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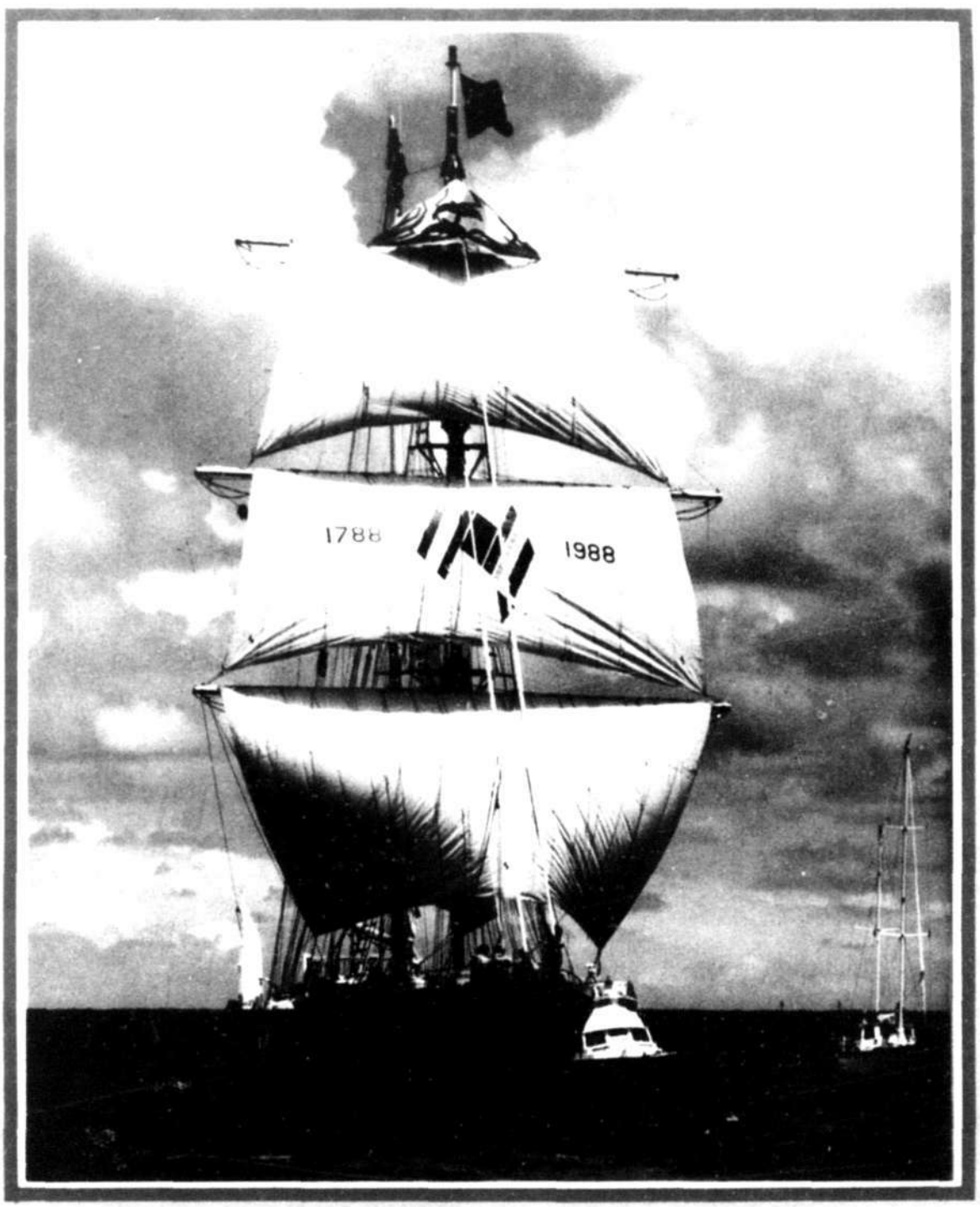
JANUARY-MARCH 1988

THE NAVY

The magazine of
THE NAVY LEAGUE OF AUSTRALIA

$2.50



50 YEARS: 1938-1988

THE NAVY

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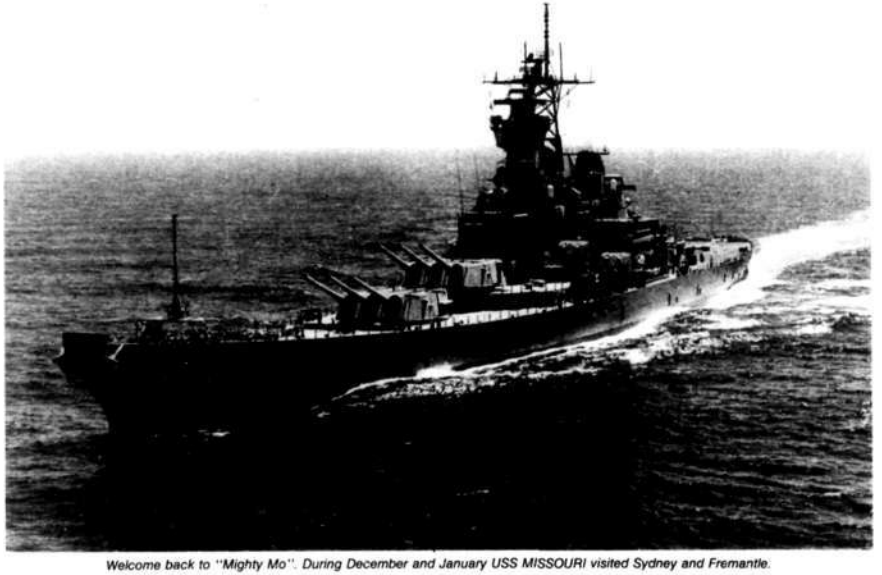
Vol 50 JANUARY-MARCH, 1988 No 1



Welcome back to "Mighty Mo". During December and January USS MISSOURI visited Sydney and Fremantle.

ADVERTISING AND PUBLICATION
Percival Publishing Co Pty Ltd
(Incorporated in NSW)

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Waterloo, NSW 2017
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Our Cover Photograph

The brigantine YOUNG ENDEAVOUR, which arrived in Australia in November, 1987.

Printed by Maxwell Printing Co Pty Ltd (Incorporated in NSW), 862 Elizabeth Street, Waterloo, 2017
Phone: 699 2600

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viewpoint

'Many Happy Returns'

This issue of THE NAVY, Volume 50 Number 1, marks the fiftieth anniversary of our magazine. When first published in the 30s the Navy League in Australia consisted of several State branches of the United Kingdom Navy League and the magazine formed the only connecting link. When The Navy League of Australia, independent of the United Kingdom League, was formed after World Was 2 THE NAVY became its official publication and has remained so ever since.

THE NAVY has always had an educational content in the form of articles on maritime developments, mainly in navies, but for many years it was basically a low-cost "house" publication (consternation among members when the price leapt from 20 to 30 cents in 1971!) of limited public interest.

In more recent times, particularly during the last four or five years, THE NAVY has developed in a magazine of quality — better presentation, better paper and print, more variety and wider coverage of the maritime scene and interesting photographs. Not the least important, the magazine has some fine writers who know their subject, don't hesitate to express sometimes controversial views and who in every way provide support for the League's claim to be an organisation of educational value to the community.

The prevailing economic climate (it seems to have prevailed for several years and shows little sign of improving) and the absence of any perceived threat to the security of the Australian mainland have tended to cause far too many Australians to be disinterested in defence matters and the wider interests of our country, many of a maritime nature; with some exceptions the media has shared this disinterest; indeed it could be suggested the media has contributed to this state of affairs.

THE NAVY has 50 years of promoting the maritime cause behind it but it still has a long way to go before it could be said that Australians think and act like a maritime people.

* * *

A DECADE AS EDITOR

It so happens THE NAVY attains its fiftieth birthday at the same time Ross Gillett celebrates *(if this is the right word to use)* his tenth year in the Editor's chair.

It will surprise many to learn that Ross Gillett, who is the RAN's Fleet Public Relations Officer, edits THE NAVY in his spare time; this means he has no spare time

Ross has done a splendid job for THE NAVY and The Navy League of Australia: *We congratulate him and commiserate with his family.*

* * *

TRADE/SHIPPING SEMINARS

Publishing deadlines preclude a report on the seminars organised by The Navy League in Melbourne and Sydney recently titled *"Our Trade and Our Defence — Do We Need Australian Flag Shipping?"*

The seminars were addressed by representatives of The Departments of Foreign Affairs & Trade, Transport and Defence, and The Australian National Maritime Association representing local shipowners. The Company of Master Mariners and the Seamen's Union also took part.

Representation of the various interest involved was very good and the addresses thought-provoking. One thought remaining in the writer's mind is, that in the event of an emergency requiring naval use of merchant shipping, it is not unlikely that ships comprising the present Australian merchant fleet would either have to continue in their trading role or be unsuitable for naval requirements.

It is hoped a full report of proceedings can be included in the next issue of THE NAVY.

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'THE NAVY' — 50 YEARS ON

AS highlighted by The Federal President, Geoffrey Evans, in his *"Viewpoint"* editorial, this issue marks the beginning of the fiftieth year of *"The Navy"* magazine.

During a half a century "The Navy" has, because of membership, readership and financial reasons changed its format from a monthly publication, (1930s to early 1960s) to a bi-monthly magazine and finally a quarterly from 1965.

A glimpse of the contents page of Vol 11 No 3 in March, 1948, would see such articles as; "Destroyers of the RAN" by Reuben Ranzo; "Censorship and Publicity" by R. L. White; a personality profile for Captain (S) Patrick Perry OBE, RAN; News from the World's Navies; A Nautical Question Box; What the Navy is Doing at Sea and Ashore; The magazine for next month and a list of Naval Appointments.

The Editor of the March, 1948 issue was G. Herman Gill, the well-known author of the two volumes of RAN official histories in the Second World War.

The front cover of the March, 1948 edition, priced at one shilling, is reproduced here. The issue spanned 64 pages, of which about 24 were advertisements.

The August, 1960 magazine was primarily a vehicle to highlight Navy Week activities in the Sydney region, featuring a centre spread map of the ships open and activities at Garden Island on 8th October, 1960. Highlights of the programme included *HMAS ANZAC* launching torpedoes and *HMAS QUICKMATCH* firing her anti-submarine mortars. Ships open for inspection included *HMA* Ships *MELBOURNE, VOYAGER, ANZAC* and *QUICKMATCH* and *HMS CAVENDISH.*

By now the quality of "The Navy" magazine had dramatically improved, A semi-gloss paper allowed for a much improved photo reproduction, while the colour front cover depicted *HMAS VENDETTA* being towed from the Captain Cook drydock. The message from the Minister for The Navy was written by Senator, The Hon. J. G. Gorton, complete with a photograph of him in naval cap!

A new Editor, Dennis Trickett, assumed the role in 1965. Like any person in a new job, Dennis set out to increase the popularity of "The Navy". At the same time the magazine reverted to a more sensible and economical quarterly, printed by Percival Publishing Company. Immediately "The Navy" took on a new image, again paper quality increased, the magazine grew to an *'enormous'* size and contributors offered a wide variety of writings.

Dennis Trickett remained in the Editor's chair for a record 13 years, until the present incumbent assumed the helm.

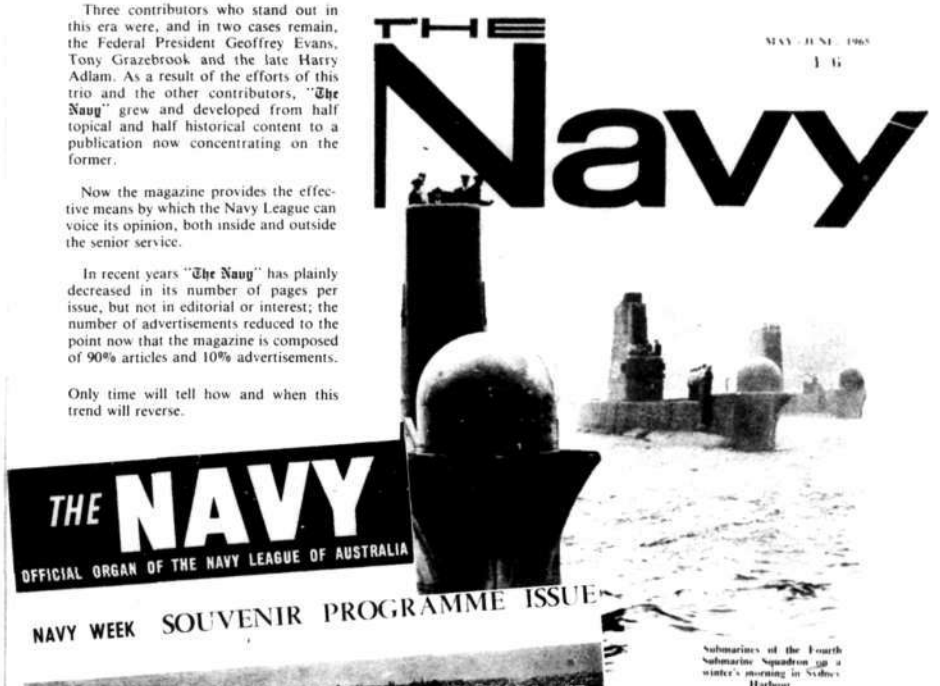
After just one issue I began negotiations with our publisher to increase the dimensions of the magazine to a more modern size. Later, in 1980, "The Navy" received its first colour front cover for over five years, including, as well as the Navy Week issue, the three remaining issues for the year. At the same time the quality of paper was re-introduced in a glossy style. As a result of these changes and those that ensued, the number of contributors from within the Navy League and from outside the organisation increased.

Three contributors who stand out in this era were, and in two cases remain, the Federal President Geoffrey Evans, Tony Grazebrook and the late Harry Adlam. As a result of the efforts of this trio and the other contributors, "The Navy" grew and developed from half topical and half historical content to a publication now concentrating on the former.

Now the magazine provides the effective means by which the Navy League can voice its opinion, both inside and outside the senior service.

In recent years "The Navy" has plainly decreased in its number of pages per issue, but not in editorial or interest; the number of advertisements reduced to the point now that the magazine is composed of 90% articles and 10% advertisements.

Only time will tell how and when this trend will reverse.



Despite some gloomy forecasts as to its future in years now past, I'm confident "The Navy" will still be read widely in the year 2038.

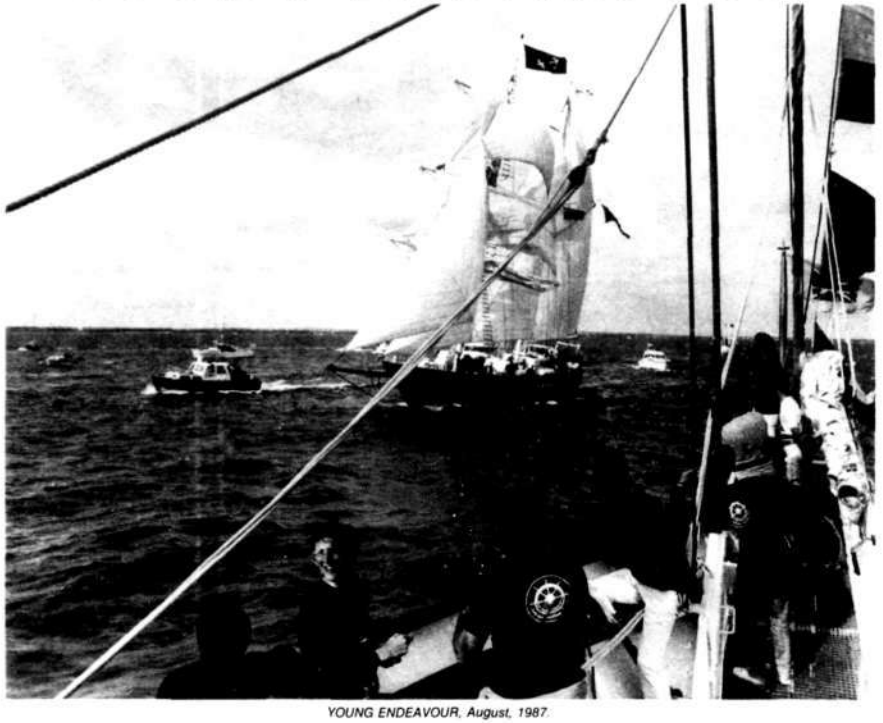
"He who has his obituary published prematurely shall live long and happily ever after." (Anon)

What of the future? As long as membership of the Navy League remains strong and there is a continuing demand in both magazine and paper shops, "The Navy" will survive. For unlike other *'naval type'* quarterlies, our magazine is not *'given away'* en-mass to an uninterested audience, but money outlaid to procure a high-quality and well written publication.

For 1988, *"The Navy's"* Golden Jubilee, we have redesigned our front cover and will feature special commemorative issues including October, to mark the Bicentennial Naval Review.

ROSS GILLETT.

YOUNG ENDEAVOUR



YOUNG ENDEAVOUR, August, 1987.

ON January 11, 1986 the British Government offered the Australian Government a 31 metre Sail Training Ship as a bicentenary gift.

The Australian Government, accepting the gift said that the ship would be manned, maintained and operated by the Royal Australian Navy (RAN) on behalf of the nation for the benefit of young Australians.

Supervision of the design and building of the ship was the responsibility of the British-Australia Bicentennial Committee.

The designer, Colin Mudie, internationally renowned naval architect, designed the 24-metre brigantine, "Royalist", the training vessel for the Sea Cadet Corps of Britain.

by PETER DAVIDSON

His design for the Australian sail training ship was for a very fast, yet safe sailing vessel, with two masts carrying nine sails, square on the foremast to give her an advantage, like a brigantine, to windward.

She has a teak deck and is finished below decks in teak and polished mahogany. Her hull is painted "Britannia blue", the hull colour of the Royal Yacht Britannia.

On August 3, 1987 "*Young Endeavour*" broke anchor from her Medina River anchorage in the Solent and set sail on her 13,000 nautical mile voyage to Australia.

The similarity of her route to Australia to that of the First Fleet was coincidental. Like thousands of ships before her setting out on voyages from Britain to Australia, "*Young Endeavour's*" route was planned to take account of wind, weather and currents and the advantage of friendly victualling ports on the way.

Until she is handed over in Sydney on January 25, "*Young Endeavour*" will wear the flag of a British merchant ship. From her handover on January 25 in Sydney she will be entitled to wear the Australian White Ensign.

She sailed from Britain with a combined British and Australian crew under the command of Commander Christopher Blake, holder of a Masters Certificate for Square Rigged Ships and winner in 1984 of the Cutty Sark Trophy.

Besides Captain Blake, the Royal Navy provided a bosun/shipwright, cook and two watch leaders.

