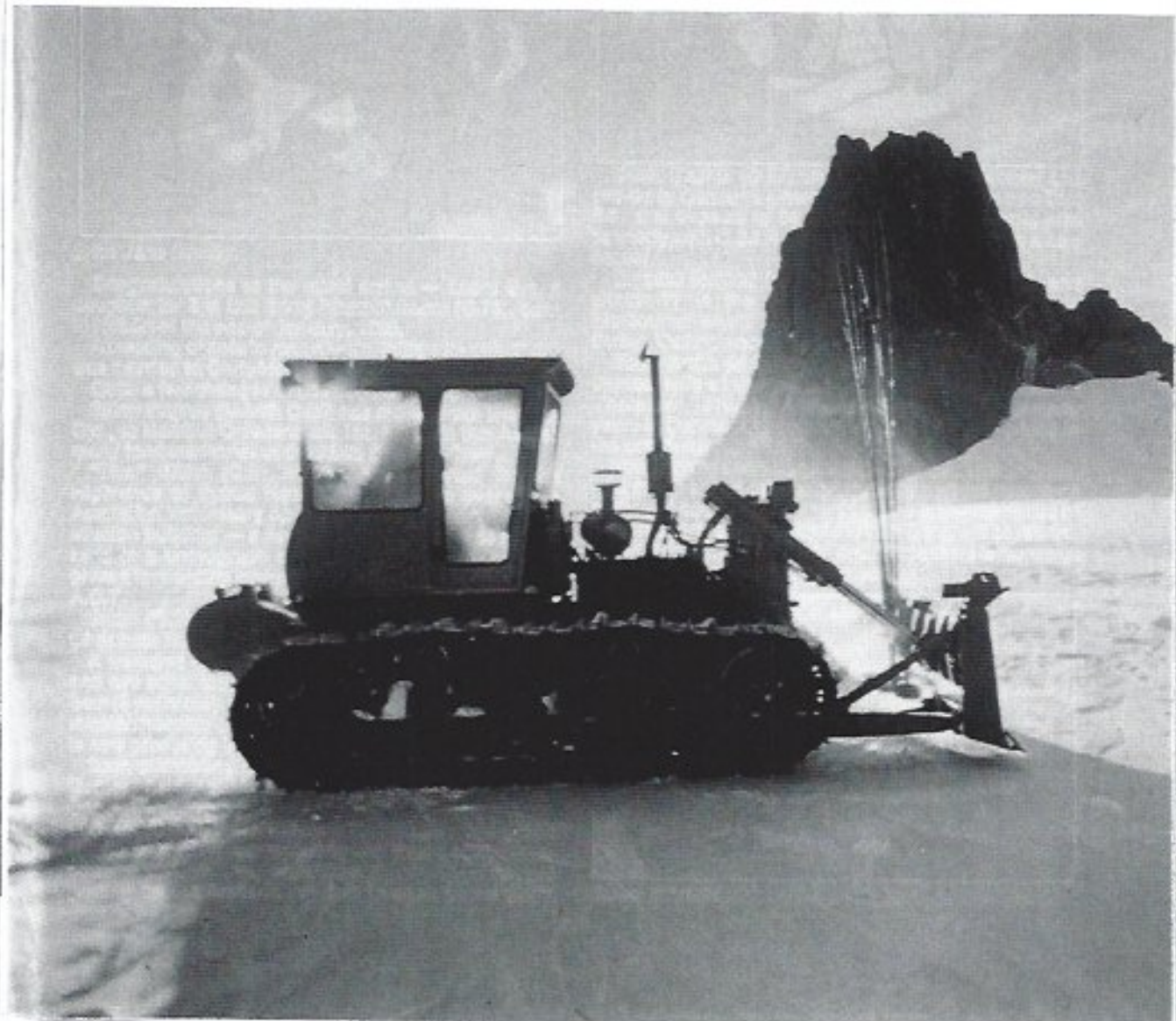


WILLIAM ADAMS TRACTORS



**YOUR
CATERPILLAR
DEALER**

Caterpillar, Cat and  are trademarks of Caterpillar Inc.



