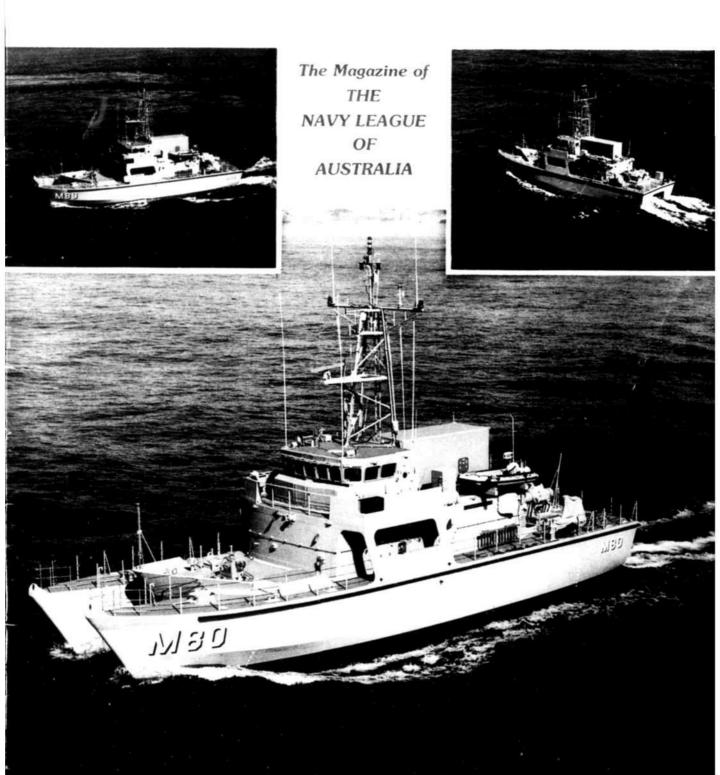
JANUARY, 1987

# THE NAVY





#### A LIMITED EDITION TRIBUTE IN SILVER-POLISHED PEWTER TO A GREAT FIGHTING SERVICE

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# THENAVY



EDITOR ROSS GILLETT PO BOX 653 DEE WHY, NSW 2099

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The magazine of the Navy League of Australia

Vol 49

JANUARY, 1987



HMAS COOK inspects USS OLDENDORF during the Naval Assembly and Fleet Review held in Sydney on October 4, 1986. In the background are HMCS SASKATCHEWAN and HMAS JERVIS BAY.

The opinions or assertions expressed in articles in "The Navy" are those of the

Our Cover Photographs

Council of The Navy League of a, the Editor of "The Navy" or The Royal Australian Navy.

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RUSHCUTTER during trials off Newcastle, prior to commissioning in late 1986. (Photo - Carrington Slipways).

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THE NAVY

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January, 1987



Cockatoo Island Dockvard in January 1986. Ships at the Dockvard include HMAS Success, HMAS Adelaide, HMAS Tobruk and HMAS Oxley.

## Cockatoo Dockyard Salutes The Royal Australian Navy On Its 75 Years Of Service

Throughout each of its 75 proud years, the Royal Australian Navy has had the support of Cockatoo Island Dockvard

HMAS Success, handed over in April 1986; is the 36th ship built for the RAN at Cockatoo and joins HMA Ships Stalwart. Torrens, Stuart and Parramatta which were delivered in earlier years and are still in service.

All six Oberon Class submarines have been modernised at Cockatoo, being extensively modified to use the Harpoon missile and the wire-guided MK48 Torpedo. Eleven major refits have been undertaken at Cockatoo since 1971

In addition the Dockvard does its share of repairing and manufacturing the hundreds of spares that a modern Navy

a job well done



Cockatoo Dockvard Ptv Limited

Condition Island, NSW 2000

# riempoint

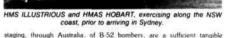
## THE DIBB REVIEW -SIX MONTHS ON

VIEWPOINT in the 1986 issue of THE NAVY contained the writer's first impressions of Mr Paul Dibb's Review of Australian Defence Capabilities which had just been made public.

Immediately following publication, the Review received a good deal of media attention, mostly favourable, although some aspects of the Dibb strategic assessment received critical comment. Some of the early comment was rather shallow, indicating a too-hasty reading of a farreaching report.

Viewpoint expressed the writer's opinion that the thrust of the Review would be interpreted abroad, particularly in the United States, as tending towards isolationism, reports indicate it was indeed seen in this way by the

Whether one likes it or not, the Australia-USA relationship is a vital factor in Australia's defence arrangements, and there is no reason to suppose the Hawke Government does not appreciate the fundamental importance of the relationship. It will be interesting, therefore, to see what the strategic overview of the forthcoming Defence White Paper has to say about the matter, and whether "the presence of the joint facilities, together with the access that we provide to visits by United States warships and the



contribution to the Alliance", are in fact, believed to be enough So far as regional responsibilities are concerned, the Government has

made it clear that Australia does accept some responsibility for helping to maintain stability in the area. Just how far it is prepared to back policy with the means to support it remains to be seen. The Dibb force structure proposals leave the present and planned

structure more-or-less intact. Of concern, are Mr Dibb's reservations about fully up-dating the F-111 aircraft and possibly reducing the capability of the new submarines for budgetary reasons. These are Australia's major deterrent weapons, and the decisions made will indicate the Government's feelings about the need for the Australian Defence Force to have a significant deterrent capability

Reference was made in Viewpoint, to the lack of importance attached to trade and the need to protect shipping. It is understood the extent of Australia's dependence on overseas trade, in times of emergency or war. is currently under examination. If, as seems almost certain, the importance of being able to move cargoes in and out of Australia (as well as around the coast) has been underestimated, it will be interesting to see what steps are taken to ensure naval and merchant ships are provided with adequate air protection, once out of the comparatively limited range of shore-based

The Government has much to ponder as a result of Mr Dibb's valuable Review - and so does the Opposition; it is all very well to say a Coalition Government would give the ADF more "bite", but in what way, and at what cost?