Six young men and six young women from the UK were selected for the voyage.

The Royal Australia Navy contingent comprised Commander Frank Allica, Master, Commander Garry Sproule, Chief Officer, Lieutenant Louise Scullion, Watch Leader and Chief Petty Officer Rod Wells, Engineer.

In addition, the contingent included six young women and six young men plus four others in reserve. The contingent arrived in Britain in January 1987 to undergo sail training in similar type vessels to the "*Young Endeavour*" to prepare them for the delivery voyage to Australia. These ships included, "Winston Churchill", "Malcolm Miller" and "Lord Nelson".

The training of the contingent in Britain, transport, accommodation costs and return passage on "*Young Endeavour*", with the exception of the four reserves who returned by air, was paid for by the British Government as part of its Bicentennial gift.

"YOUNG ENDEAVOUR" A DESCRIPTION

"*Young Endeavour*" is a brigantine* fore and aft rigged with square sails on the foremast.

SAIL PLAN

1. Main Mast
2. Main gaff Topsail
3. Main Gaff
4. Main Sail
5. Main Boom
6. Main Topmast Staysail
7. Main Staysail
8. Foremast
9. The Yards
10. Fore Topgallant
11. Fore Topsail
12. Fore Course
13. Jib
14. Staysail
15. Fishermen

She has a steel hull and a round bilge designed to give a full sailing performance on all points of sailing.

Under sail she has a designed speed of 14 knots. Under power her twin main engines produce a maximum speed of ten knots.

She has two brass saluting guns which will be embarked only for special ceremonial occasions.

The vessel is expected to have a service life of at least 15 years.

* (Brigantine, n. A two masted sailing ship, rigged square on the foremast and fore-and-aft with square topsails on the mainmast. From Old Italian brigantino-pirate ship, from brigante-brigand — Collins English Dictionary)

Sailing for Australia, August, 1987.

DIMENSIONS

*LOA	44.0 metres
LOA (hull)	*31.0 metres*
LWL	28.3 metres
Beam	7.8 metres
Draft	4.0 metres
Sails area (total)	110 sq metres
Mast height	30 metres above water line
Displacement	200 tonnes
Gross tonnage	173 tonnes
Ballast (approx.)	10 tonnes

ACCOMMODATION

Crew:
Commanding Officer's cabin, aft
Executive Officer's cabin, aft
1 single cabin, aft
6 berth cabin aft
(includes 2 pipe cots)
2x2 berth cabin fwd
(each, *1 pipe cot.*)

* Captain Cook's Bark, HMS "Endeavour", was 29.7 metres stem to stern and 9 metres extreme breadth.

Youth Crew:
1x12 berth cabin fwd
2x6 berth cabin fwd

The vessel carriers 24 young men and women between the ages of 16 and 18 as Youth Crew and a permanent Naval crew of eight and accommodation for two RAN trainees.

The approved scheme of complement provides for one and a half crews and a Shore Support Office of two.

Seagoing billets include:
Commanding Officer
Executive Officer
Two Watch Officers
Two Watch Leaders
Engineer, CPO
Cook
Spare Executive Officer
Spare Watch Officer
Spare Engineer
Spare Cook

"*Young Endeavour*" is designed to be

sailed by her Naval crew of eight, the minimum RAN manning level.

Whenever female Youth Crew members are embarked, at least one member of the RAN crew is female.

Two berths are reserved for RAN crew under training.

Officers are required to hold a Certificate of Competence relevant to their rank. In addition the certificates must be endorsed for sail.

FUNCTION AND ROLE

"Young Endeavour" is part of a National concept called Young Endeavour Programme consisting of the following elements.

- The ship
- A nationwide Young Endeavour Youth Scheme
- A National Board of Management
- Commonwealth funding

The board of Management is responsible for oversighting the operation of the Young Endeavour Youth Scheme and advising on funding aspects.

The Youth Scheme is an organisation responsible for selecting young Australians to participate as Youth Crew in *"Young Endeavour"* voyages and their administration during assignment.

The function of *"Young Endeavour"* is to operate as a sail training ship and to provide an adventure at sea for Australian youth in Australian coastal and adjacent waters.

The concept of the Young Endeavour Youth Scheme is to provide the maximum number of adventure voyages per year with the objective of aiding the personal development of young people in self-discipline, team spirit, pride in accomplishment and leadership.

The Youth Crew will be an integral part of the ship's crew and will undergo normal sea-going training.

SAIL TRAINING

Saill training provides the chance to learn old crafts, skills and character development, the rewards being a sense of achievement that can remain for a lifetime.

It is an informal education programme providing adventure as well as training.

Under an experienced naval crew, trainees are required to take a sailing ship up to 700 nautical miles of ocean in less than two weeks, the objective being to create an adventurous challenge; extend the individual's physical and psychological *limits; promote personal maturity; and to* demonstrate and foster the concepts of teamwork.

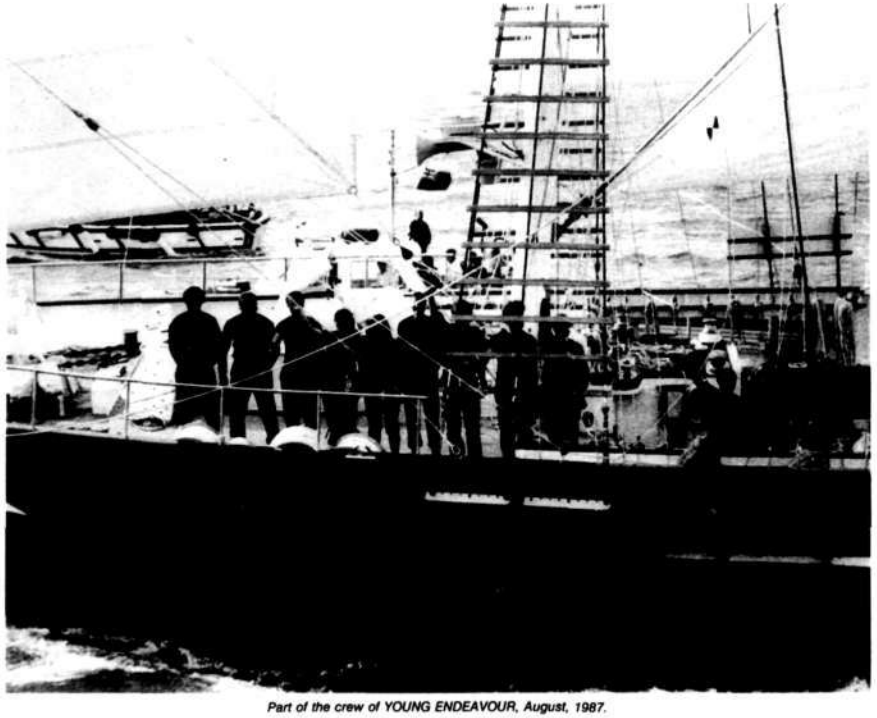
The scheme is open to anyone aged between 16 and 18 years inclusive.

YOUNG ENDEAVOUR YOUTH SCHEME

The Youth Scheme selection process has not yet been finalised nor has the criteria for selection been established.

Options for selection being considered are:

1. The States and Territories will undertake selection and the National Office will handle administrative procedures direct with nominees, or,



Part of the crew of YOUNG ENDEAVOUR, August, 1987.

2. Leave the entire selection process to the National Office, in which case State and Territory assistance and direct contact with schools and tertiary bodies will be necessary.

A media publicity campaign will be conducted to inform youth not attending schools or tertiary institutions.

The selection criteria for candidates is based on physical fitness, initiative, temperament and the ability to work as a team member in situations of stress.

In an interim measure, it has been proposed that for the ship's initial voyages, berths will be offered to those persons who were unsuccessful semi-final candidates for the delivery voyage from Britain. It is hoped that the established selection process will be in place by April/May.

It is the Government's aim that *"Young Endeavour"* and its Youth Scheme operate of the basis of cost recovery. In order to comply, it is proposed that Youth Crew will pay a voyage fee at a level within their means, their school (sponsors) or community.

"Young Endeavour" will operate on training voyages of up to 10 days duration and at least one, two-day voyage for disabled youths.

Training voyages will begin from a *number- of ports around Australia.* Although the ship's home port is Sydney, the concept of taking the ship to other ports to embark Youth Crew has been decided on to emphasise that *"Young Endeavour"* belongs to the whole country.

She will spend over 10 months in her training role, the remainder of the time being for maintenance.

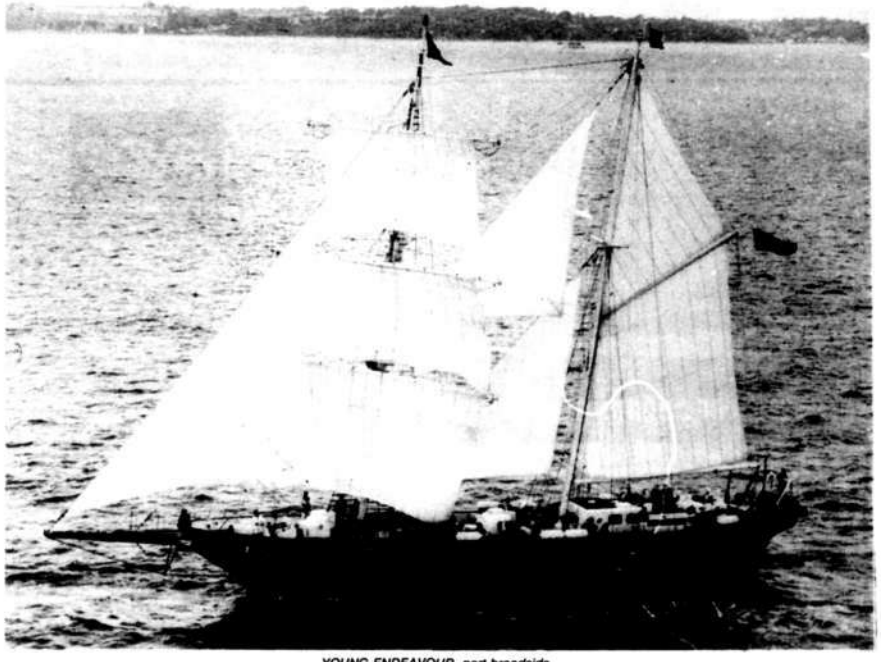
The remaining four days are for short cruises of one to three days, public open days and a one day turnaround for preparation for the next cycle.

The proposed programme for *"Young Endeavour's"* first year, 1988, begins on Tuesday February 16.

1988 VOYAGE PLAN

VOYAGE:

1.	Sydney-Sydney	Feb 16-26
2.	Sydney-Geelong	March 1-11
3.	Geelong-Melbourne	March 15-25
4.	Melbourne-Melbourne	March 28-31
5.	Melbourne-Sydney	April 5-15
6.	Sydney-Sydney	April 19-29
7.	Sydney-Brisbane	May 17-27
8.	Brisbane-Brisbane	May 31-June 3
9.	Brisbane-Mackay	June 7-17
10.	Mackay-Townsville	June 21-July 1
11.	Townsville-Gladstone	July 5-15
12.	Gladstone-Brisbane	July 19-29
13.	Brisbane-Gladstone	Aug 9-19
14.	Gladstone-Southport	Aug 23-Sep 2
15.	Southport-Newcastle	Sep 6-16
16.	Newcastle-Sydney	Sep 20-30
17.	Sydney-Sydney	Oct 4-14
18.	Sydney-Sydney	Oct 18-28
19.	Sydney-Sydney	Dec 12-22
20.	Sydney-Melbourne	Dec 28-Jan 8



YOUNG ENDEAVOUR, port broadside.

ADVENTURE VOYAGES FOR YOUTH

"*Young Endeavour*" will be used as a sail training ship to provide a seagoing adventure for youth.

The ship will be manned and operated by the Royal Australian Navy. Operations Director is Commander R. Richards, with headquarters at HMAS WATERHEN in Sydney.

The Young Endeavour Youth Scheme will be responsible for the financial management and the selection of Youth Crew.

It is the Government's aim that "*Young Endeavour*" and the Young Endeavour Youth Scheme will operate on the basis of full cost recovery. To achieve this aim, Youth Crew will pay a voyage fee at a level within their personal means or the means of their sponsors.

DEADLINE

The deadline for the April-June, 1988 issue of The Navy is

MARCH 1, 1988

YOUNG ENDEAVOUR

INDIA'S MARITIME POWER

by A. W. GRAZEBROOK

In a previous issue, the writer reviewed the growth in the Peoples' Republic of China Navy, which is not regarded by the Australian Department of Defence as a regional power. This is in spite of the fact that the PRCN has a major force of diesel electric submarines with the capacity to operate in numbers over a protracted period on our ocean trade routes and in our coastal waters.

The Indian Navy is a second such major force, with much greater overall capacity than the PRCN to operate on our ocean trade routes and in our coastal waters. The Indian Navy is much more sophisticated than the PRCN in weapons, sensors and command, control and communications.

The expansion in Indian maritime power takes ten forms:

1. A much larger industrial base in both quantitative and qualitative terms.
2. Larger and more numerous naval base in India itself.
3. Larger and more numerous forward operating facilities outside continental India.
4. Much increased maritime airpower in number, size and capacity of aircraft and in naval air stations.
5. Increased personnel training capacity and higher standards of training.
6. More numerous, more modern and larger ships, submarines.
7. Development of an increasing diversity of her own weapons and sensors.
8. An expanding merchant service.
9. A rapidly growing para-military Coast Guard.
10. A developing satellite communications and intelligence capability.

Petya class frigate, INS AMINI.

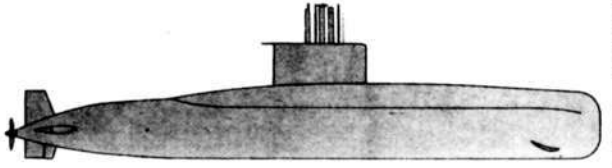
MORE SHIPS

India now has in service two aircraft carriers each with a carrier air group of Sea Harrier STOVL aircraft and Sea King helicopters. These two carriers are supported by four Russian built Kashin II area defence anti-aircraft missile destroyers, and two under way replenishment ships. Other ships already in service include three Indian built 4000 ton anti-submarine frigates (each with two Sea King helicopters), six Indian built improved Type 12 ASW frigates (each with one helicopter), 11 other frigates, one Indian built and four Russian built SSGW and SAM armed corvettes, four support tankers, eight ocean mine-sweepers, ten inshore mine countermeasures vessels, an ocean going submarine depot ship, one assault tank landing ship and 15 other landing ships and craft.

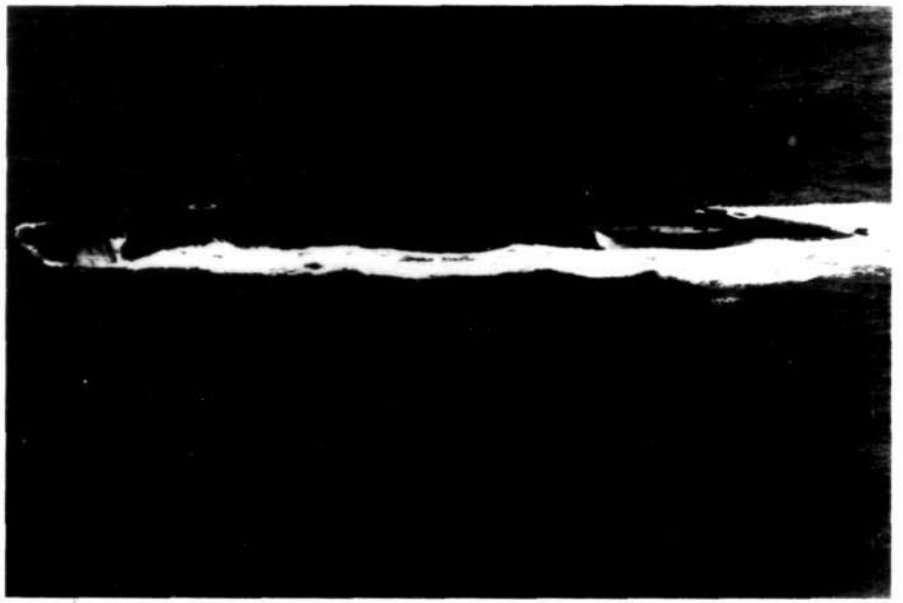
By 1995, this force will have been increased by three guided missile armed modified Kresta II class cruisers, five Indian built 6000 ton SSGW/SAM armed destroyers, two more Kashin II Russian built DDGs, three more Indian built anti-submarine frigates, 11 more Indian built 1200 ton corvettes, nine more Russian built corvettes, ten grp hulled minehunter/sweepers, a third under way replenishment ship, another assault LST, four more medium landing ships and more LCUs.

Turning to submarines, India has had eight Russian built Foxtrot class submarines for some years. In the past 12 months or so, these have been joined by two Russian built Kilo class diesel electric submarines (the Kilo is Russia's new generation SS) and two of the latest and most capable West German built diesel electric submarines. By 1991, there will be a total of six Kilos and four Type 1500 submarines in service with the Indian Navy. It is planned to build up to 15 type 1500 submarines. Further ahead, the submarine building programme with West Germany provides for the establishment of an Indian submarine design capability which is to be used to develop a local 2000 ton design.

Surface ship construction proposals include an amphibious assault ship, a 15,000 ton aviation support ship and a third aircraft carrier. Building times suggest that the third aircraft carrier will in the event replace Vikrant. However, the



Type 1500 submarine for the Indian Navy.



Soviet-built Kilo class submarine, INS SINDHGHOSH en-route to India.

number of guided missile cruisers and under way replenishment ships in service and building suggest that there three carrier task forces are planned.

AIRCRAFT STRENGTH GROWS

The increase in maritime airpower is impressive.

There are 29 Sea Harrier fighter strike STOVL aircraft in service or on order. The number includes four Sea Harrier trainers. There are 15 ASW Sea Kings in service with a further 20 Sea Kings configured primarily for anti-ship operations (surface targeting of ship borne SSGW and air to surface missiles). Six vertical replenishment and assault Sea Kings and three AEW Sea Kings are on order. The first of 18 Russian built Helix Ka27 Russian built ASW helicopters are in service. The remainder will serve from the three new Kresta II guided missile cruisers and the Kashin II DDGs. There are smaller Chetak ASW and ASR helicopters in service.

The first of eight Russian built Bear F long range maritime patrol aircraft has already joined the five Russian built IL38 May aircraft in service.

A number of European built new generation strike fighters are to be committed to maritime strike operations. New training aircraft are expected to be ordered shortly.

Twenty-six smaller Dornier DO228/20 maritime patrol aircraft are now entering service. Air stations will total seven when current construction programmes are complete. These will include a major new air technical training establishment and the new air station at Karwar, adjacent to the new major naval base south east of Bombay.