ANARE SKI CLUB by Ian Bird

The ANARE Ski Club Inc., founded in 1963, has long been established in its cosy A frame lodge on picturesque Mt. Baw Baw. Existing facilities of the 14-bed lodge have restricted membership, and no new members have been accepted for many years. However, there are now plans to expand the club by developing a further building on the Mt. Baw Baw site, and by inviting additional members. The proposed building extensions as outlined in the architect's sketch, will be of modern ski lodge design, and will double existing accommodation.

Membership entry to the Ski Club is identical to that of the ANARE Club, i.e. past membership of ANARE. A member may nominate an Associate (wife, husband or child) to the Club. Ski Club Membership has traditionally involved both fiscal and physical obligations. With a building program now on the books, members will be expected to fully participate in construction activities in the old ANARE spirit!

Mt. Baw Baw is renowned for its unspoiled natural beauty. The ski resort offers six T-bar and Poma lifts, providing access to numerous intermediate and beginner ski slopes; excellent cross country skiing exists on the extensive Baw Baw plateau; bush walking is a popular summer activity. Mt. Baw Baw is a truly year round resort. ANARE Ski Club members have long enjoyed that "getting away from it all" feeling that comes so easily within a convivial ski lodge atmosphere among old friends.

Membership Vacancies

The Ski Club is now seeking expressions of interest for membership from eligible applicants. An entry debenture of \$5,000 will be required; Associate Membership is \$250. A limited number of vacancies exist. Enquiries should be directed to the Secretary as soon as possible.

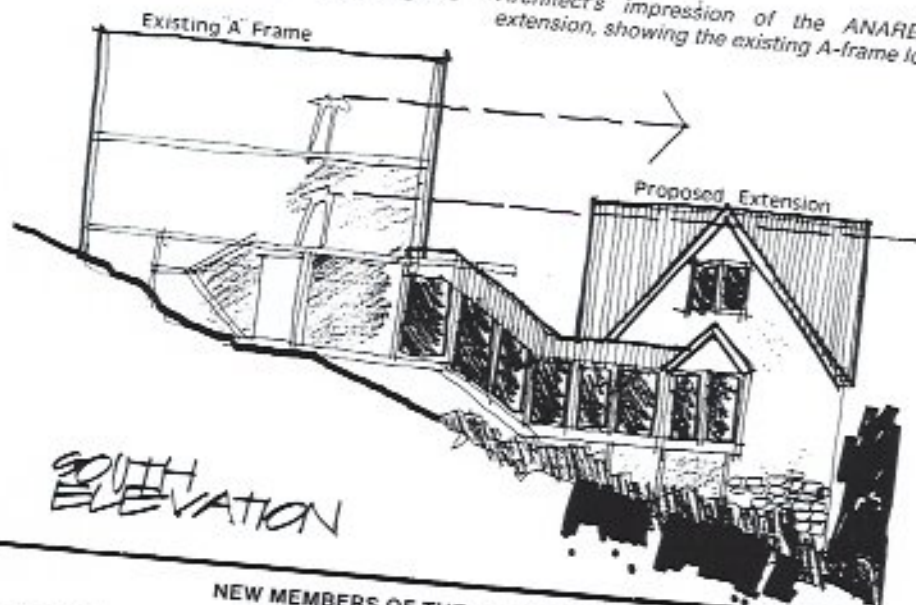
Winter Bookings

Winter bookings for lodge accommodation will be open from 1 May 1988 through the Booking Officer.

Committee:

The Ski Club Committee for 1988 is:
 President: Bruce Webster (052) 43 5137;
 Secretary: Ian Bird (03) 874 3342
 Treasurer and Booking Officer: Norm Linton-Smith (03) 712 0465
 Assistant Treasurer and Booking Officer: Ian Allison (03) 344 6914
 Past President: Harry Alderdice
 Public Officer: Peter Graham
 Other Members: Jenny Lindholm, Dallas Twigg.

Architect's impression of the ANARE Ski Lodge extension, showing the existing A-frame lodge.



NEW MEMBERS OF THE A.N.A.R.E. CLUB

Travellers on board *Nella Dan*, Voyage 2, have been admitted to membership of the Club:

Gilbert Wallace
 Kevin Mauger
 Jeff Rubin
 Ross Scott
 Trish Hart
 Jill Rogerson
 Wayne Strawbridge
 Murray Hotchin
 Terry Newton
 Frank O'Rourke

John Ramsay
 David Porter
 Peter Boyer
 Simon French
 Russell Garrick
 Peter Sprunk
 Kwok-Yin Cheung
 Gerard Cloucher
 Gavin Day

Phillip Chapman
 Pip Turner
 Terry Styles
 Geoff Watts
 Carol Nichols
 Tony Tymms
 Selwyn Peacock

Kaye Linsdell
 Bob Hall
 Steve Jourdain
 Cheryl Bertoig
 Christian Bronge
 Gregory Ray
 Bill Robinson

These new members are from the Casey, Davis, Mawson and Heard Island Expeditions, and include round trippers on the relief voyages.