It would be nice to think Government and Opposition could together determine a defence policy consistent with the country's, by-and-large, bipartisan foreign policy. Defence is not an area in which political games can be played, at least not without risk to the participants, and perhaps more importantly, to all the spectators as well.

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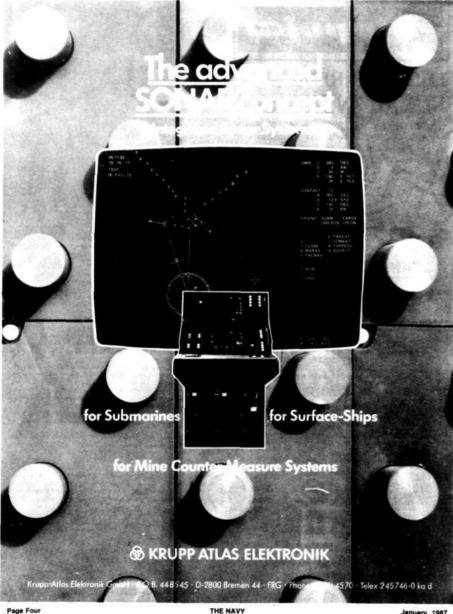
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## DEADLINE

The deadline for the April, 1987 issue of The Navy is **FEBRUARY 1, 1987** 

January, 1987 THE NAVY Page Three



## MINEHUNTER HMAS RUSHCUTTER COMMISSIONS

THE first of the new BAY class revolutionary minehunter catamarans being built for the Royal Australian Navy by Carrington Slipways of Tomago, NSW, was commissioned into naval service at a ceremony held at the firm's Fibreglass facility on Saturday, November 1. RUSHCUTTER, and her sister ship, SHOALWATER, which is at an advanced stage of construction, will be the first minehunters to join the RAN since HMAS CURLEW was converted from a minesweeper to a minehunter in 1968.

With the commissioning of RUSHCUTTER, the RAN will advance its minewarfare technology from 1950s capabilities to the latest state of art. The Navo's mine-countermeasures force had been allowed to run down over the past decade, and the recent Dibb report highlighted the lack of minewarfare capability as the major shortcoming in the present Naval force

When Carrington Slipways was awarded the contract to build the two prototype minehunters, a purpose designed Minehunter facility was constructed on a three hectare site on the northern bank of the Hunter River. The facility is air-conditioned and environmentally controlled to ensure that optimum conditions are maintained for GRP lamination and curing. A dust and styrene extraction system is also provided to ensure a clean working environment

Construction of RUSHCUTTER started in May 1984, and many new techniques and technological advances were incorporated in the building of the vessel. For example, the weight of the GRP used is computer controlled, and allows a constant amount of resin to be applied to each individual section. Carrington Slipways also developed in conjunction with ACI, a method of combining a chopped strand mat with a woven roving to speed up the construction time. This has resulted in the second vessel. SHOALWATER, being built in a shorter time than RUSHCUTTER.

THE minehunters were designed by naval architects in Navy Office. Canberra, and include many unique features which make them potential export dollar earners. The catamaran-shaped hull minimises the draught so that it can operate in very shallow and restricted waters and, combined with the Schottel propulsion units which rotate through 360°, makes the vessel very manoeuvreable and capable of minehunting amongst shipping in a crowded anchorage. All main machinery is located above the water line and the magnetic and acoustic characteristics are minimised

The Krupp Atlas Elektronik minehunting system fitted is fully computerised and can be operated by only two personnel. This combined with other modern technological advances allows a complement of only 13 personnel to man the vessel, a major reduction compared with the larger complements necessary in more conventional minehunters in service with overseas navies. Crew numbers are critical for smaller navies with limited manpower, as they cannot afford ships that are manpower intensive.

As a result of these features, considerable interest has been expressed both Middle East and Far East navies and Carrington Slipways have



been actively marketing overseas, seeking export orders. Presentations on the vessel have been given to several overseas navies and as a result foreign naval officers have visited the Fibreglass facility to see construction methods and gone to sea in RUSHCUTTER during shipbuilders' trials. The Department of Defence has actively supported Carrington Slipways' marketing activities, and when a team visited the Middle East in November, they were accompanied by a senior RAN minewarfare officer. who provided professional and operational expertise





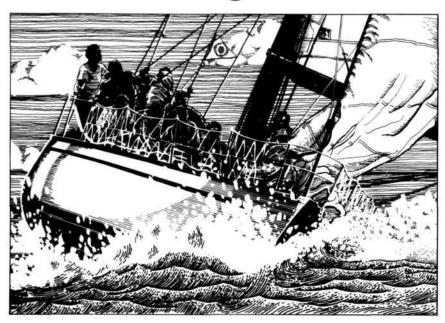
THE NAVY

THE NAVY

January, 1987

# ACIPYIDUX The original Yacht Acrylic.

# From Boom Covers to Tote Bags, It's Making Waves!



## Acrydux – Chosen by the America's Cup Challengers for their boom covers.

Acrydux by Bradmill – It's the tough, acrylic canvas made of 100% dope dyed colorfast fibre. Acrydux is water resistant and rotproof, and for those that worry about breathability, there's minimal sweating or condensation.

Because Acrydux is a synthetic it also features minimal shrinkage for boat covers, sail and tote bags – even mast and boom covers.