NAVAL BASES

Both the current major naval bases, at Bombay and Vishakapatnam, are being upgraded. Bombay will receive, inter alia, a second dock capable of taking carrier sized ships. The programme at Vishakapatnam is being undertaken with Russian assistance.

A major new fleet base is being built at Karwar, south east of Bombay. It is expected that the headquarters of Western Fleet will move to Karwar in due course.

The forward operating base at Port Blair, Andaman Islands, has recently received a floating dock. Further small bases are being built in the Nicobar Islands and Laccadive Islands.

Under the recent agreement with Sri Lanka, India has the right to develop Trincomalee. Sri Lanka is effectively prevented from offering base facilities to any power other than India.

INDIA'S GROWING NAVAL INDUSTRIAL BASE

The largest shipbuilding establishment, Bombay's Mazagon Dock, is currently building a 6000 ton destroyer, corvettes and diesel electric submarines. The destroyer is to be CODAG driven with both gas turbines and diesels being built in India under licence.

Garden Reach, in Calcutta, has built tank landing ships, patrol craft and hydrographic ships for some years. Garden Reach is now building the third under way replenishment ship and is being upgraded to build corvettes and the second trio of Godavari class ASW frigates.

Goa builds auxiliary craft and tank landing ships and will be provided with the capability to build grp hulled mine counter-measures vessels. Goa has been mentioned as the site for Indian construction of the new aircraft carrier, but this last is far from certain.

Local manufacture of weapons and sensors is growing. A locally improved version of the A244 surface launched ASW torpedo is already being produced as is much other ammunition. Four different types of surface to air missile systems are in various stages of development, as are several types of SSGW. An Indian hull mounted sonar has entered operational service in INS Ganga, the second Godavari class frigate built at Bombay.

An important industrial capability feature of the Godavari Class is the integration of sensors, fire control systems and weapons from both Russian and Western European sources.

As another indication of industrial capability, it is understood that about 90 per cent of the cost of the latest Indian frigate was spent locally and this with low local wage rates.

To all this must be added the Indian space programme, being undertaken with Russian assistance. It is becoming increasingly clear that, when this programme is complete, India will have access to satellite intelligence including shipping positions. This, coupled with the special submarine long range communications station recently commissioned in southern India, will provide India's Navy with the location of potential targets on the broad oceans. Indian diesel electric submarines will become much more potent.

INDIA's MERCHANT NAVY

The number and total tonnage of India's merchant fleet has been increasing steadily. In the 10 years from 1976 to 1986, the total gross registered tonnage rose from 3.9 million to 6.6 million tons.

Of course, a merchant marine is primarily for national and international trade — not for military purposes. However, in time of military necessity a merchant marine imparts vitally important additional naval capabilities. A glance at the history of the Falklands campaign testifies to that.

Nanuchka class corvette

INDIA's PARAMILITARY COASTGUARD

India is building up her coastguard. The original second hand naval ships and aircraft are being supplemented and replaced by two broad types of vessel and aircraft.

There are now corvette sized ocean going patrol vessels and two sizes of patrol boats for coastal and inshore work.

In the air, there are both fixed wing aircraft and helicopters operating from a number of air stations around the continental Indian coastline.

STRATEGIC PURPOSE

The strategic purpose of the Indian maritime power build-up has mystified western observers.

This is well expressed by the Editor of Janes Fighting Ships in his foreword to the 1987/88 Edition:

"(India's build-up) is, by any standards short of the super powers, a formidable force and the main query for an outside observer is 'why?' The threat to Pakistan is obvious and another neighbour, Sri Lanka, is being told what to do in her own territory . . . There has been a long tradition that India's future lay on the sea but this very considerable fleet must cause apprehension amongst the other littoral countries of the Indian Ocean."

This writer leaves it to his readers to ponder this question for themselves.

Natya class minesweeper.

Two firms to negotiate for Williamstown Dockyard

The Minister for Defence, Mr Kim Beazley, announced that two organisations which submitted tenders for the Williamstown Dockyard have been selected for further negotiations.

The firms are: The Australian Marine Engineering Corporation (AMEC) comprising ASI, of Perth, Eglo, of NSW, and ICAL, Sydney, and Technav, in association with Byvest, of Sydney.

Mr Beazley said the original five tenderers have been cut to two as the next step in the contract development.

"Selection of the two companies to continue in the sale process has followed detailed evaluation of the tenderers' proposals and the degree of compliance with our requirements", Mr Beazley said.

"The two companies have been invited to hold competitive negotiations with my department.

"The Government will make a decision on the new owner of the dockyard and completing the sale as soon as possible."

Mr Beazley said this will enable completion of two FFG-7 class destroyers, on which about $300 million worth of work remains.

"We will also expect the successful dockyard owners to compete for the new $3.5 billion Anzac Ship Project.

"I am looking forward to the dockyard operating under commercial management and the opportunities this will present", Mr Beazley said.

An Economy Commando Carrier for the Royal Navy

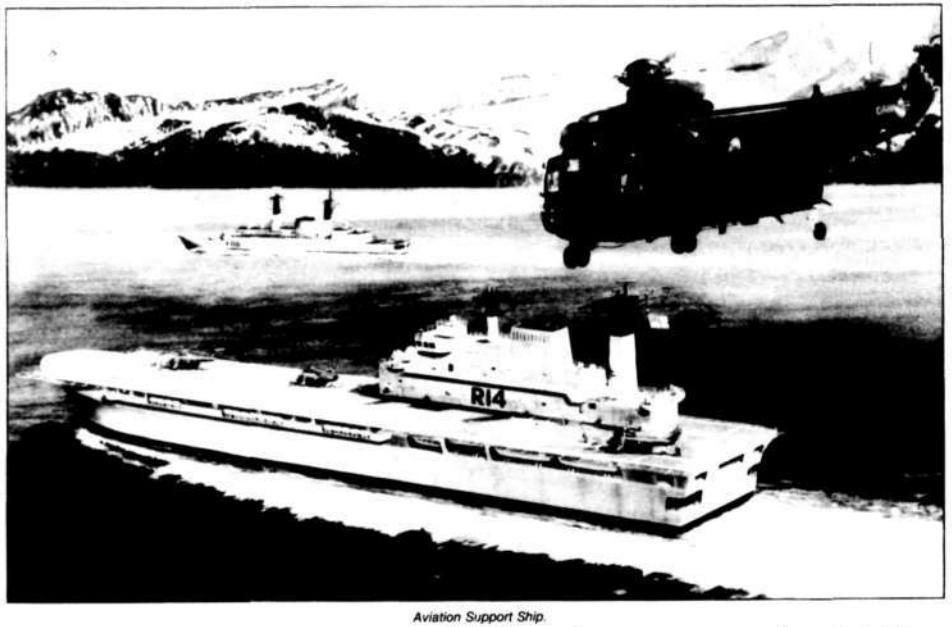
by Rupert Pengelley

THE British debate concerning the maintenance and re-equipment of its amphibious landing forces has spawned a proposal for a new type of Aviation Support Ship. Overtly intended as a cheap vessel, it is built largely to commercial standards, for use in commando helicopter operations. The basic design is clearly versatile enough, however, to serve as a platform for anti-submarine warfare (ASW) operations or, through the employment of Harrier-type VSTOL aircraft, for air defence and strike operations.

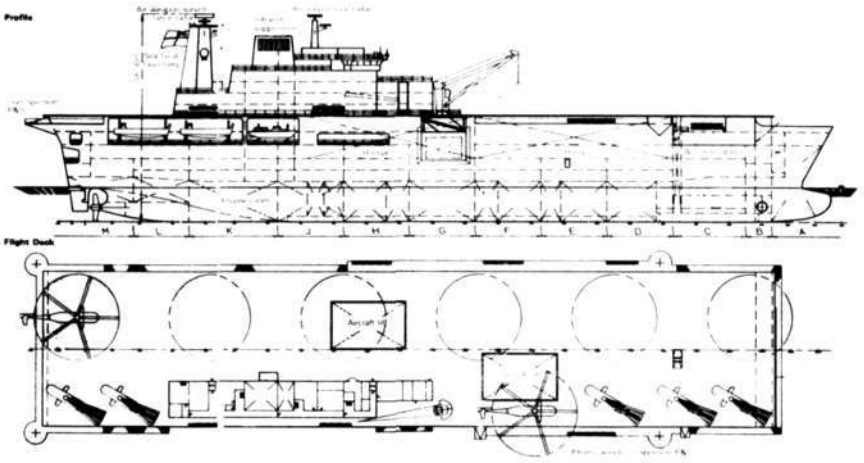
The origins of the proposal stem from contacts early in 1985 between Britain's Royal Marines and the major international container leasing organisation, Sea Containers. This civilian company formerly owned the 28,000t ro-ro container ship MV *Contender Bezant*, built by CN Breda of Venice. She was requisitioned during the 1982 Falklands conflict to serve as an aircraft ferry, and in 1983 was bought outright from Sea Containers by the Royal Navy, for permanent conversion as an air training ship (ATS). Converted by Harland & Wolff and renamed RFA *Argus*, the 22,000t ATS is expected to make its debut in its new guise at the Royal Navy Equipment Exhibition (RNEE) in September. Suffice it to say, a suggestion was made that sister ship *Contender Argent* might similarly be converted, to serve as a replacement for the 24,000t carrier HMS *Hermes*, then in reserve prior to its recent transfer to the Indian Navy.

While *Hermes* had the capacity to serve as a fully fledged aircraft carrier, in addition to its commando support function, the capability sought for its potential replacements was rather more limited. The soi-disant Aviation Support Ship (ASS) was to be able to embark, support and operate 12 *Sea King*-size helicopters; to provide accommodation for a commando group and to provide the embarked commandos with the facilities required for a tactical landing by helicopter and/or LCVPs (landing craft, vehicles/personnel) upon arrival in the area of operations.

Hart Fenton, naval architects and marine engineers to Sea Containers, responded by pooling its resources with British Aerospace and Westland Helicopters. The first point presentation was made to the UK Ministry of Defence in July 1985, and offered an ASS design based on the hull of the *Contender Argent*, with a length of 174m and a full-load displacement of approximately 24,000t. As originally proposed, the vessel had a target price of around £75 million, and an armament fit limited to four Laurence Scott LS30 single 30 mm gun mounts. Sensor fit included a Plessey Type 994 F-band surveillance radar with AKD antenna array, plus two Kelvin Hughes type 1006 or 1007 I-band radars for navigation and helicopter control. *Sea Gnat* chaff and IR decoy launchers were to be fitted for passive defence against anti-missiles, and a Type 182 noisemaker as a torpedo decoy.



Aviation Support Ship.



DESIGN EVOLUTION

Unsurprisingly, the potential customer progressively refined his thoughts on the optimum equipment and performance levels for the ASS and, after the formal Naval Staff Requirement was raised in the latter half of 1985, the consortium had to modify its design. The most significant innovation was the introduction of a *Seawolf* GWS 26 Mod 2 point defence missile system, which included two trainable quadruple *Seawolf* missile launchers with a Type 911 missile tracking radar mounted on the island superstructure. This in turn dictated the introduction of a more sophisticated search and target designation radar.

The length of the flight deck was increased from 162m to 170m, in order to allow the six helicopter landing spots (necessary for a complete company lift) to be positioned in a line down the length of the ship. The flight deck was also widened from 30m to 34m, and the two aircraft lifts, originally situated in tandem, forward of the island, were relocated to port and starboard, thereby reducing vulnerability and freeing more deck space. Thus, a second group of six *Sea Kings* could be parked on deck (including one with its rotors turning), ready to pick up the next company once the first had emplaned.

CAPACITY

In principle, the 1,300 m² hangar deck of the ASS provides space for 12 *Sea Kings* or for its successor in the ASW role, the Anglo-Italian EH101 helicopter. Alternatively, an equal number of Sea Harriers could be carried (the lift dimensions have in fact been enlarged to accommodate the larger wingspan of the RAF's newest *Harrier* GR5 variant), and the deck would be strong enough to permit the operation of *Chinook* medium lift helicopters. These, too, could be stowed below if the rotors were to be removed. Up to 1,000t of aviation fuel may be carried aboard the ASS to support air operations.

On two decks in the stern of the ship, there is a total of 1,500 m² of space for land vehicles. Typically, commando inventories are restricted to air-portable vehicle types. However, the second vehicle deck has access to the quay, or to a mexeflote-type lighter, via the hangar deck. It would thus be possible to embark or disembark larger trucks of 4-8t capacity. Also located towards the stern are the four LCVPs, mounted on davits immediately below the flight deck.

ASS specification

Length overall	174m
Breadth	34m
Height (main mast)	46m
(flight deck)	23m
Draught (full load)	7.5m
(deep)	8.2m
Displacement (full load)	24,400t
(deep)	28,000t
Propulsion	2×11,700bhp Pielstick 18PC 2.5 medium speed diesels
Service speed	19kt
Endurance	20,000nm at 18kt
Complement	558 crew+803 commandos
Aircraft capacity	12 *Sea King*/*Sea Harrier*

Accommodation is provided for a standard complement of 558 persons, including ship's company, aircrew, permanent Royal Marine detachment plus an Admiralty drafting margin of 50. The requisite fitted accommodation for 803 Royal Marine commandos is designed to be installed in the recreation spaces, and it is said that it would be possible to house another 200 personnel, using hammocks. The ASS design also incorporates Class 2 sickbay facilities similar to those aboard the *Invincible* class ASW carriers.

The operations room is sized to accommodate whatever level of combat system sophistication might ultimately be thought necessary. The original ASS proposal featured a comparatively simple action information organisation (AIO), based on a Racal CANE 200 or equivalent Smiths Industries computer system. However, with *Seawolf* fitted, there might be a case for a more integrated combat suite utilising digital highways and a version of the standard Ferranti CACS 4 AIO. A digital highway has the merit of incurring lower support costs than a hardwired electronics installation and, though not necessarily a characteristic desirable in a minimum cost design such as this, would give greater scope for upgrading of the ship's electronics suite. As with the search radar, the choice of AIO has been left open for the time being.

SURVIVABILITY

The basing of the ASS on an existing commercial hull has economic advantages, but it could be disadvantageous in terms

of noise and infrared signatures, radar cross-section (RCS), and damage resistance. Nonetheless, the widening of the flight deck has had a beneficial effect on RCS since the hull sides have been flared. The fitting of IR attenuators in the funnel serves to reduce the ship's thermal signature. Noise is perhaps a greater problem but (given sufficient funds) it would, for example, be possible to remount the ship's twin-shaft diesel propulsion system. Careful design does allow the vessel to be divided into five autonomous fire zones, each with two high-pressure salt water pumps, conforming to naval standards save for the use of commercial-pattern pumps. Overall, ASS keeps to the required two-compartment "floodability" or buoyancy standard. A more desirable three-compartment standard exists forward of the engine room.

In one significant respect, the design is likely to exceed the standards to be expected in a normal warship. The ASS modifications take up only a part of the design carrying-capacity of the original hull and, in order to slow the rolling motion when at sea, some 1,000t of additional top weight would have to be added to the rebuilt vessel. This margin could usefully be applied to improvement of the ballistic protection level of the flight deck, either by filling it with concrete or by using double plates in its construction.

ORDERS

Within its cost and performance limitations, the ASS appears to offer an extremely flexible platform for differing forms of naval operation. The Royal Navy has reportedly expressed a desire to acquire two ASS-type helicopter carriers, in addition to the two new assault ships required to replace the existing LPDs, HMS *Fearless* and *Intrepid*, for command and landing craft docking purposes. It is evidently inclined, for a mix of political and cost-control reasons, to play down the actual utility of the ASS design — much as it was compelled to do in the early days of the *Invincible* class "through-deck" cruiser program. However, the ASS magazines would be fully capable of accepting standard RN ASW warstores, and it is apparent that a 24-hour role change, to ASW duties, could be effected simply by slotting appropriate containerised systems into the vehicle decks. Furthermore, there is no denying that a "ski jump" could be added to the bow to assist the launching of Harrier fixed-wing aircraft.

In all, the ASS project sponsors are optimistic that the design will have a favourable international reception when details are released at the forthcoming RNEE. There are, of course, other more mature designs of comparable size and purpose already on the market, such as the Italian *Garibaldi* and Spanish *Principe de Asturias* class carriers. However, it is suggested these cannot match the ASS' current £85 million basic pricetag and, although they offer a similar aircraft-carrying capacity, they are regarded as somewhat less versatile.

Consortia arrangements for the ANZAC Ship Project

The Australian Minister for Defence, Mr Kim Beazley and his New Zealand counterpart, Mr Bob Tizard, announced the preferred arrangements for the new ANZAC Ship Project.

"We have noted that developments in the ANZAC Ship Project and more widely within industry have encouraged rearrangements amongst the 13 groups who have registered interest in the project", the Ministers said.

"We will be contacting them all and inviting them to reconsider their original arrangements. From their final proposals two consortia will be invited to tender for the construction of the ships in Australia. We hope to announce the two selected by the end of the year."

Mr Beazley said the Australian Government is anxious to create a balanced, competitive environment for the project, consistent with the Government's Defence Shipbuilding policies announced last April.

"The New Zealand Government supports this approach as a way of enabling New Zealand companies to become associated with the project", Mr Tizard said.

"The other important side-effect for our industry will be the acquiring of technology and familiarity with quality systems and defence work."

The Ministers said important considerations in the selection of the consortia will be their financial, technical and managerial strengths and access to suitable shipbuilding facilities.

The two designers will be chosen in January 1988 and the Request for Tender for the construction should be issued in March.

The Ministers expressed their preference for designers and builders establishing a one-to-one relationship but agreed there would be consultations with the organisations finally selected.

"My New Zealand colleague and I are most conscious of the need to contain costs of this large and important project for our Defence Forces," Mr Beazley said.

"A strong and competitive environment is an essential factor in achieving our goals of industry participation and timely delivery of the ships."

Greek victory at sea

A reconstructed ancient Greek trireme, (a kind of galley), was commissioned into the Greek navy last year at a ceremony at the ancient docks of Phaeleron.

This is the same spot where, 2500 years ago, the famed Athenian navy hauled its fleet of potent warships on to the beach after its defeat of the much bigger Persian navy at the battle of Salamis.

Perhaps surviving the tension of the past 12 months and seeing the graceful Olympias edge out into the main harbour of Piraeus — pulled stoutly by its 170 young Greek and British rowers — was victory enough for the force behind the trireme reconstruction, Cambridge don Professor John Morrison and former British chief naval architect John Coates.

The commissioning ceremony was also especially significant for the Greek Government and people.