BICENTENIAL ANTARCTIC EXPEDITION 1987-88

After a delayed departure necessitated by engine problems, the Bicentennial Antarctic Expedition set sail from Pier 8, Sydney, on 31 December, 1987. The expedition aims to climb Mt. Minto (4163m), the highest peak in the spectacular Admiralty Range of North Victoria Land, Antarctica, an area the size of Victoria.

The loneliest Bicentennial event, the Expedition will be 2000 nautical miles from Sydney, 500 kilometres from the nearest Antarctic base (Russian) and 800 kilometres from the nearest English speaking bases (US and NZ).

The Expedition ship the *Allan & Vi Thistlewayte* is the 63 ft. steel hulled ketch which was formerly known as the *Dick Smith Explorer* and had sailed to Antarctica 3 times before. It will be taking the expeditioners to Cape Hallett or Cape Adare in North Victoria Land, from where four mountaineers and two film crew/mountaineers will travel 100 km overland up massive glaciers to the base of Mt. Minto.

While temperatures in North Victoria Land will average minus 5°C at the coast and around minus 15°C inland, high on the mountains temperatures could drop to minus 50 with the wind chill factor.

The team is prepared to sit out week-long blizzards, and twelve months' extra supply of food is being taken in case it is necessary to spend the winter in Antarctica.

Major sponsors for the Expedition, which cost around \$200,000, are Channel 9 and Allan Thistlethwaite. Other sponsors include Sigma Data Corporation and *Australian Geographic*, with several companies assisting with equipment and food. Reports on the Expedition's progress will be exclusive to the *Australian newspaper*.

Expedition personnel

The climbers — Greg Mortimer and Lincoln Hall, who were members of the first Australian team to climb Mt. Everest in 1984; Jonathon Chester, who has spent the last four summers on expeditions in Antarctica; and Lyle Cross, a veteran rock climber and the Expedition's business manager.

The film crew are Glenn Singleman, doctor, climber and cameraman; and Chris Hilton, sound recordist, climber and expert cross-country skier.

The ship is crewed by Don Richards, captain, Colin Putt, engineer, Pete Gill, Ken Scott and cook, Margaret Werner.



L.R. Lyle Cross, Lincoln Hall, Greg Mortimer, Jonathan Chester.

NOTES FROM THE SOCIAL SECRETARY

It is good to see that the *Wattle Steam Tug* trip for 26 February was fully booked by mid January.

Seventy members and friends attended the summer lunch at the Royal Brighton Yacht Club on February 7. The next Sunday lunch will be at the same venue on 1st May.

A summer barbecue will be held at Ian Mackie's property on April 10th. This should be a very enjoyable outing at Upper Beaconsfield.

The response to these functions is appreciated.

This year's Midwinter Dinner is again at the Dorchester, Melbourne, and as you will remember there was no increase in price last year over the previous year. However, we have been caught up with this year. There is still a free raffle with your ticket number being your raffle number. The price this year (up 10%) is \$36.00, IF YOU PAY BEFORE JUNE 1st, and \$39.00 if you pay after that date. So please get those forms back early and save your money.

MIDWINTER DINNER — FRIDAY JUNE 24, 1988, at the Dorchester, Melbourne.

Jim Haggart

1988 MELBOURNE MIDWINTER DINNER

(Financial Members only)

FRIDAY 24 June, 6.30 p.m.

at

THE "DORCHESTER",

Alexandra Avenue, Melbourne

GUEST SPEAKER

Senator The Honourable Graham Richardson,
Minister for the Arts and Environment

Cost: If paid by June 1st — \$36.00

If paid after June 1st — \$39.00

(Booking form enclosed)

Jim Haggart,

Social Secretary (03) 589 5319

CLUB AUTUMN SUNDAY LUNCH

SUNDAY 1st MAY — 12.30 pm.