For more information on Acrydux and its many marine applications contact Bradmill Australia.



It is expected that the Government will order up to six further mindunters in 1988, when RUSHCUTTER and SHOALWATER will have completed extensive evaluation trials

## From The Minister

"The commissioning of HMAS RUSHCUTTER marks the start of the redevelopment of a strong mine countermeasures capability in the RAN, and may open important delence export prospects," the Defence Minister. Mr Beazley, said at the ceremony to commission the new minehunter into the RAN on Saturday, November 1, 1986.

"Our present inability to keep our waters clear of mines is, perhaps, the most glaring deficiency in the ADF. This government places the highest priority on remedying that deficiency.

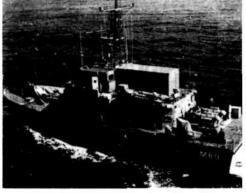
The RUSHCUTTER is the first prototype of the new and revolutionary Bay Class of vessels designed to hunt mines in the shallow waters of harbours and channels. It has a catamaran hull of glass-reinforced plastic with extremely low magnetic and acoustic signatures, and is equipped with the most advanced mine detection and mine disposal systems.

"HMAS RUSHCUTTER has been built by Carrington Slipways Pty Ltd of Tomago, near Newcastle, NSW."

Mr Beazley said \$88 million had been allocated for the construction of the special shipbuilding facility at Tomago, two prototype minehunters, with support infrastructure, and an extensive test and evaluation programme. Construction of the second prototype is well under way.

"The Navy will trial HMAS RUSHCUTTER and her sister ship (HMAS SHOALWATER) over the next year, to demonstrate their performance. Following successful completion of the trials, a production programme of some four vessels is planned.

"Because of its potential performance and low cost, there are excellent prospects for exports." Mr Beazley said. "In keeping with the Government's recent decision to assist Australian industry in the export of military products my Department is assisting the builders in their marketing efforts, and the Commonwealth is exploring ways of encouraging and assisting the company to exploit their advantage through commercial export sales. Within the limits of available specialist resources, and subject to full cost recovery, my Department can provide:

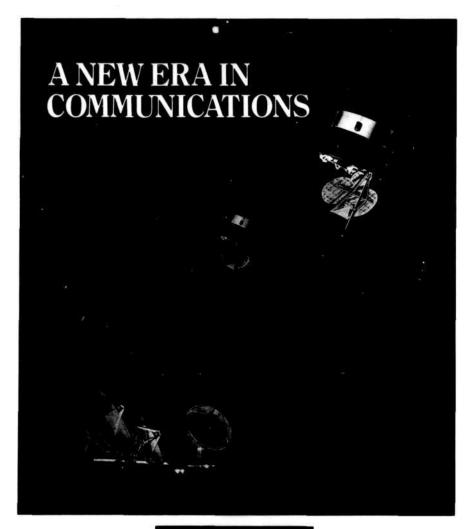


- "assistance at a Government level, and through using Defence Offsets programme, to encourage overseas companies to facilitate sales directly to their Governments through collaborative or co-production arrangements.
- "technical support, including the use of test ranges and other facilities and provision of technical reports and publications,
- "Defence personnel to assist in training and marketing,
- "access to RAN facilities to facilitate offers of spares support services to overseas customers, and
- "access to AUSTRADE and the Defence Attaches in establishing initial

"There is already considerable interest from a wide range of navies, which we expect to become more intense as the Navy's trials establish the cost-effectiveness of these unique vessels. The tests carried out by Carringtons on HMAS RUSHCUTTER, lead us to feel confident that the new minchunters will do the job they were designed for.



January, 1987 THE NAVY Pa





Australia's National Satellite System

# **Spectacular**



The Review in Pics from the Navy Photographers

The largest fleet of warships ever to assemble in an Australian port in peacetime gathered in Sydney, early in October, to mark one of the major events in the Royal Australian Navy's 75th Anniversary celebrations. Over 40 warships, representing the navies of seven nations, participated in the biggest naval review ever staged in Australian waters.

HRH The Duke of Edinburgh, who, as an Admiral of the Fleet of the Royal Australian Navy, was the Reviewing Officer

Twenty-four Australian warships, ranging from the Flagship, HMAS STALWART, to Fremantle and Attack class patrol boats. participated. As well, there was a seven ship task group representing the Royal Navy, a fourship task group from the United States Navy.

the Canadian naval training squadron of three ships, two ships from the Royal New Zealand Navy, and one each from the French Navy and the Papua New Guinea Defence Force

The Review proved to be the major highlight of the Anniversary celebrations, and was certainly the most spectacular, with all ships "dressed overall" during daylight hours and illuminated at night. A major fireworks display

was held, while other events included a massed naval bands performance at the Sydney Opera

A majority of the ships arrived off Sydney on Monday. September 29, and entered the Harbour as part of a ceremonial entry

Following the celebrations in Sydney, many of the visiting ships, in company with ships of the RAN, visited other Australian ports



Six Australian Fleet units steam off the northern beaches in a series of naval manoeuvre

## SHELL TANKER **REFUELS WARSHIP**

have successfully completed the first refuelling of an Australian warship by an Australian-owned and manned

The trial was undertaken in Jervis Bay between the guided missile frigate, HMAS Canberra and the Shell tanker Conus. Original planning for the refuelling of RAN ships from merchant tankers was raised in October, 1981 after the Naval Control of Shipping exercise 'Bell Buov' had shown it to be highly desirable.

Canberra was commanded by Commander Chris Oxenbould and Conus by Captain David Sadler. Captain March, 1981. At 30,000 tonnes dead weight, she is one of Sadler is also a Lieutenant Commander in the Royal Australian Naval Reserve.