As cameras and teeth flashed almost in unison, the high-profile Greek Cultural Minister, former actress Melina Mercouri, poured the traditional libation of olive oil and wine on the trireme's bow and named her, majestically, Olympias.

The name somewhat obscured the Cultural Minister's message. The trireme is set to be the masthead for Athens' determined bid to host the Golden Olympiad of 1996 — a century to the time and place since the recommencement of the modern-day Olympic Games.

The commissioning of Olympias on August 25 was the fulfilment of a dream that had haunted Professor Morrison since 1941.

TANTALISING

He had long pondered accomplishing one of ancient history's tantalising jigsaw puzzles. Could a trireme be reconstructed from piecing together the ragbag of literary, epigraphical and archaeological evidence which had survived the ravages of two-and-a half millenia?

The exercise had been tried before with disastrous results. The most famous attempt was commissioned by Napoleon III in 1860 when he ordered the reconstruction of a Roman trireme.

But the cumbersome product could not be rowed and instead of being the main attraction at the 1864 Palace Exhibition, the French Navy used it for target parctice.

Until this decade, Professor Morrison's trireme was a paper tiger, which had prompted a war of words in the letters page of the Times of London. The academic world seems to pounce on theories like a bored cat on a mouse obsessively.

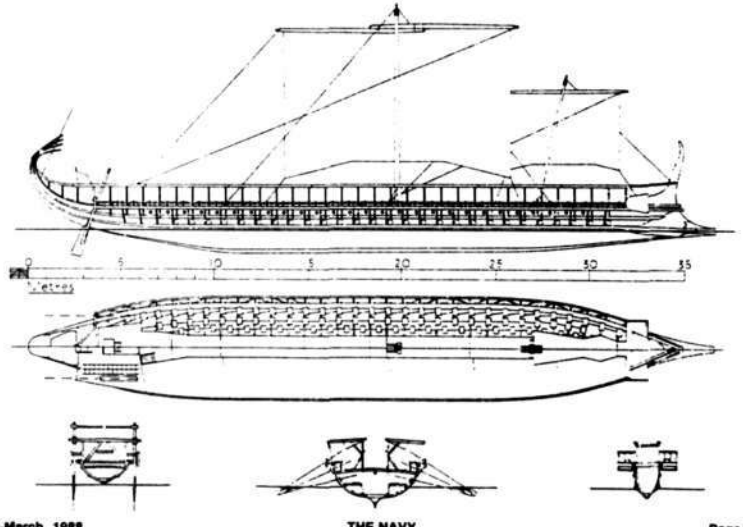
But Professor Morrison and his research collaborator, R. T. Williams, stood firm with their theories. The contentious issue was the arrangement of the oars.

Dr Boris Rankov, of the University of Western Australia's department of classics and ancient history, who has been involved in the project since 1985 as coach of the 170 rowers, explained: "The secret of building these ships had been lost by the 5th century AD. All manner of theories were suggested.

"In the 16th century it was thought the name indicated a ship which had three oarsmen to a bench on one level, each pulling his oar like the contemporary Venetian *alla sensile* system. Others thought that the trireme had three men to one oar.

"It was Elizabeth I's Greek tutor, in 1571, who deduced that the ship must have had three levels or banks of oars."

The trireme does, in fact, have three levels of oarsmen, but this interpretation led the scholars down yet another maze. As pointed out by one of Louis IX's galley-captains, Barras de la Penne, oars of differing lengths would make a synchronised stroke impossible, as Napoleon III found to his dismay last century.



OUTRIGGER

"Then Morrison, in 1941, argued that a three-level system with oars of the same length at all levels could be made to work with the aid of an outrigger", Dr Rankov said.

Perhaps the essential element of the entire project was the effort of Professor Morrison to turn an academic possibility into a living reality.

It seems certain that, had Professor Morrison not visited John Coates that auspicious day in 1981, the academic argument would have ground on endlessly and with diminishing point.

The two collaborated and Mr Coates drew up the plans.

The reconstruction project was launched publicly in Britain in 1982 and the Trireme Trust set up. On a trip to Greece in 1984, Mr Coates inspected construction work on a replica of an ancient merchant ship found off the coast of Cyprus.

It led to an offer of more than $1 million from the Greek Government to the trust for the reconstruction if the trust, in turn, paid for research and development and provided the technical direction.

A trial section was built in Britain in the winter of 1984-5 and was put on display at the elegant Henley Royal Regatta where Dr Rankov, an Oxford rower famed for having rowed six times in the annual Oxford-Cambridge boat race, became involved in the project.

As coach, Dr Rankov's duties were to school 170 rowers in the not inconsiderable art of rowing a trireme — together.

The initial crew was all-British, but later there was more than 50 per cent Greek involvement as the ship, under construction in the ship-yards of Tzakakos Brothers at Perama, Piraeus, came nearer completion.

ENTRUSTED

The Greek Ministry of Defence accepted the Tzakakos tender and they were entrusted with the task of breathing life into Olympias.

While political wrangles developed as to which Greek Government department should be coxswain of the project, Mr Coates and the builders were having their own worries with materials and long-forgotten techniques.

In the Greece of the 5th century BC, the pine was grown to meet the specifications of the triremes, but today, the local pine was found to be inferior to the project's needs. Oregon pine was substituted.

As well, the Tzakakos Brothers had to take a boat-building voyage back in time, where the planking of the hull was accomplished before the frame was fitted, and where 20,000 successive planks were wedged with specially-designed beech pegs. More than 25,000 hand-made bronze nails, coated with plastic as a rare modern concession for durability, were used as fastenings.

As the July 1987 launching day approached, the doubts and anxieties were to turn to elation. The trireme not only floated, it could be rowed, no doubt awkwardly at first as the crew found its stride.

The official chronicler of the project, former London banker Frank Welsh, said at the launch that the next big event for Olympias, after an extensive refit in the next few months, would be a 400 km row next summer to Lesbos, off the western Turkish coast.

After five years in naval service, Olympias will be set for a celebrated retirement in the maritime museum at Phaeleron as a symbol of man's determination — past, present and future.

$19 MILLION CONTRACT FOR NEW NAVY SURVEY CATAMARANS

The Minister for Defence, Mr Kim Beazley, has announced the signing of a $19 million contract to build four new survey catamaran motor lauches for the Royal Australian Navy.

The contract was awarded to a South Australia company, EGLO Engineering, which will build the 35-metre steel-hulled catamarans at its Osborne Yard at Port Adelaide.

The project is one of three Mr Beazley announced in September to improve the capability of the Naval Hydrographic Service and involves a new design by ASD Marine of Southport, Old.

Crewed by two officers and 10 sailors, the catamarans will have the latest maritime survey equipment, including the new hydrographic data logging and processing system, 'HYDLAPS', which is subject to separate contract negotiations.

The catamarans will be launched in four month cycles beginning in November next year.

All four survey catamarans will be based in Cairns to complement the work of existing hydrographic ships, HMAS MORESBY and HMAS FLINDERS.

SECOND PATROL BOAT FOR PAPUA NEW GUINEA

Papua New Guinea received its second Australian designed and built Pacific Patrol Boat from the Chief of Naval Materiel, Rear Admiral Barry West, at an official hand-over ceremony near Fremantle, Western Australia, on 31 October.

The $3 million HMPNGS Dreger, was presented to PNG's Acting High Commissioner, Mr Evou Lalutute, during a formal ceremony at the Australian Shipbuilding Industries shipyards where the boats are being built.

Dreger is the third patrol boat completed under the largest Defence Co-operation project undertaken by Australia.

Up to 14 of the 31.5m long vessels displacing 165 tonnes, with an operating speed of at least 20 knots and an economical operating range of some 2,500 nautical miles, will be built at a total project cost of $61.7 million (at December 1986 prices).

The project followed a pledge by the Prime Minister, Mr Bob Hawke, at the 1983 South Pacific Forum meeting in Canberra, to provide specially designed vessels to patrol the exclusive economic zones (EEZs) of the island States.

The first patrol boat, HMPNGS Tarangau, was presented to PNG by the Prime Minister in May. A second boat, RVS Tukoro, was handed over to Vanuatu one month later to form the nucleus of the Vanuatu Police Force Maritime Wing.

In addition to their primary fisheries, customs and quarantine surveillance tasks, the new boats will significantly improve the capability of the island nations to conduct disaster relief, search and rescue and medical evacuation as well as police and inter-island VIP transport tasks.

The project also enhances the Australian Government's objective of boosting regional maritime surveillance capabilities.

An important aspect of the patrol boat project is that Australia will provide a two-year spares support package for each boat, advisers and regional maintenance support facilities to assist the countries to bring their boats into service. The project also provides intensive crew training in Australia for the boat's complement of base staff, as well as a crew of three officers, two senior and nine junior sailors.

The project will strengthen Australia's practical defence links with regional countries and help encourage a sense of regional co-operation between island States, especially in the surveillance of their EEZs.

A fourth patrol boat, Nafanua, is scheduled to be handed over to Western Samoa next March.

SOVIET UPDATE — A PICTORIAL

Tango class submarine.

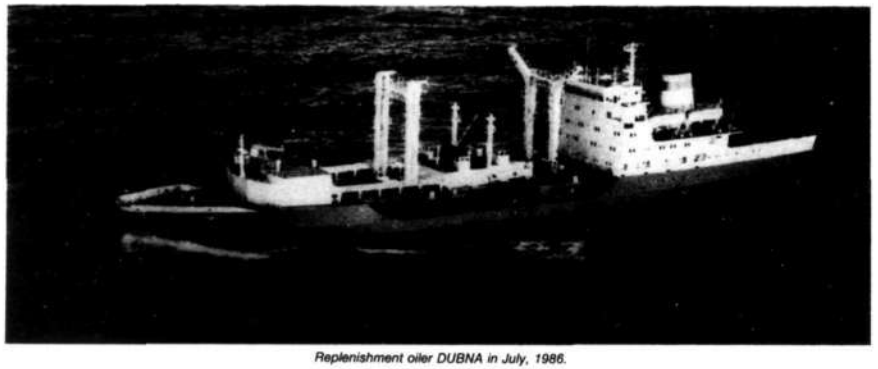
Soviety Sovremenny class DDG, OTLICHNNY, in March, 1986.

Udaloy class guided missile destroyer.

SOVIET UPDATE — A PICTORIAL

Zubov class intelligence gathering ship SSV-468.

JUPITER, a Moma class intelligence collection ship.



Replenishment oiler DUBNA in July, 1986.

SOVIET UPDATE — A PICTORIAL

Naval research ship IVAN KRUZENSHTERN in February, 1986.

Kashin class DDG (modified) SLAVNY under way.

Moma class, SELIGER.

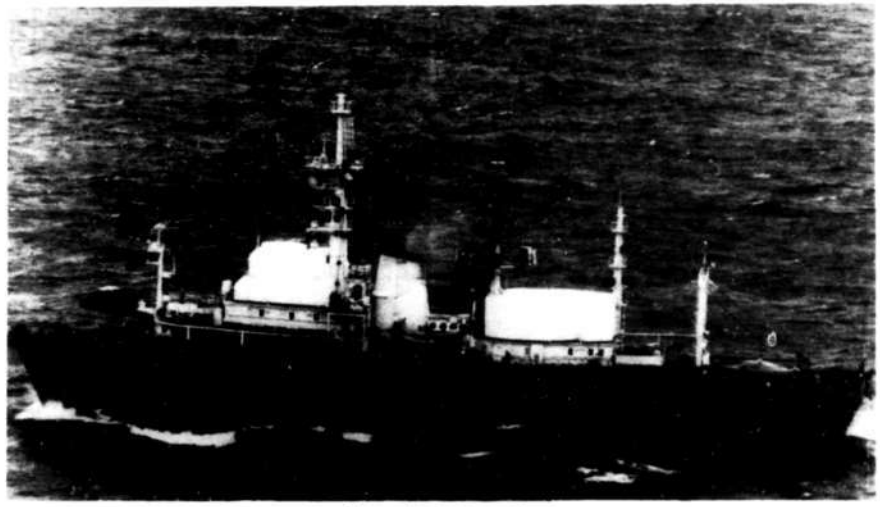
SOVIET UPDATE — A PICTORIAL

Replenishment oiler OLEKMA.

BAKAN, a Mirny class intelligence ship.

Oceanographic research ship BALKHASH in November, 1986.

SOVIET UPDATE — A PICTORIAL



Primorye class intelligence ship.

BOOK REVIEWS

BY ACHERON

"Iowa Class Battleships"
By: **Malcolm Muir.**
Published By: **Blandford Press.**
Review Copy from: **Capricorn Link.**

The ressurection of the United States Navy's Iowa class battleships heralded a dramatic increase in interest in these 1944-45 vintage capital ships. Armed with a new array of weapons and electronics, the ships were designed to lead Surface Action Groups, to relieve the strain on the larger carrier forces, to provide the mariness with a strong shore bombardment capability and to counter the new Soviet Kirov class nuclear-powered battlecruisers.

As one ship, and then two, and three of the class commissioned, naval authors have set their sights on the publication of a number of studies of the world's last active battleships.

This particular book is a smaller format publication of 150 pages, which details the origin, service, out of commission, modernisation and current status of the Iowa class.

The book is illustrated by a selection of fine black and white photographs depicting over four decades of history. Despite the age of the four ships, each battleship has only served between 10 to 15 years on active commission and thus have a life expectancy beyond the turn of the century.

As well as the historical descriptions of both war and peacetime activities, the author reports on the technical/modernisation aspects of the class, including data related to the main armaments, both past and present.

All in all I strongly recommend "Iowa Class Battleships".

"Warships Illustrated No 12 British Cruisers in World War One"
By: **R. A. Burt.**
Published by: **Arms & Armour Press.**
Review Copy from: **Capricorn Link.**

In 120 photographs the author describes and illustrates the gradual development of the Royal Navy cruiser force, ships of the period from 1888 through to those laid down during 1917, but completed too late for war service.

The RAN's cruisers, transferred from and built in Britain, are included with the first SYDNEY, MELBOURNE and BRISBANE — all depicted. Some of the earlier ships which formed part of the Australia Station are also included.

For a modest outlay of $12.95, readers can obtain this excellent visual and technical publication.

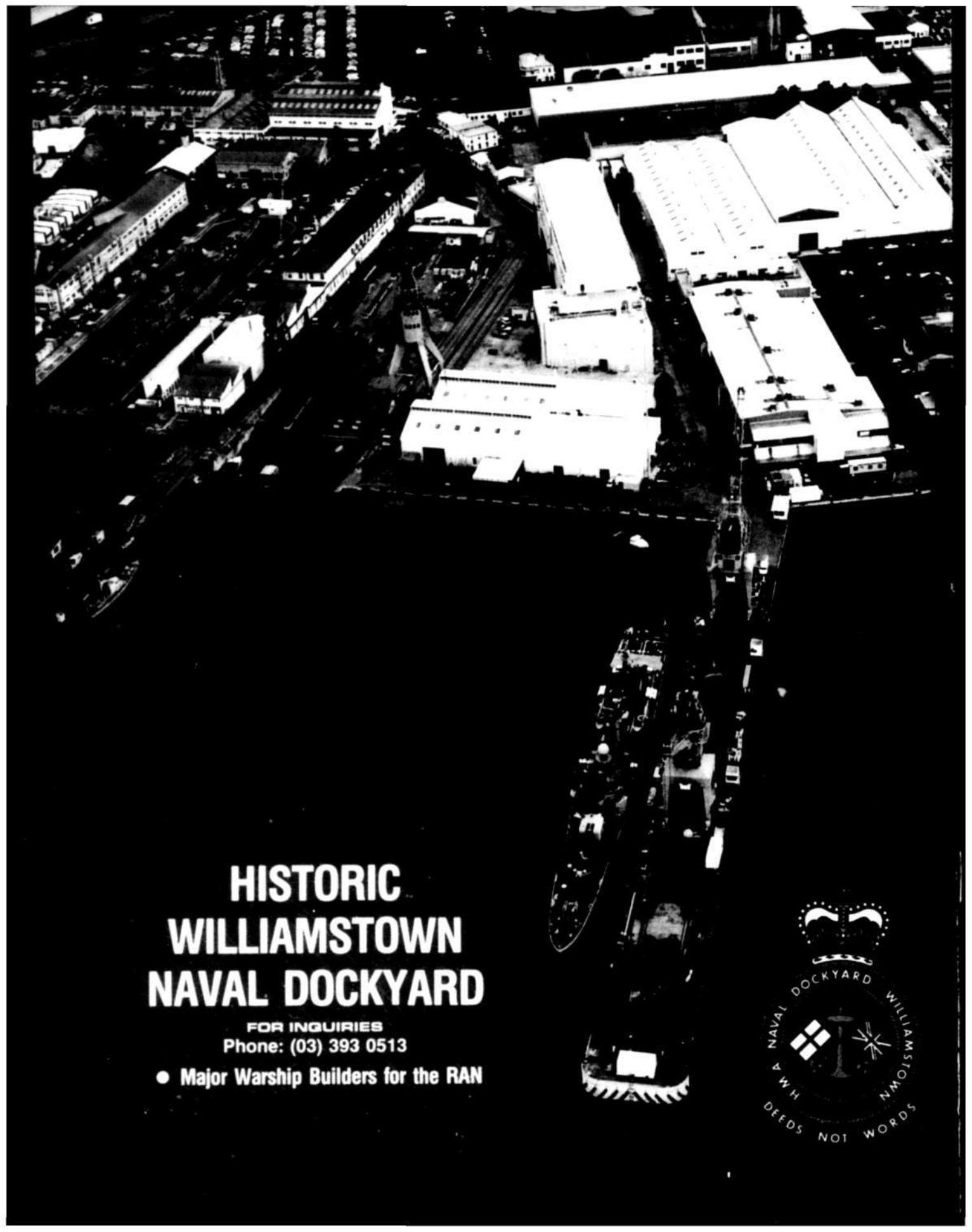
"The Postwar Naval Revolution"
By: **Norman Friedman.**
Published By: **Cornway Maritime Press.**
Review Copy from: **Princeton Books.**

From the striking colour front cover onwards, this latest book of Norman Friedman's contains a plethora of previously unknown or 'misplaced' facts. The author concentrates on the numerous post-1945 naval construction plans of the allied nations of USA, UK, France, Canada and even Australia, describing and illustrating new construction and even Australia, describing and illustrating new construction and conversions.

An excellent example of the work put into the post-war navies is highlighted by possible Royal Navy missile ship designs. From 1953 to 1955 up to 24 new designs were considered in just three years.

The book is sub-divided into ten chapters, including: Money, Politics & Strategy, Carriers and Naval Aviation, Mine Warfare, plus a selection of five appendices with No IV highlighting the strengths of the major powers from 1939 to 1957.