ROYAL BRIGHTON YACHT CLUB

Adults \$16.00 Children \$8.00

Booking Form Enclosed

ENTERPRISE

It is planned to publish a regular column featuring the enterprising activities of former ANARE personnel, which may be of interest to our readers.

Submission of letterheads, logos etc. and a thumbnail sketch of activities, and as well a brief biography are now sought from members.

It is hoped that this column will increase the awareness of the wide spectrum of business enterprise undertaken by "old explorers". Members are encouraged to support the activities of former colleagues as appropriate.

EDITOR

RADIO TECHNOLOGY

INNOVATIVE AUSTRALIAN RF PRODUCTS

Radio technology was established by Ian Bird following early retirement from his Class 5 Engineer appointment with CSIRO in July 1987.

He now designs and manufactures specialised radio frequency products not otherwise undertaken by Australian industry. These products include wide and narrow band RF amplifiers utilising microwave integrated circuit, transistor and gallium arsenide technology, RF filters, impedance bridges, calibrated wideband RF detectors, telemetry products (receivers and transmitters) and superfringe TV-FM masthead amplifiers. Technical brochures are available on request.

RADIO TECHNOLOGY, 71 Lisbeth Avenue, Mitcham, Vic. 3132. Tel: (03) 874 3342.

(Ian Bird joined the Antarctic Division in 1959 and spent 1960 at Mawson as ANARE's first Electronics Engineer. He joined the Division's HQ staff in 1963, and was appointed a senior engineer in 1967. Much of the scientific technology developed during his era is still in use by ANARE. He resigned from the Division in 1975 and joined CSIRO where he participated in a wide spectrum of engineering activities including a close involvement in Australia's revitalised interest in space technology. He has published many papers and received several awards, including the Polar Medal.

Ed.)

CLUB AUTUMN BARBEQUE

SUNDAY 10th APRIL, 1988 — 12 noon

At IAN MACKIE'S COUNTRY PROPERTY,
UPPER BEACONSFIELD

Members and friends welcome BYO Food and Drink
(Location map enclosed)

MIDWINTER DINNER TASMANIA — 1988

The Hobart function of the ANARE CLUB will be held on Saturday, 18 June at the DERWENT SAILING SQUADRON, Marieville Esplanade, Sandy Bay.

Contact — David Rounsevell

Work 002 30 6203; Home 002 34 7684



Here comes the Mail (photo C. Simpson)



Janina, Monica Adele, Col. and Sigrid Aurora Christiansen at Sydney Anare Club Picnic — 5/12/87.

WANDERING EXPLORERS

BY MRS. ROB

I was in Sydney at Christmas for a short break, it would have been nice to have seen all the old friends, but this is the wrong time of the year when many old ANARE types are holidaying. However, I did catch up with **Lyn and Warwick Williams** and saw their beautiful new daughter, Lyn was also able to give me the news of many new infants I had missed recording:

Mick Hartnett (M.84) and Mary have a daughter, Keira (now 1 year old):

Steve Podman (M.1.81) has a daughter Amanda (now 10 months old).

Another birth I am late in reporting was **Erica Jane Gooley**, daughter of **Keith** (M.71, C.74) and **Jane Gooley** — born on 6 July, 1987. A photo for my album accompanied the announcement. Keith has advised a change of address from Sefton Park to Tenafete Court, One Tree Hill, South Australia.



Erica Jane Gooley.

Congratulations to the latest arrival — **Laura Eva**, a daughter for **Eva and Garry "Gazza" Burns** (C.76), born in Hobart at the end of January, 1988.

A wedding of note to report — **Dr. Gillian Deakin** (D.86) was married to **Chris Haywood** on 22 November, 1987.

Quite a few changes of address and wandering: **Garry Sugrue** (M.1.83, C.85) has moved from **Elanora, Qld.**, to **Nambour Crescent, Mt. Isa**. He adds that he has many fond memories of the **Nella Dan** and **Crew**.

"Blue" Miller (C.81, M. 84) has departed for the **Highlands of Papua New Guinea** for two years with **Australian Volunteers Abroad**. He will be working on a **Mission building** — a new high school — I hope he will send in a photograph of his new surroundings. Peter gives a forwarding address of **23 Dunstant Street, Curtin A.C.T.**

Brian ("Killer") Kowald (M.1.81) is Met. Observer at **Christmas Island (Indian Ocean)** for the next two years.