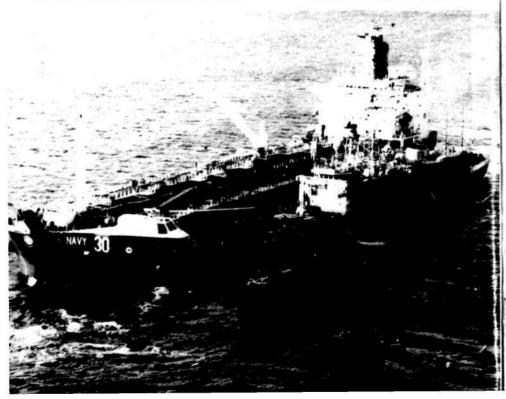
Fuelling began at 2.30 pm and was completed an hour later after 100 tonnes of automotive gas oil (diesel fuel) had

The Royal Australian Navy and the Shell Oil company been discharged from tanker to FFG. The operation was deemed highly successful, satisifying the Navy desire to test access to a mobile fuel stock aboard a merchant tanker.

> HMAS Canberra is one of four FFGs in service or on trials with the fleet. The ship was commissioned on 21 March, 1981 and now forms part of the RAN Second Destroyer Squadron. She is armed with both Harpoon and Standard missiles, a 76mm gun, torpedoes, and is scheduled to receive the Phalanx anti-missile gun and helicopters in the near future.

> Conus was built in Japan and handed over to Shell on 31 the largest tankers operating in Australian waters. The ship's hull features nineteen individual cargo holds for a variety of oil products. Conus is manned by a 36 man crew.

> > (Photograph by courtesy RAN Fleet Public Relations)





HMS ILLUSTRIOUS off Sydney, prior to the 75th Anniversary celebra-



HMS BEAVER leads other ships into Sydney Harbour, September 29,



USS PAUL F. FOSTER rounds Bradleys Head, escorted by welcoming



RFA FORT GRANGE is manoeuvred by tug to a berth up harbour.

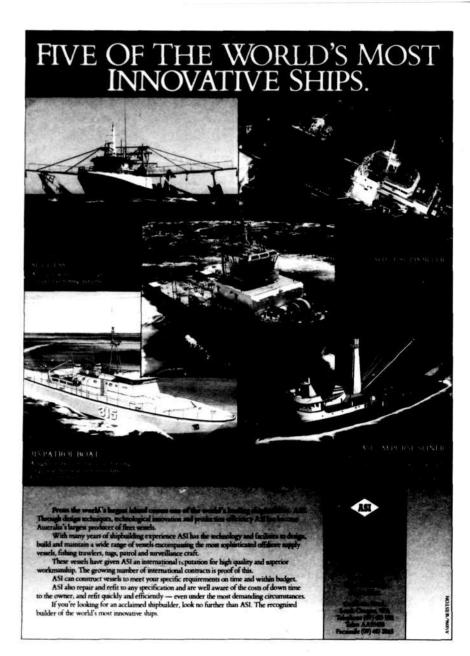


By far the most impressive member of the 75th Anniversary Fleet, USS MISSOURI, fires a full 15 gun broadside on Tuesday afternoon, Sep-



USS MISSOURI, seen from a RAN helicopter off Sydney, the afternoon

Page Eleven THE NAVY January, 1987





COMMANDANT BLAISON, surrounded by both welcoming and protesting craft, heads towards her berth on the eastern side of Garden Island.



Despite 40 years afloat, the ship is in immaculate condition. Note that her "B" turret is trained aft

Page Thirteen THE NAVY January, 1987

## Wormald International.

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W WORMALD





in Sydney on Wednesday, October 1, "Mighty Mo" was welcomed by hundreds of pleasure craft and the towards her berth as her crew man ship

# What's good from Australia is good for Australia.

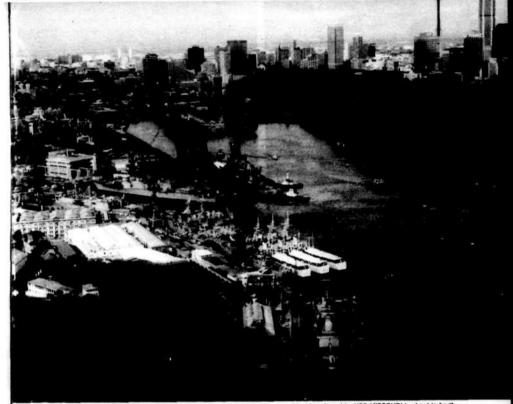


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An overview of the Garden Island and Woolloomooloo region with some 20 ships alongside. USS MISSOURI is about to berth.



Some of the ships at anchor or secured to buoys in Sydney Herbour. In the foreground is HMS ILUSTRIOUS, and behind her, USS BLUE RIDGE. Destroyers and frigates occupy the space to the right.



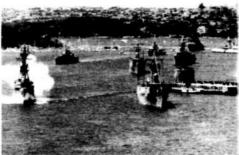
HMAS COOK departs Pier One, with HRH Prince Philip embarked.

. .

E NAVY



the salute from HMNZS SOUTHLAND.





HMCS QU'APPELLE



Sailing past HMS MANCHESTER.

## Heet Leader's Thanks

Fleet commander. RADM Ian Knox. commended fleet units for their role in the recent International Fleet Review

In a signal to all ships, RADM Knox said, "The Navy Assembly and Review, the first of its kind in Australia, has been a resounding success.

"As well as proving to be the biggest birthday party experienced by Sydneysiders, it has also focused attention of the nation on our navy, our maritime heritage and the importance of seapower.