Well-dawn side profiles of new ships and concersions of war-built tonnage are generally highlighted by adjacent tabular descriptions.



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THE NAVY LEAGUE OF AUSTRALIA

OFFICE OF THE
FEDERAL PRESIDENT

ANNUAL REPORT

The following report of the Federal President was presented to the Annual General Meeting of The Navy League of Australia at the Melbourne College of Advanced Education, Carlton, Victoria, on Friday, 13 November, 1987

Ladies and Gentlemen.

I commenced my 1985 report to the League by saying the preceding 12 months had been a period of consolidation, and my 1986 report by remarking that the corresponding period had been the busiest I could recall so far as the Navy League was concerned.

I look back on the last few months of 1986 and 1987 to date, the period covered by this report, with mixed feelings.

On the one hand there are positive things to note, on the other one must express disappointment at the lack of public response to the effort the League and other organisations and individuals put in to promotion of the maritime cause.

STATEMENT OF POLICY

In the early part of the year under review maritime defence policies agreed by the Council at the 1986 meeting in Canberra were printed and circulated to those most concerned with defence matters and subsequently published in the April-June issue of 'THE NAVY'. They were republished virtually in full by PACIFIC DEFENCE REPORTER and noted in part by some newspapers but without comment (it would be nice to think this was due to total agreement with the League's aims but I think it is more likely that apathy about defence was the real reason).

The Statement of Policy, 27 items in all, is comprehensive and quite specific about the League's objectives. Some objectives have been actively pursued during the year, a very considerable amount of attention being given the question of Australian Flag merchant shipping. Because the objectives are so comprehensive and the League's administrative resources are limited, I intend to ask the Federal Council tomorrow to establish a list of priorities.

DEFENCE WHITE PAPER

The Government's defence policies were decided and published about twelve months after Mr. Paul Dibb completed his review of Australia's capabilities. There were no real surprises, the most notable change (from the Dibb review) being a re-statement of Australia's close defence ties with the United States. My review of the White Paper is contained in the July-September issue of 'THE NAVY'.

MEMBERSHIP

The prevailing financial climate and media community disinterest in defence generally are not helpful to defence-orientated organisations; nevertheless there has been a small net increase in membership:

	1985-86	1986-87
A.C.T.	21	24
N.S.W.	313	323
Q'land	162	160
S.A.	70	80
Tas.	70	88
Vic.	262	265
W.A.	224	206
N.T.	11	11
	1133	1157

THE NAVY MAGAZINE

'THE NAVY', about to enter its 50th year of publication, is undoubtedly the League's greatest asset in the sense it is our channel of communication, not only among ourselves but between the League and the public. Not many organisations have a "quality" publication to publish its views.

According to the NSW Division's Magazine Management Committee, the magazine is currently on a sound financial footing despite increased publishing costs, and it is worth mentioning that during the RAN's 75th Anniversary fleet review week, Naval Reserve Cadets sold no less than 3600 copies of a special run and earned the NRC $1800 in so doing.

Although 'THE NAVY' is eagerly sought by Navy League members and Cadets, few Divisions have organised themselves to feed NLA and NRC items to the Editor — either that or they miss the deadline and the item becomes outdated. It is up to the Divisions if they wish to read about their own and other Divisions' activities.

The quality of 'THE NAVY' today is due very largely to the work of the present part-time editor, Ross Gillett, who with the next issue will have held that important office for ten years. Congratulations Ross and many editorial returns of the day!

OVERSEAS VISITS

Last year, you will recall, Vice-President Andrew Robertson attended the Navy League of New Zealand's Annual Conference in Auckland. This year we are very pleased to welcome the President of the New Zealand League, Mr. Denis Jagger-Smith, to our Melbourne Meeting. Mr. Jagger-Smith will be accompanied on the visit by his wife.

COMMUNITY AWARD AND NRC MOST EFFICIENT UNIT AWARD

These annual awards were won by HMAS COONAWARRA (Darwin) and TS FLINDERS (Pt. Pirie) respectively. The administator of the Northern Territory (Commodore Eric Johnston) presented the shield to COONAWARRA and the Chief of Naval Personnel (Rear Admiral Tony Horton) presided at Pt. Pirie. The League was represented by the Divisional Presidents in the Northern Territory and South Australia, Don Schrapel and Milton Morris.

EDUCATION PROJECT

This important project is progressing, largely due to the efforts of a NSW Division Sub-Committee consisting of Andrew Robertson, John Grover, Bob Myors and Ian Thomas. Estimated to cost $100,000 eventually, one major sponsor has provided $30,000 and the Australian National Maritime Association has agreed to sponsor a segment which will cost $16,000. The project and the need for more financial support will be discussed by the Federal Council at its Melbourne Meeting.

NAVAL RESERVE CADETS

The Director of Naval Reserves and Cadets (Captain Tim Lewis, RAN) has provided a brief on the current state of the NRC, a copy of which is attached to this report.

It is hoped that a unit, supported by the League, will be formed in Darwin in the not-too-distant future. A great deal will depend upon the availability of funds.

FINANCIAL

While the Council's funds are reasonably healthy, too much of the financial weight of pursuing the League's objectives is being borne by the New South Wales and Victorian Divisions. It is unsatisfactory to note Divisions with subscriptions in arrears. The Honorary Treasurer will report on this matter.

ADMINISTRATION

The growth of the Navy League and extent of its activities in recent years have placed a very heavy burden on office-bearers and committee members, particularly in the amount of time they contribute; so far as the Federal administration is concerned the limit has been reached. I will therefore be asking the Federal Council to establish a sub-committee to look to the future of the League and recommend appropriate administrative reforms to enable the League to continue its work in what I believe is the national interest.

COLLEAGUES

I once again acknowledge the support of my colleagues, the Federal Vice-Presidents, Divisional Presidents and the Honorary Secretary/Treasurer in particular. I also wish to express the Council's and my personal appreciation of the support provided by the Deputy Chief of Naval Staff, Rear Admiral Neil Ralph, AO, DSC, RAN, who for the third year in succession has been nominated as the Chief of Naval Staff's representative at the Federal Council meeting. No other serving officer has had this experience and one can only hope it has done Admiral Ralph no harm!

F.G. EVANS
Federal President

Text of the brief provided by the Director of Naval Reserves and Cadets for inclusion in the Annual Report of the Federal President.

Complements/Manning Levels

A review of all NRC Unit complements was undertaken earlier this year and resulted in a majority of Unit complements being altered to reflect their current manning levels. The review also released sufficient vacancies to allow two new Units (TS CARPENTARIA, Thursday Island and TS STUART, Elizabeth SA) to be formally recognized by the Chief of Naval Staff to date 1 September 1987. Complements for these Units are 60 Cadets and 40 Cadets respectively. In addition, approval in principle has been granted to a group in Beenleigh, Qld and, subject to meeting all criteria for formal recognition, it will become a Unit of the NRC with a complement of 40 Cadets on 1 March 1988.

Units

The distribution of Units throughout Australia and the current total complements are:

State	No. of Units	No. of Cadets Allowed	No. of Staff Allowed	
			Off.	Inst.
QLD	13	730	45	50
NSW ACT	15	680	49	46
VIC	7	360	26	25
TAS	6	240	21	18
SA	8	400	29	27
WA	9	450	33	30
Totals	58	2860	203	196

As the total number of members is within the allowed manning level, there is scope for growth in existing Units and possible recognition of a further Unit in the future.

Administration

A conference of NRC Senior Officers from each State was held in Navy Office in May 1987. This conference allowed each State to discuss proposed policy changes and other matters affecting the Units in their areas.

Sail Training

Whilst the Corsair Sail Training Craft is the official craft used by Units for sail and boat pulling training, many Units have obtained other craft so that more members can undergo training at one time. The pruchase of suitable craft for formal training and the necessity to obtain a suitable safety boat involves Units and Unit Committees in many fund raising activities.

NRC Bicentennial Training Camp

A NRC Bicentennial Training Camp will be held in Sydney 17 – 27 January 1988. Approximately 550 Cadets from all States will participate in the training activities and in other planned events including visits to the Tall Ships.

Bicentennial Events

Members of the NRC are expected to be involved in the many Bicentennial events planned for 1988. Units in and near Brisbane will also be supporting the Australian Expo 88 and are in much demand for ceremonial events.

The Navy League of Australia Annual Efficiency Trophy

The most efficient Naval Reserve Cadet Units selected by the respective Local Naval Authorities in each State will be inspected by DNRC in October/November. The Units are:

TS BARWON	Geelong, VIC
TS BUNBURY	Bunbury, WA
TS EMU	Burnie, TAS
TS FLINDERS	Port Lincoln, SA (1986 holder)
TS PIONEER	Mackay, QLD
TS TOBRUK	Newcastle, NSW

The decision concerning the award of the Trophy will be made by CNS in December 1987 and it is planned that the Trophy will be presented during the NRC Bicentennial Training Camp in Sydney in January 1988. The Navy League of Australia will be advised further when the selected Unit and details of the presentation are known.

T.E. LEWIS
Captain, RAN
Director of Naval Reserves and Cadets

The Navy League of Australia

APPLICATION FOR MEMBERSHIP

HISTORICAL

In 1950, encouraged by the Australian Commonwealth Naval Board, the Navy League of Australia was established as a means of facilitating the development of the Australian Sea Cadet Corps.

Since that time, Divisions have been formed in every State, the Australian Capital Territory and the Northern Territory.

The Navy League of Australia is now one of a number of independent Navy Leagues formed in countries of the free world to influence public thinking on naval matters and create interest in the sea.

The Navy League of Australia cordially invites you to join us in what we believe to be an important national task.

MEMBERSHIP

Any person with an interest in maritime affairs, or who wishes to acquire an interest in, or knowledge of, maritime affairs and who wishes to support the objectives of the League, is invited to join

OBJECTIVES

The principal objectives of The Navy League of Australia are:-

- To keep before the Australian people the fact that we are a maritime nation and that a strong Navy and a sound maritime industry are indispensable elements of our national well-being and vital to the freedom of Australia
- To promote, sponsor and encourage the interest of Australian youth in the sea and sea-services, and support practical sea-training measures
- To co-operate with other Navy Leagues and sponsor the exchange of cadets for training purposes

ACTIVITIES

The Navy League of Australia works towards its objectives in a number of ways

- By including in its membership leading representatives of the many elements which form the maritime community
- Through soundly-based contributions by members to journals and newspapers, and other media comment
- By supporting the Naval Reserve Cadets, and assisting in the provision of training facilities
- By encouraging and supporting visits by recognised world figures such as former United States Chiefs of Naval Operations and Britain's First Sea Lords
- By publishing "The Navy", a quarterly journal reporting on local and overseas maritime happenings, past, present and projected
- By maintaining contact with serving naval personnel through activities arranged during visits to Australian ports of ships of the Royal Australian and Allied Navies
- By organising symposia, ships' visits and various other functions of maritime interest throughout the year

Member participation is encouraged in all these activities

JOINING THE LEAGUE

To become a Member of The League, simply complete the Application Form below, and post it, together with your first annual subscription of $12.00 (twelve dollars) (which includes the 4 quarterly editions of "The Navy"), to the Hon Secretary of the Division of the Navy League in the State or Territory in which you reside, the addresses of which are as follows:

NEW SOUTH WALES DIVISION: GPO Box 1719, Sydney, NSW, 2001.
VICTORIAN DIVISION: c/- 9 Cullinton Road, Camberwell, Vic, 3124
QUEENSLAND DIVISION: C. 42 Gilgandra Street, Indooroopilly, Qld, 4068.
AUSTRALIAN CAPITAL TERRITORY DIVISION: c/ 45 Skinner Street, Cook, ACT, 2614.
SOUTH AUSTRALIAN DIVISION: GPO Box 1529, Adelaide, SA, 5001.
TASMANIAN DIVISION: C. 42 Amy Road, Launceston, Tas, 7250.
WEST AUSTRALIAN DIVISION: c. 23 Lawlor Road, Attadale, WA, 6156.
NORTHERN TERRITORY DIVISION: GPO Box 2612, Darwin, NT, 5794.

Subscriptions are due on 1st July in each year, and your membership will be current to 30th June immediately following the date on which you join the League, except that if your first subscription is received during the period 1st April to 30th June in any year, your initial membership will be extended to 30th June in the following year

THE NAVY LEAGUE OF AUSTRALIA
Application for Membership

To The Hon Secretary
The Navy League of Australia

..... Division

Sir or Madam,

I wish to join the Navy League of Australia, the objectives of which I support, and I enclose a remittance for $12.00 being my first annual subscription to 30th June next

Name
(Mr)
(Mrs) .....
(Ms) PLEASE PRINT CLEARLY
(Rank)

Street ..... Suburb .....

State ..... Postcode .....

Signature ..... Date

Subscriptions are due on 1st July in each year, and your membership will be current to 30th June immediately following the date on which you join the League, except that if your first subscription is received during the period 1st April to 30th June in any year, your initial membership will be extended to 30th June in the following year

JOIN THE NAVAL RESERVE CADETS

If you are between the ages of 13 and 18 years:

The Naval Reserve Cadets provide for the spiritual, social and educational welfare of boys and girls and help to develop in them character, a sense of patriotism, self-reliance, citizenship and discipline.

Uniforms are supplied free of charge.

Cadets are required to produce a certificate from their doctor to confirm they are capable of carrying out the normal duties and activities of the Cadet Corps. If injured while on duty, Cadets are considered for payment of compensation.

Parades are held on Saturday afternoon and certain Units hold an additional parade one night a week.

The interesting syllabus of training covers a wide sphere and includes seamanship, handling of boats under sail and power, navigation, physical training, rifle shooting, signalling, splicing of wire and ropes, general sporting activities and other varied subjects.

Instructional camps are arranged for Cadets and they are also given opportunities, whenever possible, to undertake training at sea in ships of the Royal Australian Navy.

Cadets, if considering a sea career, are given every assistance to join the Royal Australian Navy, Mercantile Marine or the Royal Australian Naval Reserve, but there is no compulsion to join these Services.

For further information, please contact the Senior Officer in your State, using the addresses provided below.

NEW SOUTH WALES: Staff Office Cadets, HMAS Watson, Watsons Bay, NSW, 2030.

QUEENSLAND: Staff Office Cadets, HMAS Moreton, Box 1416T, GPO, Brisbane, 4001.

WESTERN AUSTRALIA: Staff Office Cadets, HMAS Leeuwin, PO Box 58, Fremantle, WA, 6160.

SOUTH AUSTRALIA: Staff Office Cadets, HMAS Encounter, PO Box 117, Port Adelaide, South Australia, 5015.

VICTORIA: Staff Office Cadets, HMAS Lonsdale, Rouse Street, Port Melbourne, Vic, 3207.

TASMANIA: Staff Office Cadets, HMAS Huon, Hobart, Tas, 7000.

AUSTRALIAN CAPITAL TERRITORY: Commanding Officer, TS Canberra, PO Box E52, Queen Victoria Terrace, Canberra, ACT, 2600.

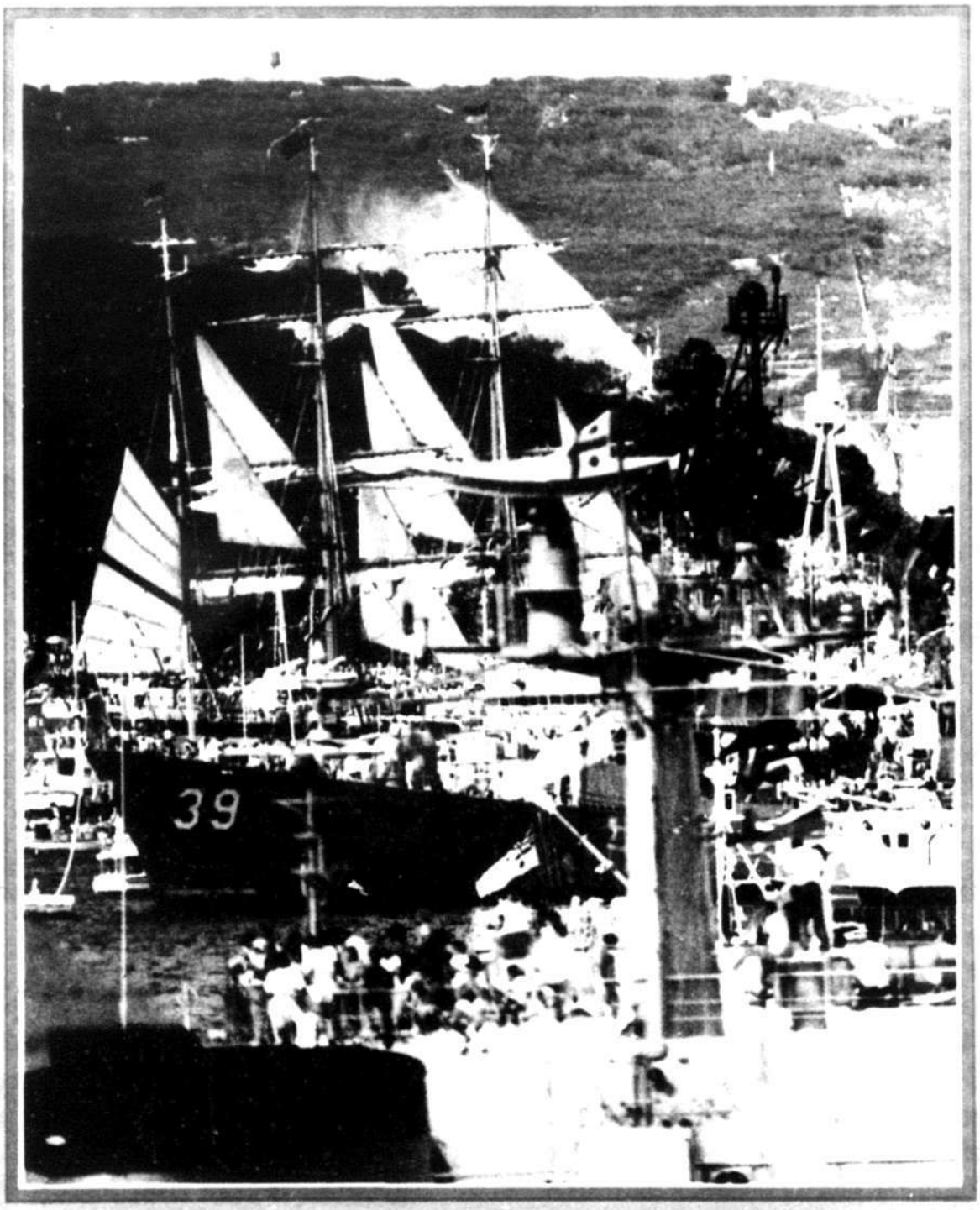
Registered by Australia Post Publication No NBP 1482

APRIL-JUNE 1988

THE NAVY

The magazine of
THE NAVY LEAGUE OF AUSTRALIA

$2.50



50 YEARS: 1938-1988

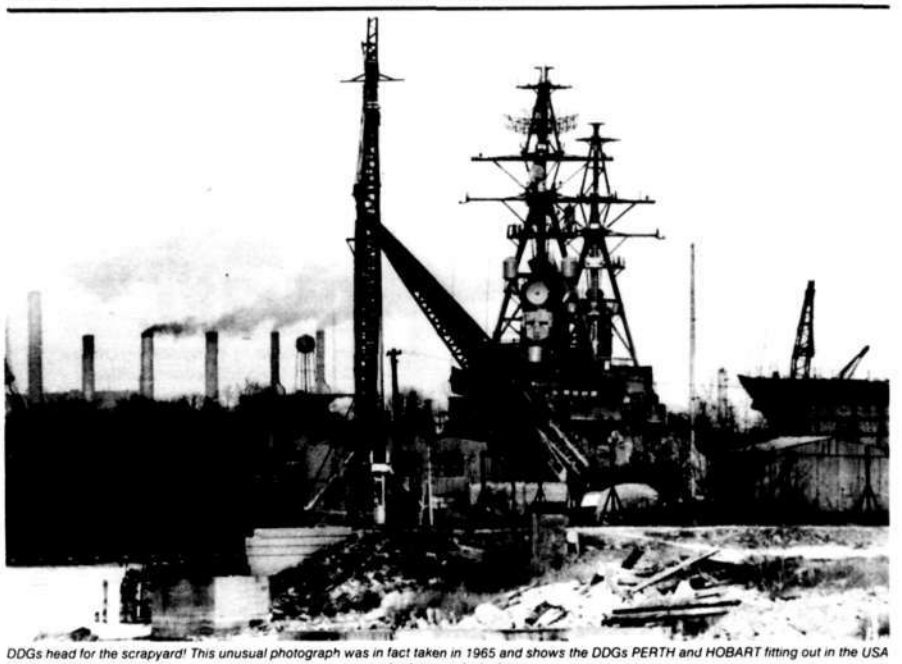
THE NAVY

EDITOR
ROSS GILLETT
PO BOX 653
DEE WHY, NSW 2099

Registered by Australia Post Publication No NBP 1482

The magazine of the Navy League of Australia

Vol 50 APRIL–JUNE, 1988 No 2



DDGs head for the scrapyard! This unusual photograph was in fact taken in 1965 and shows the DDGs PERTH and HOBART fitting out in the USA prior to commissioning.