A welcome home to **Doc. Will Twycross**, wife **Margie** and two sons, **Liam** (5 years old) and the latest arrival, **Sam** (3 years old). Will has spent three years working in a mission hospital on the **Eastern slopes of Mt. Kenya**, but is now practising in **Mansfield**.

Seen competing at the **7th World Veterans Athletic Games** held in **Melbourne** from **November 28 to December 6**, were **Peter McGrath** (M.1.63, M.65, W.67) and **Ian Black** (M.62). Both are in the same age group (Men 45-49), and competed in the **Track 10K**, **cross-country 10K**, and the **Marathon**. Peter claims he was gaining on Ian towards the final in each event! **Geoff**

Wilkinson (M.61, W.63) competed in the **Hammer Throw**, and did well. All three are members of the **Victorian Veterans Athletic Club**. I'm told new members are always welcomed.

Ian Bird (M.60) was recently awarded the prestigious **John Monash Medal** by the **Institution of Engineers, Australia**, for his paper, **"Small Earth Stations for Environmental Satellites"**. The paper was presented at the **Second National Space Engineering Symposium**, **Sydney University**, in 1986.

Pam and Bob Bandy have let me have photos of their new home in **Geraldton, W.A.**, and more especially of the very special stained glass penguin window. Bob still has itchy feet for the South, but had to make do with a trip to **South Island, New Zealand** last winter.

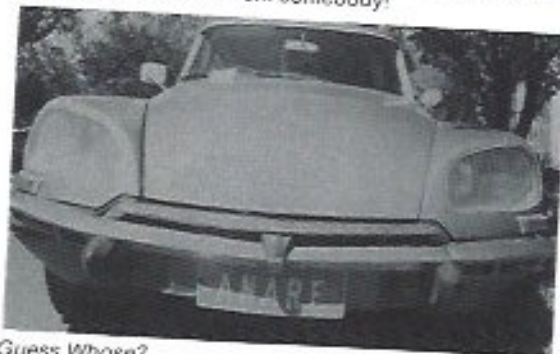


David Everett (D.77) and family have left Hobart and moved to **Canberra** where Dave has enrolled to do a **Dip. Ed.**, and expects to be teaching next year. David was formerly with **C.S.I.R.O.** and is looking forward to a new career.

Graeme Russell (C.75, C.78, D. summer 83-84, and winter 77 in the Arctic) has now settled down in **Melbourne** where he can be found at **33-37 Ballarat Street, Collingwood**.

Geoff Smith (M.61) has welcomed home his daughter **Janice**, wife of **Jorgen Berg** who was chief officer on **Thala Dan**, 1970/71, 74/75 and 76/77. Jorgen, after many years in **Denmark**, is now back in **Melbourne**, working in the computer field.

Keep writing and **WYLLA MRS. ROB**. Which reminds me, — a member has suggested tactfully that the meanings of the old code words are rather dim in the memories of most readers, so **WYLLA** and **WYSWO** etc. will be retired, but any rate, **"keep smiling"** and I hope there is **"love and kisses"** for someone from somebody!



Guess Whose?



Dan's unofficial flag on Jackstaff.



Chief Steward Sv. A. Nielsen on his 11th trip to the Antarctic 1971-72.



Nella's crew at airport before flying home 21/12/87.

CHIEF STEWARDS

Worthy of special mention are the years of service on the *Nella Dan* of the Chief Stewards: Sv. A. Nielsen served from 1962 until the 1973-74 season. Ruben H. Nielsen was Chief Steward from 1975 until the 1987-88 voyages.

Erling Helsler, (Chief Eng.), Benny Nielsen, (Bosun) and Captain Arne Sorensen at the Nella Dan Memorial Haggis Hurling held at Rod & Jeannie Ledingham's home, 1st January, 1988. (photo R. Butler)





Officers & crew of Nella Dan, 1974-75 season. (Anarc photo)



The Voyage Home - photo S. Robinson.



Trevor Luff, Terry Weatherson, Allan Foster lend a hand. (photo D. Parer)



Dave King (Chopper Engineer) checking Tie Down Points en route to Mawson (photo D. Parer).



V.I.P.'s The Larcies.