"This has been achieved only because of a great deal of hard work and detailed planning by all units con-

"I am very conscious of the many problems and resource difficulties and inconveniences there have

"Without exception, however, all hands have risen

magnificently to the occasion, and I have been extremely pleased at the outcome of the whole range of assembly activities

"In particular, the review itself was the greatest of spectacles and a proud and unforgettable day for us all.

"Many of you have embarked on another busy round of exercises and port visits with precious little time for relaxation and family contact in what has already been a hectic, action-packed year

"I believe, when it is over, we will look back on 1986 as being an extremely significant milestone in our Navy's history and that all of the time and effort expended will be seen to have been well worthwhile.

"As Fleet Commander, I am proud of what you have achieved and delighted with the positive spirit that is so evident in our ships and establishments.

"Keep up the good work."



The massed Fleet Air Arm Flypast.

January, 1987



The RAN's 75th Anniversary helicopter trails a huge white ensign at the close of the Review. Below, three RAN FFGs and a destroyer escort are at anchor. HMNZS CANTERBURY is to the right.



Aerial of the Review scene after the harbour had been opened to all craft.

Page Eighteen THE NAVY January, 1987



The largest "fire cracker" ever detonated in Australia during the Navy's fireworks display, the largest ever held in Australia

Page Twenty THE NAVY January, 1987



USS MISSOURI sails from Sydney surrounded by a flotilla of harbour craft bidding their own farewells.

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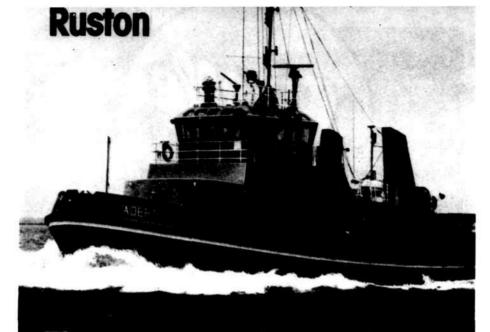
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GEM 35 January, 1987

## Bravo Zulu — 75th Anniversary

The Duke of Edinburgh, the Australian House of Representatives and Defence Minister, Mr Kim Beazley, have all congratulated the RAN on its 75th anniversary celebrations.

In a letter to CNS (VADM Mike Hudson). Mr. Brian Smith, of Government House, Adelaide,

"The Duke of Edinburgh has asked me to write to thank you, and all your team, for a marvellous two days in celebration of the 75th Anniversary of the Royal Australian Navy

"Everything went like clockwork, and Prince Philip was most impressed by the Review The Fireworks were sensational and His Royal Highness very much enjoyed the dinner you gave afterwards at Tresco. Perhaps you could pass on special thanks to Rear Admiral and Mrs. Martin for allowing us all to have such a good party in their house

"I am sure you realise, also, that Prince Philip much enjoyed the Concert the night before, with its splendid performance by the RAN

"Thank you also, on behalf of the RAN, for the marvellous book. "The Royal Australian Navy - The First Seventy-Five Years", which you have so kindly presented to The Oyeen ! will of course see that Her Majesty receives it as soon as possible

"Lastly, may I please be allowed to thank you all on my own behalf for a very memorable visit



Vice Admiral Michael Hudson, presents the 75th Anniversary Limited Edition book to HRH Prince Philip

to Sudney which I would not have missed for

"Again. Prince Philip's congratulations and thanks to you all

The Speaker of the House of Representatives. The Hon Joan Child, MP, wrote

"It is with much pleasure that I have to convey to you text of a resolution which was agreed to by the House of Representatives on "The resolution reads

That this house

"Congratulates the Royal Australian Navy on the 75th Anniversary of its foundation, noting with deep appreciation the vital contribution of the RAN to the defence of Australia in two world wars and conflicts in Korea and Vietnam.

"Its essential role in the preservation of peace in our region and, through Australian participation in the western alliance, around the giobe and the sacrifice of the men and women of the RAN who have given their lives or suffered injury or hardship in the service of their country and extends its thanks to the Naval forces of our allies for their participation in the RAN 75th anniversary celebrations, offers all personnel involved the warmest welcome to Australia. and thanks to the people of Sydney for their warm and generous reception to the ships and sailors of the RAN and allied navies present there over the past week.

"In passing this resolution to you, may I convey my personal congratulations and good wishes to the Navy on this most significant anni-Versaru

Defence Minister, Mr Kim Beazley, in his letter to CNS, wrote

"Please accept my sincerest congratulations for the outstanding way in which the Royal Australian Navy's 75th Anniversary was celebrated. Mary and I were honoured to have been a part of the celebrations

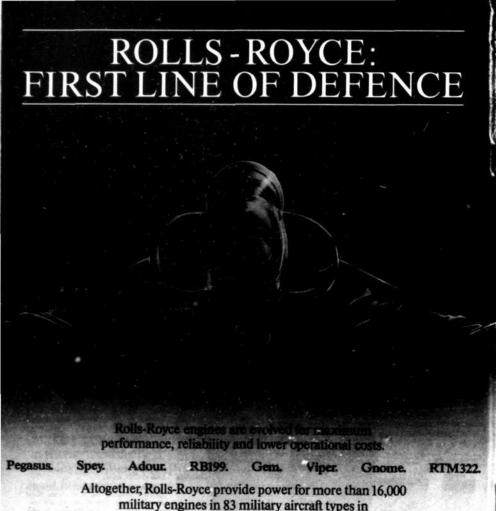
"The long and hard work involved in the planning of such a large number of activities must have been rewarded by the efficiency with which the week progressed. It is universally agreed that the Royal Australian Navy played the part of the perfect host for the visiting ships and has done the country proud

"The spectacle of the Fleet Review, and obvious enthusiasm shown by the people of Sydney, is indicative of the country's support and pride in our Navy

"Once again, congratulations on a marvel



HRH Prince Philip and the Prime Minister, aboard HMAS COOK during the Fleet Review January, 1987



THE RAN — 25 YEARS ON

U Government, the Dibb Report includes a number of recommendations regarding equipment. These recommendations and other information, some of which have already been approved, and some of which are still under study, tell us the capabilities the RAN will have in AD 2011.