ADVERTISING AND PUBLICATION
Percival Publishing Co Pty Ltd
(Incorporated in NSW)

SYDNEY
862 Elizabeth Street
Waterloo, NSW 2017
Phone (02) 699 6231

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1st Floor, 71 Palmerston Crescent
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Our Cover Photograph

Australia Day, Sydney Harbour, 1988. Three RAN Fleet units were photographed by navy photographer CPO Bob Ferrall during the departure of the Tall ships.

Printed by Maxwell Printing Co Pty Ltd (Incorporated in NSW), 862 Elizabeth Street, Waterloo, 2017
Phone 699 2600

CONTENTS

viewpoint

"Fitted for but not with . . ."

For those unfamiliar with naval parlance, this means that a warship has been built with space or certain facilities provided which enable particular equipment to be installed at a later date — when the item becomes available, is considered necessary or can be afforded, quite often the latter, in the meantime the ship operates without the equipment and has a lesser capability than it might otherwise have.

TOWARDS the end of 1987, the Navy League issued a statement supporting the Government's decision to make available an RAN Mine Clearance Diving Team to assist in mine clearance operations in the Persian Gulf. The Navy acted with commendable rapidity and since February, a 20-man team, including eight members specially trained in Britain by the Royal Navy to deal with the types of mine found in the Gulf, has been standing by in Australia ready to go into action if required.

In the same statement the Navy League expressed doubts about the wisdom of sending surface warships to the Gulf, a suggestion that had also been put forward. The League pointed out that the most suitable ships, the guided-missile destroyers and frigates, were not properly equipped to operate in an area where missiles were causing loss of life and damage to warships and merchantmen alike. The destroyers lacked a close-in-weapon system and the frigates appropriate helicopters, essential equipment in a hostile environment. In a practical sense the Government lacked this option, although it has to be said that political considerations not infrequently override practical reasoning.

The question of what equipment to install from the outset in the new surface combatant (the ANZAC Ship Project) will no doubt soon arise if it has not done so already. Although described as a "second tier" warship (destroyers and frigates being the first tier and patrol boats the third) given the number of ships planned, eight for the RAN and possibly four for the RNZN, and the published project cost of $3.5bn for the Australian group, it seems likely the ships will enter service with much less than a full outfit of equipment — *"fitted for but not with"* — and they will be less capable and versatile than they could be.

OVER the years it has not been uncommon for governments to assume and naval authorities to hope that time would be available to rectify deficiencies in warships, so that at the moment of need they would be in a proper state of readiness and not required to perform tasks beyond their known capabilities. Unhappily the seabed world-wide is littered with the wrecks of ships and the bones of sailors sent on hopeless missions only partly prepared because, in the event, there WAS no time and there was nothing else to send.

The cost of maintaining the Australian Defence Force is high and it would be even higher if the whole Force had to be kept at anything like instant readiness. Some elements however must be *"ready to go"* at very short notice and among these is the Navy's surface combatant force; it's ships must also be ready to go anywhere Australia's interests can be served and not restricted to "safe" areas. However, before a Government exercises the option a naval surface force can often provide in a widerange of circumstances, it has a duty to ensure the ships are properly equipped to perform the task they are given without the lives of our sailors being placed at unnecessary risk.

FEDERAL PRESIDENT

NEW NAVAL HYDROGRAPHIC SHIPS

Monday 1st February, witnessed the beginning of construction in Port Adelaide of four Australian designed survey motor launches for the Royal Australian Navy.

The four ships, worth $18.7 million, will form a new class of hydrographic ships to be known as the Paluma class. The first ship, HMAS Paluma, will be commissioned in November, this year, to be followed by HMA Ships Mermaid, Shepparton and Benalla by November, 1989.

The new vessels will be specially designed catamarans fitted out for work in the shallower and often restricted waters of northern Australia where they will assist HMA Ships Moresby and Flinders.

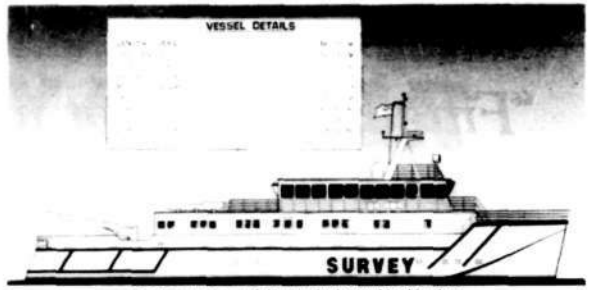
These waters are presently poorly charted except for recognised shipping lanes. Most of the information in the present charts of northern Australia are based on surveys carried out last century.

The local design of the new launches is expected to attract considerable overseas interest. They will be outfitted with the latest maritime survey equipment and will be capable of conducting surveys in the waters of neighbouring countries and the south west Pacific islands.

The ships will be 36.7 metres in length with a beam of 13.7 metres, draught 1.9 metres and an average speed of 10 knots. They will be manned by three officers and ten sailors. All four ships will be based in Cairns and will work in pairs on task.

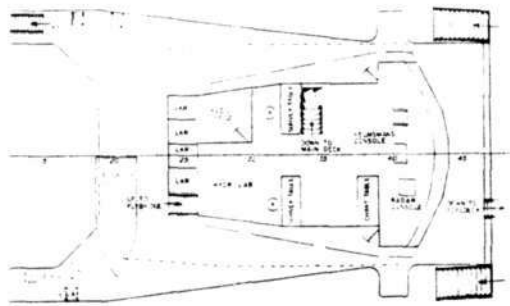
The names chosen have great historical significance in the development of hydrography in Australian and Papua New Guinean waters in both peace and war spanning from 1818 to 1972.

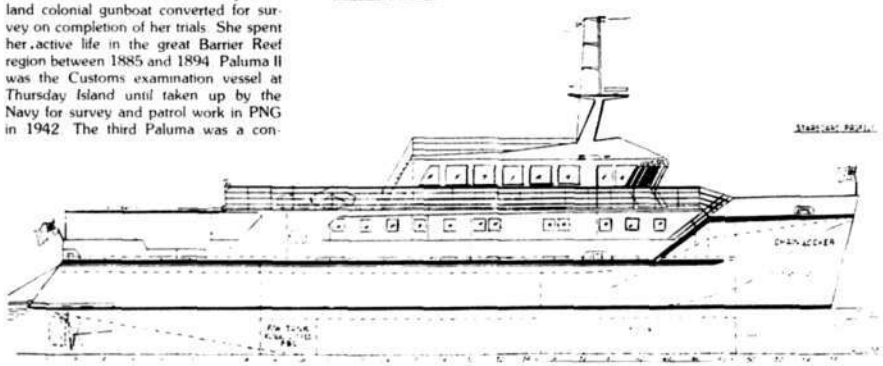
Paluma will be the fourth survey ship to bear the name. Paluma I was a Queensland colonial gunboat converted for survey on completion of her trials. She spent her active life in the great Barrier Reef region between 1885 and 1894. Paluma II was the Customs examination vessel at Thursday Island until taken up by the Navy for survey and patrol work in PNG in 1942. The third Paluma was a converted motor stores lighter in commission between 1958 and 1972, spending the greater part of her life in the Great Barrier Reef, Torres Strait and PNG.



Artist's impression of the new hydrographic ship class.

Mermaid will be the second survey ship in Australian waters to carry the name. Her illustrious predecessor was the diminutive cutter Mermaid commanded by Philip Parker King, during his monumental survey of the 'Inter Tropical Coasts of Australia' between the years 1818 and 1824. Other distinguished early Australians to serve in Mermaid during this period were Lieutenants John Septimus Roe, later first Surveyor General of Western Australia and John Oxley, Surveyor General of New South Wales and leading light in the exploration for and settlement at Brisbane.





Shepparton and Benalla's predecessors were the Bathurst class Corvettes converted for wartime surveys on commissioning in 1943. They spent their active lives surveying in advance of the allied landings in PNG and through to the Philippines during World War II. Other work in areas ranging from Fremantle across northern Australia to Moreton Bay was conducted in the aftermath of the war until they finally decommissioned in 1946.

Description and Role — SML Approved characteristics

A twin engine vessel capable of making ocean passages is required. It is to provide a stable platform for hydrographic surveying work in the sea conditions likely to be encountered in northern Australian waters. The vessel is to be capable of operating standard hydrographic surveying sensors and position fixing systems.

Its primary role is to undertake hydrographic surveys in Australian waters, those of neighbouring countries and in the islands of the South West Pacific region in depths from 5 to 5000 metres.

The secondary role is to be able to assist civil authorities in search and rescue, disaster relief and in limited surveillance operations. A continuous working speed of not less than 12 knots is required for the vessel at full load displacement in working condition (sonars deployed/extended), in calm seas, six months out of dock in tropical waters.

A slow speed capability with both engines operational for speeds of about 4 knots and upwards is required for periods of up to 3 hours with minimal degradation to the machinery and its performance.


The first HMAS BENALLA.

An endurance of 288 hours at working speed is required with 20 percent of fuel remaining.

The vessel is to be capable of operating without replenishment for 14 days and have 20 percent of stores, fuel and water remaining. During this period some of the time could be spent alongside, or at anchor or underway.

COMPLEMENT

1.10.1 The complement for the vessel will be 3 officers, 2 senior sailors and 8 junior sailors as follows:

1 LCDR/OR
1 LEUT
1 SBLT
1 POSR
3 ABSR
1 POMTP 3
1 ABMTP 1
1 LSETS 3
1 ABETC 2
1 ABCK
1 ABRO

MAINTENANCE

Each vessel will operate on a two year cycle having:

(a) 4 × 11 week and 2 × 12 week survey season each including a one week SMP.
(b) Four Base assisted maintenance periods.
(c) One funded 6 week AMP.
(d) One refit with docking.

STRUCTURE AND MATERIAL

The hull structure is to be of multi or mono hull displacement design. The hull is to be constructed in steel and the superstructure in steel or aluminium.

The watertight subdivisions are to be positioned to meet the requirements of the RAN stability criteria.

ACCOMMODATION REQUIREMENTS

Accommodation is to be provided as follows:

(a) 3 Officers, one as CO and a double cabin.
(b) 2 Senior Sailors, one double cabin.
(c) 10 Junior Sailors, in 2, 3, 4, or 5 berth cabins.

ACCOMMODATION STANDARDS

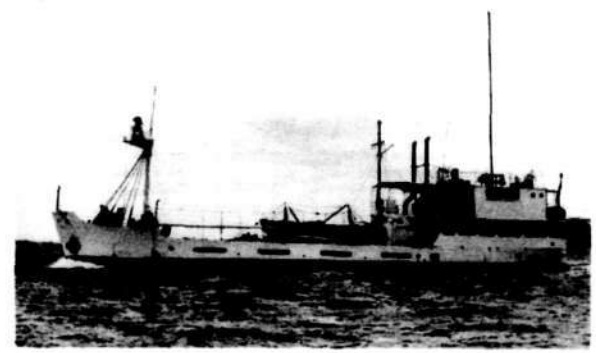
A high standard of accommodation is required as the vessels will be required to operate for long periods in remote localities where few facilities are available.

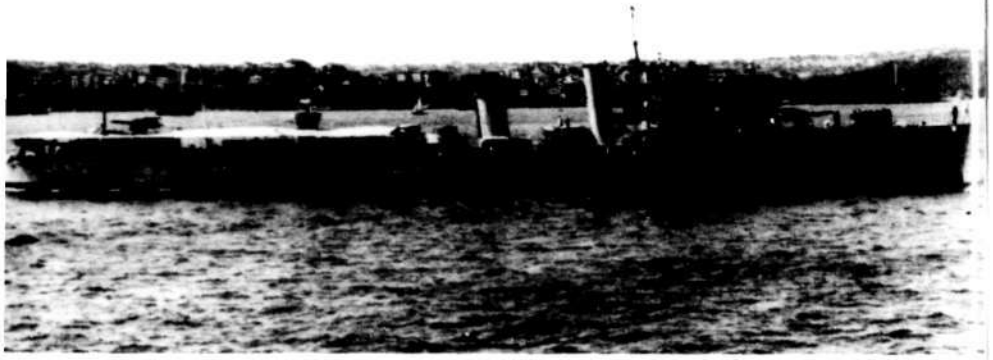
TOWING

Towing arrangements are required to allow the vessel to be towed and to tow a vessel of similar size.

UNDERWAY REPLENISHMENTS

No requirement exists for underway replenishment other than a clear area aft for landing personnel and stores from a helicopter.


HMAS PALUMA (III)
(Photo — J. Y. Freeman)



HMAS VENDETTA.

MURPHY'S LAW

From the memories of a seaman called MURCHIE

THE Prime Minister of Australia, Joseph Aloysius Lyons, had died, and after due ceremony in Sydney, was to be transported to his home town in Devonport, Tasmania. His relatives wished him to be buried in the local cemetery, and to get the body there was the job for a ship, as in those days there was a scarcity of aircraft large enough to carry the coffin and, of course, all the floral tributes the citizens of Sydney had contributed.

My ship was chosen to perform the task, and in less than 24 hours' notice the ship's company was put to work readying the vessel for the trip to Devonport. Coats of paint were quickly slapped on those parts of the ship which were the worse for wear, and, since all eyes were upon us for a short time in both Sydney and Devonport, the Captain required the ship to be like a new pin.

We fairly quickly worked up a head of steam and moved to a berth at Circular Quay for final preparations. By the time the funeral cortege and immensely long procession arrived at the wharf where we lay, all on board were properly clothed and the ship was as smart as it was possible to be in the time we had been allowed. Because of this, there was much puffing out of chests by the crew and the Navy, indulged in an exercise of self-adulation.

As will be seen from the following, their warm and rosy thoughts were a mite too premature!

The first sign of things to come was when the personal priest of the late Prime Minister walked across the gangplank just ahead of the huge and ornate coffin which was being carried towards the ship by six quite large pallbearers.

The reverend gentleman was not only the largest priest I had ever seen, he was also the largest man of any classification I had ever seen. His height was proportionate to his bulk, which bordered on being gigantic. As he walked across the gangplank, it became evident that, if he didn't step clear of the miserably inadequate gangplank before the weight of the coffin and the pallbearers arrived, an unseemly accident would be inevitable.

I HAVE often wondered since that day if any of the thousand of people who lined the streets from St Mary's Cathedral to Circular Quay to watch the funeral procession, gave even the slightest thought of the possibility of anything happening which could jeopardize the dignified proceedings, either in Sydney or on the way to Tasmania. I think not! Most people would be disinclined to the viewpoint if only for the reason that there simply was no precedent in that regard. After all, State funerals are always carried out with military precision, and it is unthinkable that any or all of the carefully thought out arrangements could be put at risk.

That very wise Irishman by the name of Murphy laid down an inflexible rule which clearly says that: *"anything that can go wrong, will go wrong"*. This, at any rate, is the way it is usually theorized. I, together with the entire population of Australia, would have from the very outset laid mammoth odds that Murphy's Law could not (and would not) hold true for this most solemn of State occasions. It would have been preposterous to have suggested otherwise, and yet . . . ?

As it happened, all went well and the coffin was placed on the quarter deck, as far aft as possible so the people of Sydney could see it as the ship moved up the harbour towards the open sea. There had been anxious moments when the gangplank sagged alarmingly; but, with a little help from a dozen or so sailors, the job was completed with a minimum of fuss.

An almost endless chain of people carried flowers onto the ship and placed these beautiful arrangements on and around the coffin until they covered all quarter deck, some of the raised gun platforms, the torpedo tubes and the waist decks on either side of the funnels. There were so many of these floral tributes that it soon became obvious that their presence would assume a serious problem to the proper running of the ship.

Since the late Prime Minister was to be buried in Tasmania, some two and a half days away, it was obvious that the coffin and the body inside it would have to arrive there in *"mint condition"*, as it were.

I should say that even the lowliest sailor on board *"Vendetta"* knew by the time we reached the first swells outside the harbour that if the coffin stayed where it was there would be little chance of it arriving in Devonport in a fit condition to be handed over to the grieving relatives for burial in the local cemetery. If, as was distinctly possible, we were subjected to heavy weather on the way down the coast, then the chances were that the burial might conceivably be premature, at sea and without official ceremony!