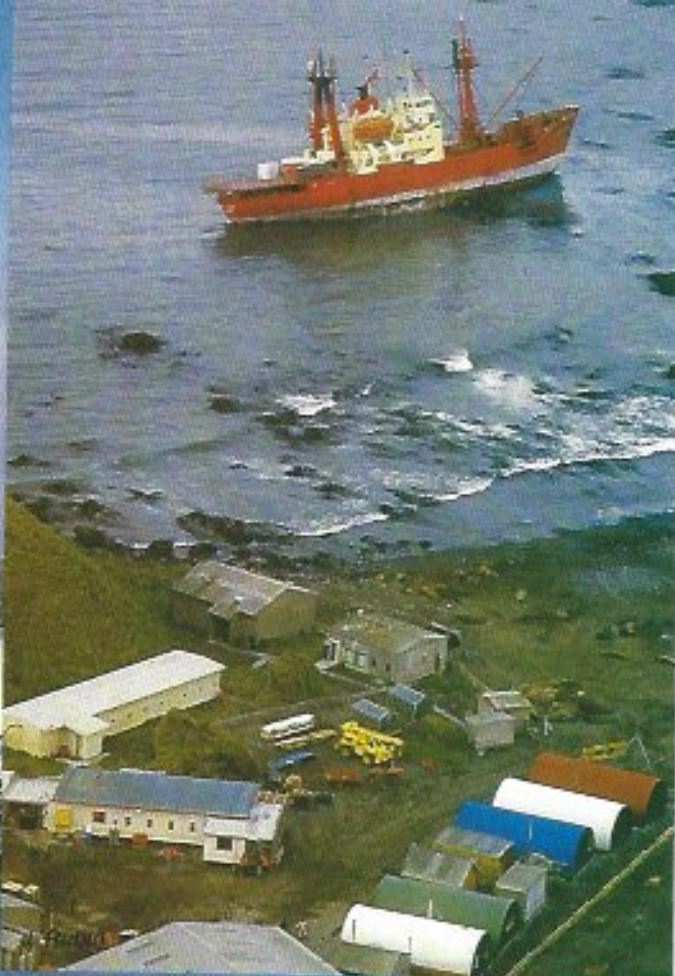
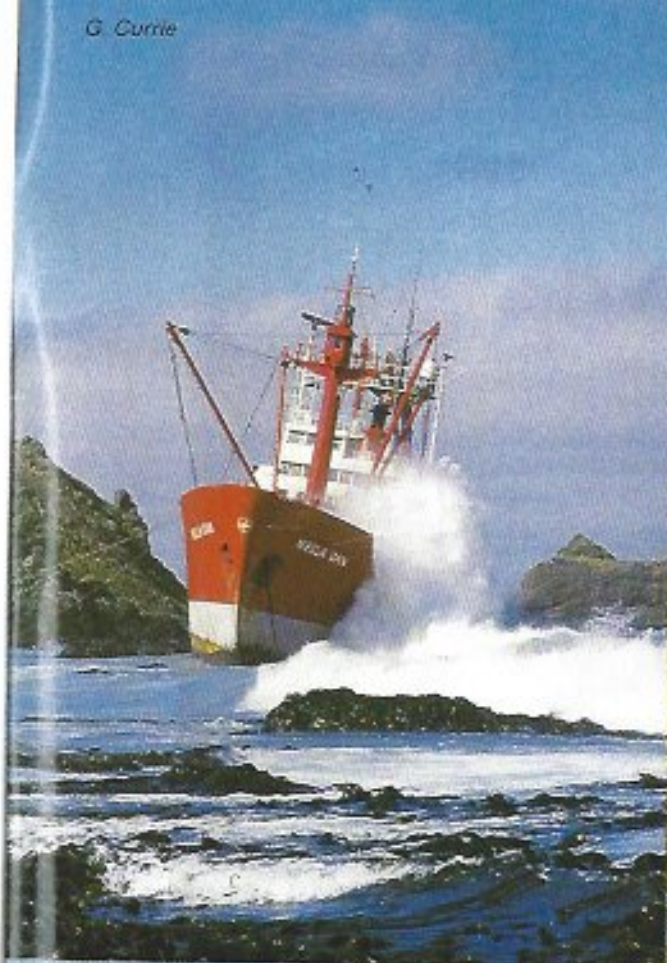