Twenty-five years from now, the RAN will

- · Be at a serious technological disadvantage compared with many regional Powers
- · Be unable to defend our overseas trade for longer than a very short period
- Have strong capabilities within the 200 nautical mile EEZ
- Be in a position where personne! problems are the most likely limiting factor

In force structure terms. Navy can expect to have these assets

- · A squadron of highly capable diesel electric submarines armed with the very latest weapons and sensors
- · Nine "blue water" escort ships, all with area defence surface to air missile systems. At least until the DDG's are replaced, only the six FFGs will have helicopters. However, each FEG will have two of the most canable helicopters available
- Eight light patro! frigates, replacing the six River Class destroyer escorts and some of the Fremantle Class patrol boats. It will be very difficult to assess the effectiveness of the light patrol frigates until we know a great deal more about their weapons, sensors and seakeeping capabilities
- A numerically inadequate, but qualitatively excellent, estuarial minehunting force, with some, as yet undetermined, minesweeping capability
- · Ten patrol boats, replacing the remainder of the fifteen Fremantle Class These replacements are expected to be markedly more seaworthy than the Fremantle design which was not intended for protracted operations in the Bass Strait and similar

In addition, but very important, the Naval Reserves will be much enhanced in numbers and breadth of role

SING a strategy specified by by A. W. GRAZEBROOK



HMAS TOBRUK and LCHs, no replacements in sight

Further, and very significantly, the new construction submarine project and light patrol faque project will ensure the development of an Australian naval defence industry, far more capable of equipping and supporting the RAN than at any time since World War II

All that reads well. However, there are some serious gaps:

Air cover.

Amphibious warfare.

Numbers, and

Personnel and standards of training

Over the past fifteen years, the Navy League has devoted much attention to the problem (now lack) of certain types of vitally important air cover. Many hours of volunteer upaid labour. were devoted by the Navy League to the essential need for fighter cover for our Navy At one stage of the Invincible saga, we felt success had been achieved

However, disaster intervened. Now Navy has no fully integrated fighter cover. The capabilities of the RAAF are severey limited by range, by the multi-role nature of the FA18s, by the attitude of the Canberra leaders of the RAAF and by the lack of an effective combined maritime command and control structure

Unless this is changed, and there is no sign of this. 25 years from now, (as today), Navy will only be able to operate in waters out of range of hostile shore or carrier based aircraft.

TN this context, we must recognise that there are now two regionally owned aircraft arriers (apart from those that can be moved. in by distant powers) and that regional Powers are acquiring longer ranged shore based aircraft - in one case, the longest ranged aircraft avail able in the world today. The waters in which the RAN can operate will be dangerously

Australia's amphibious warfare capability has already been emasculated by the reduction to reserve of the LCHs and the removal of HMAS TOBRUK to a base at Sydney - far from the troops with whom she would have to work Under the Dibb recommendations, neither TOBRUK, nor the LCHs will be replaced when they reach the end of their service lives. The lack of such a capability will mean that we cannot even land vehicles on our own territory. except through a fully equipped port

Whilst we will have good ships, submarines and helicopters, we will lack sufficient numbers to hold our own in the region. For example



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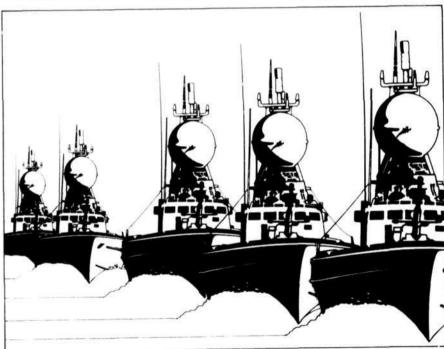
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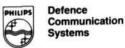
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THE NAVY



Page Twenty-six

PHILIPS

January, 1987

even with the much greater operational availability of the six new submarines, we will not have enough to have more than one at sea on one coast and two on the other at any one time. We would have enough to give a good account of ourselves in a short conflict, over a longer period of even limited conflict we would be vulnerable. Providing greater numbers of ships, aircraft and submarines is a matter of

Providing the extra personnel for those greater numbers of ships, etc. is a much more complex and difficult task

Whilst most of us accept the heavy priority emphasis that Defence and Government have placed on the acquisition of long lead time equipment, we must also recognise that this has been in part at the expense of personnel and related aspects

Thus, we find the Chief of Naval Staff writing, in "Navv News", of October 31 last year, that "Manpower is our Number One Problem" Part of the causes are government policy - no additional civilian or uniformed personnel are allowed, none whatever for any reason whatever Other causes are unintentional. In spite of high unemployment in civilian life, personnel are leaving the Navy in too great numbers.