Accordingly, before the ship reached Jervis Bay some ninety miles down the coast, the flowers had been thrown overboard and the coffin moved to an elevated gun platform between the two funnels. Because Joe Lyons, was our late lamented leader, it was essential that the lid of the coffin not be screwed down until it was lowered into the grave in order that identification of the body could be established by any citizen with a mind and a desire so to do.

Heavy seas en-route to Tasmania.

JOE was of considerable proportions, and his coffin was huge! To get this package from the quarter deck to the gun platform required many men and Herculean effort. Hacksaws were used to remove some of the guard rails around the platform, and the coffin was finally placed in position only to have, at the very last moment, the lid fly open to reveal our erstwhile leader resplendent in full evening dress and looking as though he was having a short nap before attending an important State function!!

At Devonport, our troubles started all over again, as our arrival coincided with an extremely low tide which left the gun platform several metres below the level of the wharf. To make matters even worse, the gangplank provided by the Port Authority was even flimsier than the one that had caused so much trouble in Sydney. This became obvious when the giant of a priest walked across the wharf to greet the City Fathers and the relatives of J. A. Lyons. The wretched thing sagged alarmingly, and the Captain had little alternative but to order twelve of us to improvise platforms on which to stand, so we could support the gangway as the funeral party, with measured tread, walked to the waiting hearse.

Joe was duly buried in his home town; and, so far as I know, everything went off without so much as a hitch. When it is considered what an important person he had been, the people responsible for this bizarre operation had little about which to congratulate themselves.

One shudders to think what the repercussions would have been had the coffin been washed overboard or even smashed up, as so easily could have been the case. Horror and revulsion would have been widespread throughout the land. As it was the hundreds of wreaths we threw overboard just after leaving Sydney were intended for the funeral service in Devonport; notwithstanding the effects of salt spray, sea air, sun and wind, and two and a half days delay in reaching our destination.

The vehicles that had been ordered to transport the flowers to the cemetery were hurriedly told to depart the scene before the omission was noted by the family and attendant dignitaries.

This whole bizarre episode is among my favourite memories, but because it falls in the category of being almost surreal, the retailing of it is something about which I have always exercised the greatest degree of caution; the reason being that there are a number of people who have vertical thought about most things in life, and would not be capable of slotting this story away under the heading of TRUTH. Fiction would be more their way of thinking. And so, when it seems appropriate that the story should be told, I always hope that my audience will be adept not only of thinking horizontally, but also of appreciating the absurd.

After all it seems to me not to be too cynical to hold that so many of the realities of life are, in fact, pure absurdities!

Looking aft from the bridge.

Auxiliary Minesweeper Brolga

AM BROLGA, arriving in Sydney, 25th February, 1988.

The Navy officially welcomed another mine warfare vessel to its Fleet in a ceremony at Brisbane on 10th February, 1988.

Mrs Anne Townsend, wife of the Naval Officer Commanding Queensland, cracked the traditional bottle of champagne across the vessel's bow at HMAS MORETON at New Farm on the Brisbane River.

Originally built by the Australian Shipbuilding Industries in *Fremantle, Western Australia, as the lighthouse maintenance ves*sel LUMEN in December, 1975, the former Department of Transport and Communications vessels was purchased for $410,000 having been laid up since April, 1987. She was officially handed over to the RAN on 2nd February, 1988.

BROLGA sailed for Sydney on 24th February, arriving at Pyrmont in Sydney Harbour on 25th. After brief maintenance she will act as the trials vessel for the Phase 1A and part of 2A development of an Australian Minesweeping Capability.

AM BROLGA was named after one of the first fishing vessels taken up in 1917 for service as an Australian Auxiliary Minesweeper during World War I.

As MV LUMEN, BROLGA was a lighthouse tender based at the Navigational Aids Section, New Farm, Brisbane, and worked mainly in Torres Strait and North Queensland, supporting both manned and unmanned lights. Her major task was the re-supply of acetalene for the lights. As solar technology developed many of the lights were converted from gas to electricity and she became redundant.

The Department of Transport and Communications offered LUMEN for disposal, having been found no longer cost effective in her role. The minesweeping project was intending to lease vessels over the next two years to trial various minesweeping and surveillance developmental equipments. Thus, when MV LUMEN appeared on the market, she presented a far more cost effective solution.

AM BROLGA, arriving in Sydney, 25th February, 1988.

Bridge

BROLGA
1917-1918

The first BROLGA joined the RAN in October, 1917, having been built in Great Britain as a Castle class trawler. With her sister ships GUNUNDAAL and KORAAGA, the trio swept for mines laid by the German raider WOLF along the NSW and Victorian coasts. All three vessels were manned by the Naval Brigade. Post-war BROLGA was sold to New Zealand in 1923 and again in 1925, to the Coastal Trading Co Ltd of New South Wales. On 13th August, 1926, BROLGA was lost after striking a reef off the Victorian coast.

BROLGA is a 28.45 metre-long, steel-hulled, fishing-type vessel with crew accommodation for 17 personnel. Her top speed is 10.5 knots and at dead slow can make 7 knots. She is powered by a Mirrlees Blackstone 8 cylinder, 4 stroke diesel, developing 540 bhp.

BROLGA displaces about 263 tons gross. She features a large block forward for accommodation and the bridge, while aft are twin funnels.

In her role as a trials' vessel she will be Sydney-based and normally will be crewed by considerably less than her 17 personnel capacity.

The crew will be drawn from the minesweeping project development team which is based at the Material Research Laboratory (Sydney) at Pyrmont.

As a temporary acquisition for the RAN, BROLGA is expected to continue as a trials vessels only until late 1990.

Stern view at Brisbane, prior to her departure.

HMAS DURRAWEEN, a sister ship of the first RAN auxiliary minesweeper BROLGA

TALL SHIPS PICTORIAL

The Tall ships begin their race from Hobart to Sydney

JUAN SEBASTIAN DE ELCANO with HMAS Canberra, sails down the River Derwent towards the race start.

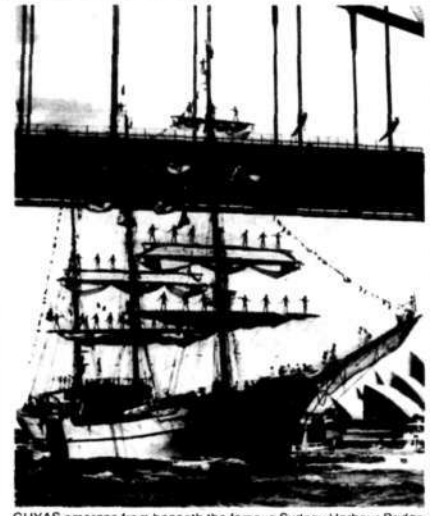
From Western Australia, the Sail Training Ship LEEUWIN II
(Photo — John Mortimer)

USCG Cutter EAGLE sailing towards Sydney.
(Photo — John Mortimer)

YOUNG ENDEAVOUR

TALL SHIPS PICTORIAL

Poland's majestic tall ship contribution DAR MLODZIEZY.



GUYAS emerges from beneath the famous Sydney Harbour Bridge with her crew manning the masts.

The compact GUYAS, complete with ship's band.

Another harbour scene of 26th January, 1988. HMAS CANBERRA occupies the centre with HMAS COOK and patrol boat to the right. The sailing ship above CANBERRA is the Japanese NIPPON MARU.

The Spannish JUAN SEBASTIAN DE ELCANO in Sydney Harbour.

ANZAC SHIP PROJECT

NEW FRIGATES FOR NAVY

by A. W. CRAZEBROOK

Navy has selected two basic designs of light frigate for detailed study prior to choosing a new type of vessel to replace the existing River Class ships in the Tier II role. It is planned to build eight ships, five to replace Rivers and three to replace Fremantle class patrol boats.

The Royal New Zealand Navy is participating in the selection process with a view to ordering four ships to replace their existing Type 12 frigates.

The types selected for detailed study are:

- West Germany's Blohm and Voss' Meko 200PN
- The Netherlands Royal Schedle Yard's M Class

Under the RAN's proposal to acquire, within rigidly fixed budget constraints, the eight ships initial armament is specified for both types:

- One gun
- One vertical launcher point defence missile system
- One close in weapons system
- Fitting for but not with surface launched ASW torpedoes
- Fitting for but not with cannister launched surface to surface guided missiles
- Capability to house and operate one Seahawk S70B2 helicopter

For selection both types were required to meet specified speed and range minima.

As the armament, sensor, speed and range capability are at the same minima for both ships, the decisive factors of difference are likely to be:

- Cost
- Extent of "risk" in design, hull, machinery and combat systems
- Feasibility of construction outside the country of design
- Commonality of weapons systems and machinery with equipment already in service with the RAN/RNZN
- Survivability
- Feasibility of adaptation to the needs of both the RAN and RNZN

COST

As always, this aspect is vitally important. Navy has been given a fixed budget and are seeking the best value for money they can get within the budget. Emphasis is likely to be on initial cost as governments are notoriously three year minded regarding costs. Through life cost should also be important.

Very little information is released about costs of specific types, for obvious commercial reasons. The general belief is that the M Class are more expensive than the Meko 200PN.

It is important to recognise that total project cost, not the sale away cost of each ship, is the cost that is considered when comparing two proposals.

RISKS

The risks concerned are those of the ship type selected costing much more than expected, or failing in performance when the ship actually enters service.

In general, it is said that the more innovative the design, construction method, weapons systems and/or propulsion systems the greater is the risk that something will go wrong. It is for this reason that Navy has declared a preference for proven designs.

In terms of risk, both contenders are well placed.

Royal Schelde and their predecessors have built continuously since World War II frigate sized warships for the Royal Netherlands Navy. Their M Class design has resulted from a *"symbiosis between seamanship, well constructed ships and modern equipment"* to quote the present Chief of the Royal Netherlands Navy's Naval Staff.

MEKO 200 frigate.

The Dutch yard is strong on design and building skills, with excellent user navy input from one of the world's most professional medium sized blue water navies.

Although Royal Schelde have built frigate sized ships for foreign navies (including Greece) they have not provided design and management services for building overseas. However, the Dutch design agency CEVESBU, in which Royal Schelde have an interest, have provided warship design services for overseas navies (including India's current project 15 frigate). Further, another Dutch company — Verolme — is currently building warships in Brazil. The Netherlands' shipbuilding industry is well backed up with design and research services and works very closely with the Royal Netherlands Navy's naval technical services.

Blohm and Voss (Australia) Pty Ltd who are making the West German proposal for the Anzac Ship Project, are a majority owned subsidiary of Blohm and Voss in Hamburg and Thyssen Rheinstahl Technik of West Germany. BVA's Meko 200PN has been built in West Germany and is now performing well on trials with the Turkish Navy. Two further units are building in Turkey with orders for further ships under negotiation.

For West German Navy user input, the West German F122 frigate experience is being used by Blohm and Voss. For their next generation of frigate, the F123, the West German Navy has specified the Meko type modular concept and mod 3 features. The modular concept has been specified for the NATO NFR90 frigate, which is being designed to fill the frigate needs of up to eight NATO navies.

In overseas construction, Blohm and Voss are strong. They have their current Turkish and Argentine experience and, through their sister company TNSW, submarine experience in Argentina. Their involvement in the Meko 200 project for Portugal will be particularly beneficial as it requires the integration of combat system components from several different nations.

BVA claim that their modular concept is particularly suitable for the ANZAC ship project as it facilitates New Zealand industrial participation.

In summary, although in somewhat different ways, both the M Class and the Meko 200PN offer the RAN and RNZN both proven construction methods, strong user navy input and overseas experience. The risk element is not great with either contender, but is highest possibility in the combat systems integration area.

COMMONALITY

The commonality requirements of the RNZN and RAN differ. The ANZAC ship project will replace the entire RNZN surface warship strength. The RNZN is free to choose a new generation of hull, machinery and combat systems. They have no commonality problem.

The RAN ships need to maximise equipment with that already in service with the FFG7s, and, to a lesser extent, the DDGs.

This suggests that the successful contender for the ANZAC order will have

- The OTO Melara 76mm or 5 inch gun
- A Phalanx or derivative close in weapons system
- Harpoon surface to surface guided weapons facility
- Mark 32 surface launched torpedo tubes with the successor to Mark 44 torpedo
- A naval combat data system fully compatible with the RAN's FFG7s

As the RAN's existing Point Defence Missile System (Seacat) is obsolete, a new one must be identified. This may well be Sea Sparrow, which has some compatibility with planned RAAF equipment.

The propulsion system requirement is less clear. Ideally, the RAN would like both gas turbine and diesel (CODAG or CODOG) but this would be expensive. The RNZN is understood to be happy with diesel alone. Neither the RAN nor the RNZN have standardised on any particular make of diesel, so the competition for diesels for the ANZAC ships appears to be open.

Both the Meko 200PN and M Class are well placed on commonality with equipment already in service in the RAN, as this table shows:

	Meko 200PN	M Class
Gun	1 5in Mk45	76mm OTOMelara
SSGW	Harpoon	Harpoon
PDMS	Vert. Sea Sparrow	Vert. Sea Sparrow
CIWS	Seaguard	Goalkeeper
Torpedo tubes	Mark 32	Mark 32
Helicopter	AB212	Sea King size
Propulsion	MTU diesel	gas turbine & diesel
Full load	2750 tons	3320 tons
Complement	about 140	about 140

Helicopter size is an influential factor. The RAN must have a hangar big enough for the Seahawk S70B2. The RNZN is free to choose as their existing Wasps will exceed life of type by the time the ANZAC ships enter service.

Although the Turkish Meko 200 is designed for AB212 helicopters (smaller than the S70B2), the Portuguese version of the Meko 200 is capable of housing two helicopters. The Meko 200 PN can be modified to handle the S70B2.

SURVIVABILITY

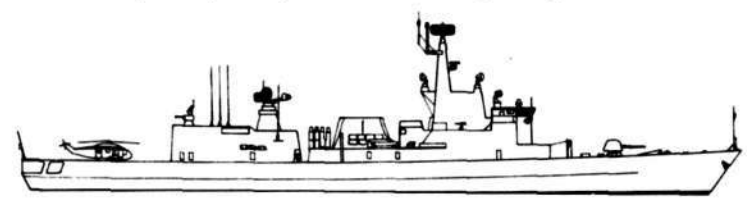
It is difficult to compare two ships' survivability. There is no common measure for comparison purposes. However, the British Falklands experience demonstrated the importance of survivability. This experience was made available to other NATO navies and the RAN/RNZN. It can be assumed that survivability will receive appropriate priority in the ANZAC ship selection.

RAN & RNZN

Although the two navies are very close friends, and there has been extensive co-operation at operating level over many years, only limited commonality of equipment has been achieved in the last two decades. Although the RNZN's Type 12 frigates look very similar to Australia's Rivers, their armaments and sensors are very different.

The ANZAC ship project is the opportunity to achieve this commonality, which has enormous benefits — both financial and operational.

That is not to say that it will be easy. However, the fact that both navies and both governments perceive the enormous benefits is a big advantage.



"M" Class Dutch "M" class. *(Scale 1 : 1 200) Royal Netherlands Navy*

A Lesson in Maritime Co-operation

by Captain HUGH HARKINS, Master Mariner, Brisbane

The Falkland campaign demonstrated to the British Nation its reliance on the Merchant Navy.

It also showed that when the nation has a crisis how well the Royal Navy and Merchant Navy perform, how well they co-operate and the mutual respect each has for the other.

This lesson must be developed in Australia.

In all, Britain deployed 51 warships; 171 naval aircraft, 22 Royal Fleet Auxiliaries and 50 merchant ships, giving a ratio of 1½ merchant ships to every navy ship.

THE BEGINNING

At 1800 on Sunday, 4th April 1982, Her Majesty the Queen approved an Order in Council at Windsor Castle setting in motion the operation of retaking the Territory of the Falkland Islands.

It was the start of an event which has no recent maritime parallel. Some 50 merchant ships were taken up in the ensuing weeks in support of the Royal Navy in Operation Corporate with a speed and urgency which had not been seen since World War II.

Extraordinary personal initiative were taken and responsibilities accepted in order to get ships adapted quickly to their new roles and this was the key to the success of the project.

No one in Britain had ever, in recent years, envisaged mounting an opposed amphibious assault 8000 miles from home ports against a strong enemy and without allies or friendly bases near at hand.

Official defence policy had indeed ruled it out entirely since 1966 and the Fleet itself was reducing its surface warship strength following the Government's 1981 White Paper.

Thus from the outset, the merchant fleet was being used at least in part, to make good the lack of warships in ways never tried before and for which there was little experience on which to draw.

Merchant ships taken up from trade (STUFT) performed the following roles:

Troopships and Assault Ships
Tankers
Repair ships
Aircraft Ferries
Ammunition and Stores Ships
Dispatch Vessel
Minesweeper Hunters and their support ship
Tugs
Hospital ships
Mooring Vessel
Royal Fleet Auxiliaries

EXTRAORDINARY SHIPS

With the possible exception of the Aircraft Ferries the most interesting vessels to be taken up from trade were the Repair Ships. The modern Merchant Navy has some remarkable and strange vessels and nowhere more so than in the offshore oil industry. It quickly became obvious that the Royal Navy would need major repair facilities for battle-damped ships, and with no friendly bases within 5000 miles and no repair ships of its own they looked to the offshore oil industry and rapidly found what they wanted.

THE 1980's built 6061 ton Stena Seaspread and her near sister ship Stena Inspecter (which was taken up at a later date) are both designed as multi-purpose diving and surface support vessels. Each has five propellers enabling them to move forwards, backwards, or sideways. They have a maximum forward speed of 16 knots and a range of 21,000 miles without refuelling. A computerised dynamic positioning system enables them to keep their position automatically with an accuracy of three metres in winds of up to Force 9 under the control of a taut wire dropped to the sea bottom, a microwave line of sight bearing and distance system, or a sudsea acoustic transponder bearing and distance system.

They are very robustly built to the highest first class specifications and with a tank stabilising system which can reduce roll by up to 75 per cent. The open main deck has a clear working area of 190 ft. by 56 ft. with fitted workshop and storage facilities; craneage up to 100 tons; crew quarters for 112, a cinema, hospital, gymnasium, deep diving facilities, welding facilities, a helicopter deck, and air conditioning for both tropical and arctic conditions. With the Stena Seaspread's arrival at South Georgia on Sunday 16th May, they set about resurrecting the old whaling station repair facilities. The galley and messhall were soon back in working order, two of the smaller generators were restored and they found a mass of steel of all varieties useful for future repair work. *On the fourth day she was abruptly ordered to move up* closer to the Falklands to help the increasing number of battle casualities. Her first customer was the frigate HMS Brilliant which had been damaged considerably on 21st May by cannon fire and had a number of fractured electric cables including those for her lethal Sea Wolf missile system. She was followed by the destroyer HMS Glasgow which had been hit by a bomb. In all, Stena Seaspread dealt with 11 warships which had received battle damage; 24 warships, RFAs and merchant ships on routine maintenance or repairs and worked on 4 captured enemy vessels.