Unloading Mawson

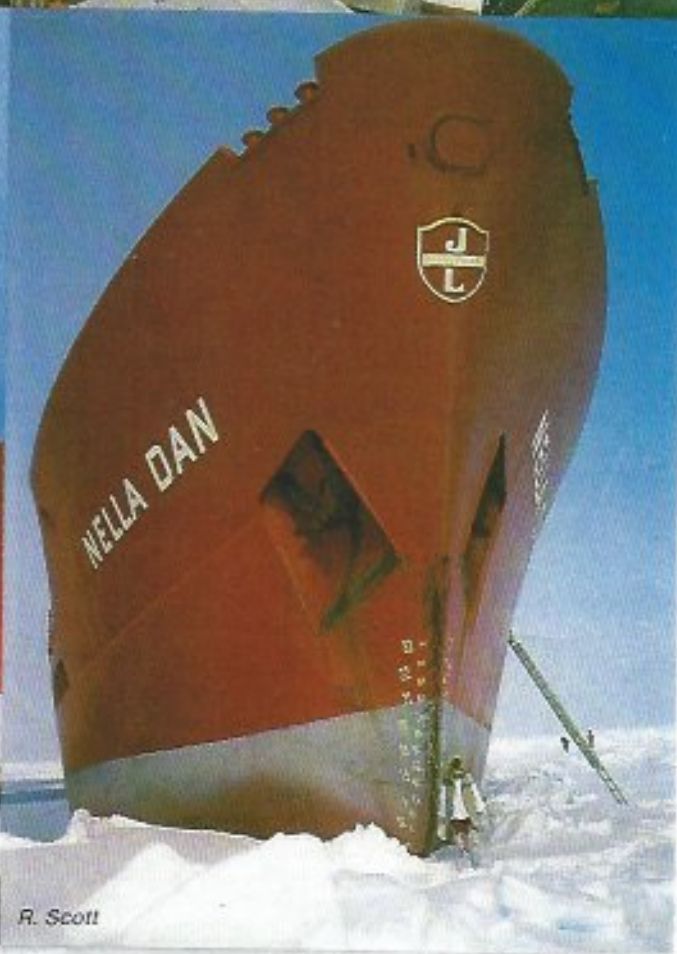
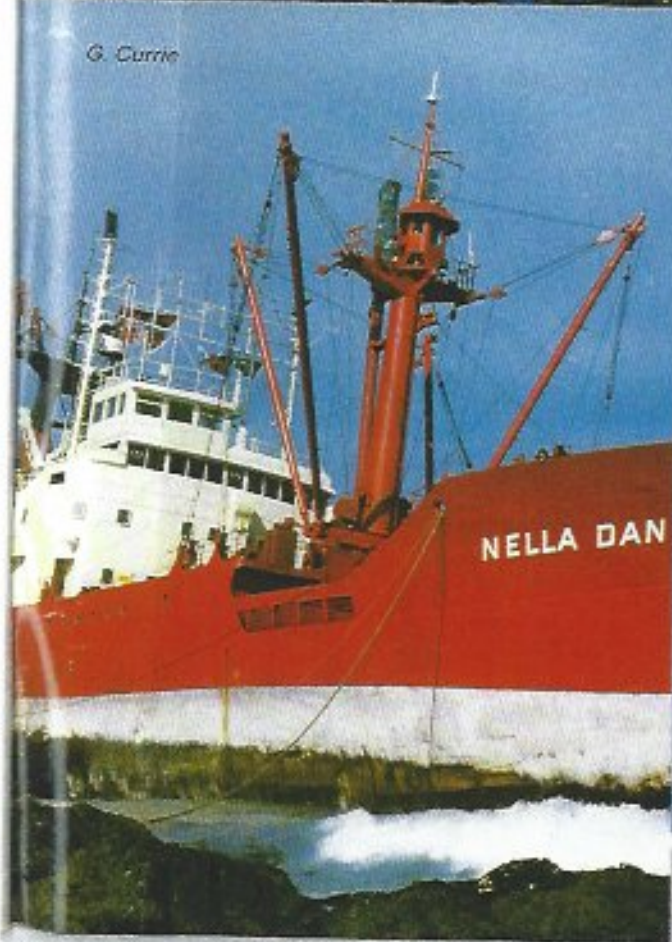


P.C.M. Party en route from Mawson to Melbourne (photo D. Parer).

G. Currie



G. Currie



R. Scott