The more people who leave, the greater is

the recruiting effort required to replace them Worse still, the more new entries, the greater is the number of key personnel required to train the new entries. Therefore, there are fewer people to man the "sharp end" of Navy - the Fleet and frontline helicopter squadrons

Then, new types of ships, submarines and aircraft require retraining of existing personnel Limited numbers mean personnel being retrained cannot be replaced in the Fleet. Fuel restrictions limit operational training time

All these factors lead, in turn, to falling standards of operational training. This is an area in which the RAN still retains the lead in our region. That lead will be lost

EALING with the shortage in the management sense is not easy. Nevertheless, much is being achieved in alleviating the problem. The really worrying aspect is that Defence seems unable to determine the basic cause of trained people leaving the Services early. Unless, and until the cause. of the problem is determined, an effective solution cannot be implemented

To the outsider some of the problems seem to have obvious causes. For example, there is great difficulty in getting enough people to volunteer for submarines. Yet, in a time of pernetual inflation, the submarine allowance has not been reviewed in seven years"

Other problems involve not only Navy, but the other two Services as well. The taxing of reservists' pay can be chantably described as unwise Downright stupid would be a more objective description of a measure which, to save a small sum, caused a mass exodus and resulted in spending a sum many times larger on recruiting and training the replacements.

It may be argued that the personnel problem is short term and thus should be excluded from a preview of the RAN, twenty-five years from now. It can be argued more cogently that unless and until it is clear that the causes of, and solution to, the problem have been identified the problem will be with us twenty-five years

All these aspects, material and manpower, good and disappointing, will influence the RAN, twenty-five years from now.

However, there is one further concern, the paramount concern which must have a profoundly adverse influence on the RAN and the defence of Australia

That concern is the formulation of the nation's defence strategy. There are some very sations arrors

During this writer's discussions with many members of the ADF it has become clear that almost all thinking people in the ADF believe that the strategy of denial is inadequate deterrence must play a much greater role.

At the more detailed level, there is strong evidence that key areas of our strategy formulation are based on dangerously optimistic assessments of our position

For example, the Dibb Report quotes the Strategic Basis as stating that our vital coastal seaborne trade is vulnerable, but gives an option to coastal shipping as alternative modes of (shore) transport. Yet one major oil company has since written to the Department of Defence that, "We are certain it is not feasible, either now or in the foreseeable future, to move the existing volumes of petroleum crudes and product around the Australian coast by landbased modes of transport."

Another major oil company advised Defence that it "would require five hundred road tankers to deliver each and every day, just to maintain production" at one relatively small refinery. The letter goes on to highlight problems of using pipelines

THE plain fact is, that sea transport is used to move oil products around Australia because it is the most economic method High though the cost of defence may be, it makes far more sense to pay the defence insurance premium than to pay the massive cost penalty of thousands of uneconomic trucks to use every day during peace time.

Yet this fact is not recognised at national strategy-making level

To compound this, overseas trade has been largely dismissed as not worth defending in the Strategic Basis (as quoted in the Dibb Report) The astonishing specific implication is made that a loss of "only (!!")" 3% of GDP, due to attacks on overseas trade, would be acceptable

Last, but by no means least. India is not regarded by the Department of Defence as a regional Power India's very considerable and ever growing offensive capability is thus disregarded in formulation of our force structure India has ten submarines. Her modernisation programme is ahead of ours - her two newest submarines are a generation newer than our Oberons Furthermore, India will have twenty submarines in service in the early 1990s. Her existing ten boats have the endurance to keep five boats off our coasts at any one time. India has two aircraft carriers, with supporting underway replenishment ships and escort. Yet, for strategy formulation purposes, the Department of Defence does not regard India as a regional Power, and thus disregards India.

The equipment planned for Navy will offer our Officers and Sailors a rewarding career at the personal level

However, a nation which gets its strategy wrong, which ignores inescapable, although unwelcome facts, is in deep defence trouble. The facts outlined above demonstrate that we have our maritime defence strategy badly



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THE NAVY Page Twenty-seven January, 1987



Arriving in Hobart, October 8, 1986 (Hobert Mercury).

YDNEY (NSW) and its harbour. Port Jackson, have seen many fine and interesting ships in the almost 200 years since white colonists arrived. As a civilised haven in the 1800s. Sydney was destination for surveying voyages, tea clippers, icebreakers, and the warships of those powers or would be powers that sought to exercise influence in the Pacific Ocean. Visits by certain ships or groups of ships have gone into the city's collective memory. During the 1900s, among these ships, have been those of the US Great White Fleet, which visited Australian ports during 1908, the British battlecruiser HMS Hood which arrived during the 1920s. the clandestine visits of the British Queens - Queen Mary and Queen Elizabeth - as they were converted into troopships in Sydney, and then carried Australian and New Zealand troops to Europe in the days before Pearl Harbour, the arrival of carrier, USS Enterprise, in 1964 (not the first nuclear ship in the port), the arrival in the mid seventies of the Queen Elizabeth 2, and the various visits of other large naval vessels during the last decade, among them USS America and HMS Illustrious

Competing with them for public attention and reaction, is one fine old seed that was placed in museum status long before most of today's passenger liners and warships, were designed. At a time when Australia and her people are becoming interested in the celebration: of our Bi-Centenary at a time when a proportion of the population has attained to query the run-down of the Royal Australian Navy, the arrival of the vintage battleship. USS Missouri, virtually stopped Sydney Although 27 warships and ausiliaries from half a dozen navies visited Sydney to be part of the celebrations of the RAN's 75th birthday, Sydney had eyes only for "Mighty Mo".

The day before the old ship entered Port Jackson, under the command of Capitain J. Carney, USN, she demonstrated the visual effect of a reduced broadside of her nine I6 inch guns. Television camera crews on board, and in helicopters got the picture in full colour and Sydney was

The following morning. Missouri entered port and something of the "magic" that the word "battleship" has had for generations of people was seen. The foreshores of the port were thick with onlockers, the waters of the port. a bobbing mass of small boats with those flying Australian and American flags, massively overpowering the whinging members of the "peace squadrons" for which read. "anti-US squadrons". The ships of

the RAN, and other navies, took part in the ceremonial review and on the following days, more than 200.000 Sydneysiders tried to look over the ships. Most of them headed for Missouri and the chaos was of massive proportions with relatively few people getting aboard, and many requiring medical attention.