The Stena Seaspread was replaced by her sister ship the Stena Inspector on 26th July.

The Stena Inspector, apart from mundane repairs, carried out some very specialised work including replacing a main aerial in the destroyer HMS Birmingham in a 35 knot wind. The Dockyard at home has said this could only be done in calm conditions. That it was possible at all was due in part to the extraordinary skill of the Merchant Navy crane driver. Another job involved changing the Olympus gas turbine in HMS Southampton. Both repair ships contributed fundamentally to the success of the Task Force in action and to its continuance in the Falklands after the Argentine surrender.

Both repair ships became a byword, steaming sideways at 4½ knots and positioning themselves alongside, but just clear, with absolute precision and accuracy. Their efficiency was eloquently demonstrated by the way HMS Plymouth's crew spontaneously cheered Stena Seaspread when she had completed her repair.

Without question they must have opened a new era in naval thinking by showing, for the first time at close quarters, what can be achieved with radical and innovative designs and by the enthusiastic co-operation of their crews.

CONCLUSION

Admiral Sir John Fieldhouse, GCB, Commander-in-Chief of the Fleet during Operation Corporate, put the case clearly: I cannot say too often or too clearly how important has been the Merchant Navy's contribution to our effort. Without the ships taken up from trade, the operation could not have been undertaken, and I hope this message is clearly understood by the British Nation.

REFERENCE:
Merchant Ships at War. The Falkland Experience. Captain Roger Villar DSC. RN(rtd.)

APPENDIX 1:

TOTAL SHIPS TAKEN UP FROM TRADE

Troopships and Assault Ships	10	
Tankers	15	
Repair Ships	2	
Aircraft Ferries	4	
Ammunition and Stores Ships	7	
Dispatch Vessel	1	(An all weather cable laying vessel.)
Minesweeper Hunter and Support Ship	5	(Deepsea Trawlers built for Arctic operations.)
Tugs	1	
Hospital Ship	3	
Mooring Vessel	1	
Royal Fleet Auxiliary	1	
	22	

NORLAND requisitioned for the transport of both men and equipment.

CANBERRA, used as a troop transport.

FIRST WOMAN COMMANDING OFFICER OF RAN BASE

The Minister for Defence Science and Personnel, Mrs Ros Kelly, has welcomed the appointment of the first woman to command a Royal Australian Navy establishment.

Lieutenant Commander Elizabeth Coles was appointed Commanding Officer of the Reserves Training Establishment HMAS Lonsdale in Melbourne from February 15, 1988.

Lieutenant Commander Coles takes over from Commander Warren Hamlyn, who is retiring after 25 years in the Navy.

She joined the RAN as a nursing officer in 1975 and will be promoted to Commander in June, this year. She has been the base's Executive Officer since last September.

BOOK REVIEWS

AUSTRALIAN AND NEW ZEALAND WARSHIPS SINCE 1946

by **Ross Gillett**
Published by **Child and Associates**
Reviewed by **Joe Straczek**

Australian and New Zealand Warships Since 1946, by Ross Gillett, continues on from where the author's highly successful book Australian and New Zealand Warships 1914-1945, left off. As with the first book, this book is divided into three basic parts covering Australia, New Zealand and a series of Appendices. The two parts dealing with Australia and New Zealand are each prefaced with a small introduction covering the development of both fleets since the end of the Second World War. This is followed by the sections dealing with the ships of the RAN, RAAF, Australian Army and RNZN. The ships sections contain an introductive narrative for each ship/class followed by technical details of the various vessels. The third section of the book contains appendices which contain information on RAN ship-borne radars, Australian and New Zealand naval aircraft, ship's pendant numbers and the numbers of ships constructed over the period.

As this book is in essence a continuation of the book that covers the period 1914 to 1945, then producing it to the same dimensions as the earlier volume would have been an advantage. However this may not have been possible.

One aspect of this book that any reader cannot help to notice are the excellent photographs and line drawings, particularly those of aircraft by Fred Haines, that abound throughout the volume. The dust-jacket of Australian and New Zealand Warships is illustrated by an excellent photograph taken in the late 1960s or early 1970s, showing HMAS SUPPLY and other Australian warships in company with one of the Navy's most famous ships, majestic MELBOURNE. This illustration sets the standard which is easily maintained by the remaining photographs. A large number of colour photographs from the 1960s have been published for the first time. One aspect which this reviewer personally found disappointing was the number of photographs where the bow or stern had been trimmed off by the editorial staff in an attempt to increase the photo size. Fortunately this does not detract from some of the more interesting photographs such as HMAS WOOMERA burning or

HMNZS INVERELL in Sydney in 1965.

All in all "Australian and New Zealand Warships Since 1946", is a well produced and illustrated publication which is highly recommended on its own or as a companion to the previous volume.

BRITISH SUBMARINES IN WORLD WAR TWO

by **P. J. Kemp**
Published by **Arms & Armour Press**
Review Copy From **Capricorn Link**

In this issue I review another of the Warships Illustrated series, this volume concentrating on the Royal Navy's submarine fleet of 1939-45. Many naval/nautical books concentrate solely on the ships and neglect detailed or internal view. "British Submarines in World War Two" is an exception, providing rare glimpses of the boats' torpedo bays, self-defence guns and operational and recreational areas.

From 1935 to 1945, British boats sank 493 and damaged another 109 enemy merchantmen, plus six cruisers, 16 destroyers, 35 submarines and 112 other men-o-war. Another 45 warships were damaged. The price of success was high — 75 out of the 215 submarines did not return from patrol.

Winston Churchill paid tribute: "Of all the branches of men in the Forces, there is none which shows more devotion and faces grimmer perils than the submariner."

MODERN COMBAT SHIPS — TYPE 22

by **Leo Marriott**
Published by **Ian Allen**
Review Copy from **Lothian Books**

A 112 page book, retailing in Australia for $35.00, "Modern Combat Ships — Type 22" is a technical, but very readable, appraisal of the Royal Navy's highly successful frigate class, the largest yet built for the service.

The book describes the evolution of the type, the programme of construction, the ship overall, machinery, anti-submarine capabilities, weapons and electronics, and a brief career of the units so far commissioned.

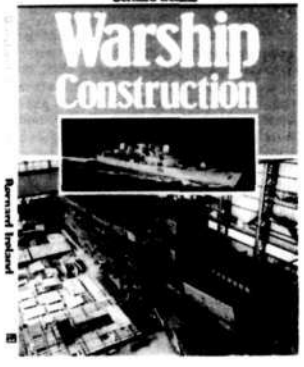
By the 1990s the Type 22s will have mounted a greater variety of weapons systems than any contemporary Royal Navy warship class. Three ship batches will ultimately comprise 14 units. The first/four units at 430 feet, the second six at 485.5 feet and the third at 485.5 feet but modified to mount a 4.5-inch gun, Harpoon missiles and the Dutch Goalkeeper close-in weapons system.

The text is supported by an excellent selection of photographs, including many detailed and internal views and a series of excellent line drawings of the ships and their equipment.

A well researched and well presented book.

WARSHIP CONSTRUCTION

by **Bernard Ireland**
Published by **Ian Allen**
Review Copy from **Lothian Books**



In spite of the sophistication and accuracy of today's anti-ship weaponry, the surface warship remains an effective and essential component of the defence capability of modern maritime nations. However, the increasing need for the containment of rapidly escalating costs, without loss of quality or performance, has presented designers with a formidable range of challenges and problems — the solutions to which are inevitably found only in a series of finely balanced compromises.

In *Warship Construction* author Bernard Ireland provides a detailed yet not over-technical account of the factors which influence the combat and sea-going capabilities of the vessels which equip the navies of today. The consequences of the choice of armament, power plant and electronics, the benefits and penalties resulting from the operation, stowage and maintenance of ship-borne aircraft, and the ability of a ship to withstand significant action damage without loss of operational effectiveness are all important design parameters which are closely examined by the author.

The design of today's multi-role fighting ships is one of the most interesting aspects of the defence industry. Warship construction offers a fascinating account of this process.

US WARSHIPS SINCE 1945

by **Paul H. Silverstone**
Published by **Ian Allen**
Review Copy from **Lothian Books**

In 1965, Paul Silverstone released his 440 page book "US Warships of World War II" and in 1970 the 360 page World War I edition. In 1986, these were followed by this new volume describing the ships in service at the end of the second war and those completed in the years since.

All types and classes of vessels are presented in a typical "Jane's" format, supported by a large selection of black and white photographs. The data provided is at the best sparce, with little attention given to notes describing the ships, their careers or alterations affected. However, this lack of commentary could be warranted as the number of vessels described is in the thousands, comprising over 300 classes.

As well as listing United States Navy ships the author has included craft of the Coast Guard, the National Oceanoic and Atmospheric Administration, plus a list of USN and Coast Guard losses from 1946 to 1986 and the annual shipbuilding programmes.

One important facet to arise from the book is the massive number of ships available to the USN for much of the period since 1946. Hundreds of the war-built ships remained in full commission into the 1960s and 1970s, whilst even greater numbers were preserved for future mobilisation. Even as the last of the war-built units paid off, many were subsequently transferred to allied navies.

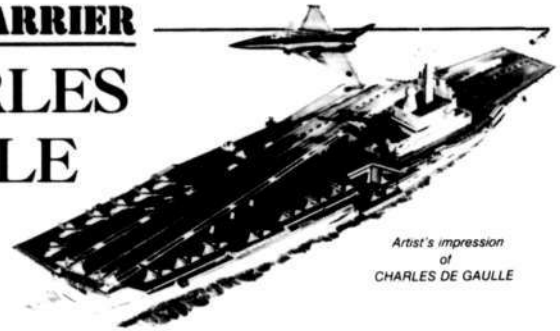
"US Warships Since 1945" retails in Australia for $60.00. The book measures 24cm × 17cm and spans 240 pages. Good value as a ready reference book, but definitely not for heavy reading.

The new Papua New Guinean patrol boat HMPNGS DREGER in January, 1988.

The big and the small. USS LONG BEACH towers over the destroyer escorts HMAS DERWENT and HMAS SWAN in December, 1987.

NEW FRENCH CARRIER

The CHARLES DE GAULLE



Artist's impression of CHARLES DE GAULLE

AT this time the naval aviation capability of the French Navy rests on two aircraft carriers, the Clemenceau and the Foch. These ships, in service since 1961 and 1963 respectively, launch a fleet of about 40 aircraft and are capable of active sea missions, both in sensitive areas and on vital maritime traffic routes. Although they have been subjected to frequent modernisation programmes to adapt them to the development of aircraft aboard ships and the requirements of modern warfare, the *Clemenceau* and *Foch* aircraft carriers will reach the end of their life cycle at the end of this century.

In September, 1980, a Defense Advisory Board decided to plan to replace them with two nuclear-powered aircraft carriers. In February, 1986, the order was given to begin work on the first unit, the Charles de Gaulle, to be put into service in 1996.

The initial studies took the capability of short-takeoff aircraft into account and as a result, deals with conventional-deck ships, ending with a ski jump.

However, it quickly became apparent that the V/STOL airplanes that could be produced were not powerful enough to meet the military requirements.

Therefore, the project opted for a traditional architecture similar to that of the *Clemenceau*, with an angled deck, two steam-driven catapults, three arresting gears and two elevators.

Along the same lines, in order to avoid cost overruns, it was necessary to limit displacement to 35,000 tons, about the same as that of the *Clemenceau* (32,000 tons). But that is where the similarities end between the two types of ships. The performance standards set in the military project, the technological progress in the area of ships and aircraft and the development of air and underwater threats, made it necessary to find new solutions for most of the following cases:

Aviation Facilities — The flight deck, hangar, support shops, fuel and ammunition on the Charles de Gaulle are adapted to support 35 to 40 aircraft of the 15-20 ton class (as opposed to 10-15 tons on the *Clemenceau*). The catapults and arresting gear are the same as those now installed on US Navy carriers, now under construction.

Propulsion — The ship is built around two water-pressurised nuclear propulsion units with a large trunk common with the new-generation nuclear missile-launching submarines. The maximum speed procured when both shafts are working is 27 knots.

Airplane Recovery Installations — Automatic arresting gear and stabilisation of platform movements, such as roll, yaw, lurch and list, will be used to increase the operational performance at night or in rought seas considerably.

Survivability — The ship's survivability will be increased by reducing its signatures (acoustical, radar and infrared), its *vulnerability (resistance to nuclear* blast, aggressive NBC threat, impulse electromagnetics, underwater explosions and missiles), and by the installation of powerful anti-aircraft self-defense systems (SAAM antimissile missile system) and anti-submarines systems (torpedo warning and decoy).

Finally, to ensure proper operation of such a complex unit, there will be a powerful information processing system installed that will cover all of the ship's functions. The system uses network-based architecture that makes interconnection possible between the computers and data banks. The system will be used in conjunction with action control, by combining the surveillance devices and ship combat devices for anti-aircraft and self-defense missions with the other components of the naval force; operations control, in conjunction with the land; aviation operations (an air base function); navigation; surveillance and energy-propulsion systems control; safety; use of external and internal links, and personnel and logistics management.

Project studies done by the DCN with the help of the Atomic Energy Commission for nuclear propulsion, have been completed. The **Direction des Constructions et Armes Navales** in Brest has been charged with building the *Charles de Gaulle* aircraft carrier. Initial supplies have been ordered and hull construction will begin this month. Official tests are scheduled for early 1995.

AUSTRALIAN NAVAL VISITS TO MALAYSIA

The Australian submarine HMAS Orion visited Malaysia for two weeks from February 15, 1988, for self-maintenance at the major Royal Malaysian Navy base, Lumut.

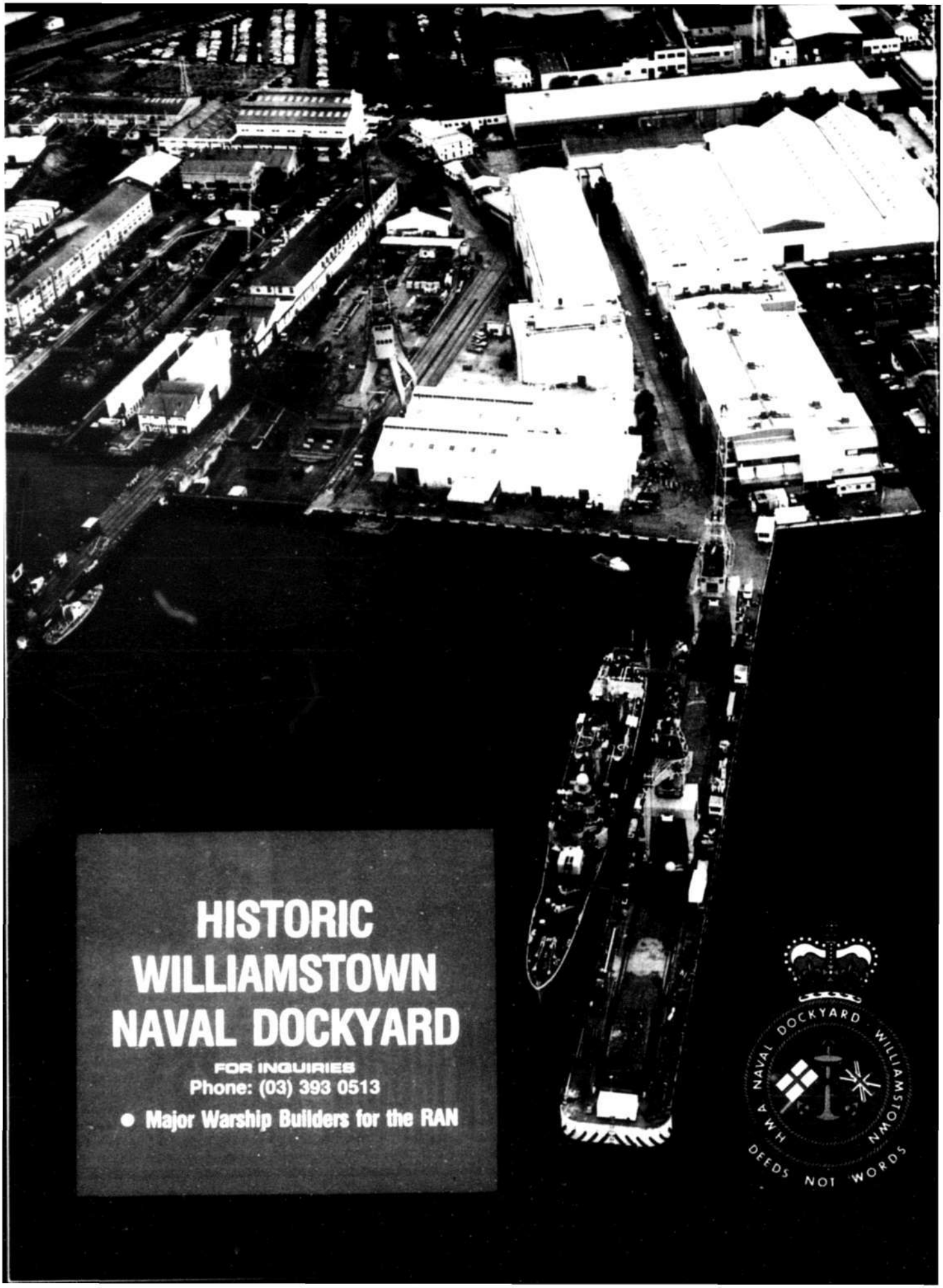
The destroyer escort HMAS Derwent was also scheduled to visit Lumut in March.

The visits follow a tour of Lumut by the Minister for Defence, Mr Kim Beazley, last November. At the time, he said he was impressed by the facilities and would seriously consider an invitation from the Malaysian Government for RAN ships and submarines to use them.

It is planned that the visits will be followed later in 1988, by rotational deployments of RAN ships to the *South East Asia region where they* will make full use of shore support facilities in both Singapore and Lumut.

"These deployments will substantially increase our naval contribution in the region by the continuous presence of a RAN major surface combatant. Our ships will also be readily available for local exercises and offer more opportunities for Australian participation with our *Five Power Defence* Arrangements partners," Mr Beazley said.

"The Australian Government believes that naval deployments are an important element of our co-operative activity with regional countries, given the mostly maritime strategic environment of the South East Asia area."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