On the following morning, I joined Missouri as one of a group of just three Australian "inders" to stay with the ship as far as Hobart in the southern state of Tasmania. I left the RAN in 1968 as a Petry Officer (US equivalent, PO1), and since then have regularly written on things naval, including 10 years as Australian editional contributor for Janes Fighting Ships, and three editions of a book on Oceanic naval forces.

In my naval time I served aboard all major categories of naval vessel, but had never so much as seen a battleship, let alone set foot on one

ISSOURI was on a world-girdling shake down cruise and showed little sign of her 42 years of existence. Her paint work work was no sign of rust painted over, as is sometimes seen in the financially, and physically-strained. RAN I was accommodated in an officer's stateroom, with a recently-pined supply officer. The cabin's walls (screens' bulkheads?) did not reach fully to the deckhead, apparently to allow air circulation in the days before air-conditioning was fitted. I did wonder at how flash would travel if the ship was hit in this area.

For the next 50 hours, I wandered almost at will around Missouri. As the big ship headed south, she fuelled from the British oiler, RFA Bayleaf. It was interesting to notice that the tanker carried anti-missile decoy launchers, probably Corvus, on the after superstructure. Missouri's bindge crew became very concerned with Bayleaf's steering. She regularly sheered towards and away from her "customer" during several hours and it was thought this might be a side-effect of her bulbous bow.

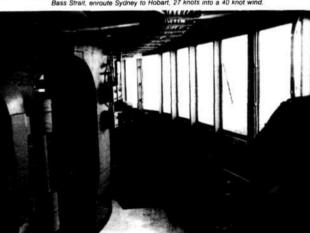
Soon after disengaging from the tanker. Missouri worked up to 27 knots in order to test some adjustments being made by a civilian engineer team that hed joined in Hawaii. Standing at what I would call the Gunner Direction Position — about 50m above sea-level — while travelling a flank speed into a four metre sea and a 45 knot headwind, is a great experience, and one that ensures that one suffers little from sinus congestion for some hours! It was fascinating to note the damage-control



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# Analog control clock for the five-inch, dual-purpose guns "Broadway" passage, 200m long and four decks below the sea level.

Bass Strait, enroute Sydney to Hobart, 27 knots into a 40 knot wind



The main bridge and its 171/2-inch thick protected conning tower.

Page Thirty THE NAVY

From the bow, looking aft.

January, 1987



Arriving in Hobart and met by HMAS ARDENT "Like a flea on a hippo" was how one Missouri sailor described the escorting vessel.

doors with water-tight state markings at a place almost 130 ft above the main deck. I felt that the buoyancy of this cramped area would add little, if the ship was that far down in the water

Missouri's men are proud of their ship. Most applied to join her, some signed on to do so and some of the older men rejoined the USN so as to bring back their special skills which had to be taught to a new generation of sailors, whose fathers were probably younger than these men. One such man is Master Chief Davidson. He joined Missouri in 1944, and went to war. He was aboard when she was in action when a Kamikaze pilot ended his life against her armoured decks. Other "old timers" came back to show how to operate the massive gun turrets and the labour-intensive engine rooms. Down in the bowels of the ship, the analogue computers that allowed Missouri to have a plus minus accuracy of 100 yards in 20,000. still control the big guns. Modern electronics cannot improve on the accuracy of those guns, although there may be some later developments in this field, such as laser designators and reduced calibre, long-range

ACKING up the main batteries are twin 5 inch DP mountings of the type used since early in World War Two on US DDs. These can be used against aircraft with a maximum speed of 800 knots, but don't have the range or rate of fire to combat modern aircraft. Oddly enough, Missouri now has little AA defence, an interesting point when the use of such ships as AA batteries to protect WW2 carriers is considered. She does carry Tomal awk cruise missiles for offence beyond the range of her big guns For anti-missile protection she has Vulcan Phalanx CIWS and it seems likely to me that these ships will eventually be fitted with bolt on missile launchers such as NATO Sea Sparrow. Perhaps another couple of 5 inch DP mounts will be landed to make space?

Space is something Missouri has much of Her WW2 complement of around 2 500 has dwindled to about 1 500. Instead of massed racks of wire bunks with not enough room for the occupants to roll over. Missouri now has ship bunks; two high, with bunk lights and base lockers. It's not palatial, but it's not bad, and the "racks" are arranged to provide an amount of privacy. The crew cafeteria, well aft in the hull, has tables with four attached seats and a milkbar "gedunk" and shop are are nearby Closed circuit TV provides movies, ships news and official communications to all aboard

Under way. Missouri is surprisingly wet. This is explained by her long and narrow bow, provided to give the ship a several knot advantage over previous US BBs. The class was designed for war on the Pacific and not the Atlantic. It is said that in exercises in the North Atlantic in the 1950s. Missouri class BBs were unable to maintain sea speed like the Royal Navy's HMS Vanguard. Certainly, on the way south to Hobart, the ship's loudspeakers regularly warned personnel to stay off the weather decks. During the night, several stanchions and a wooden ceremonial ladder were carried away in sea conditions that barely caused the old girl to roll

Overall impressions of Missouri are many and varied the thickness of the conning tower with bank vault-type armoured doors protecting the vital controls: "Broadway", a 200m long passage near the bottom of the ship the analogue control "clock" (known in the RAN of the 50s as an AFCC - Admiralty Fire Control Clock) the friendliness and willingness to discuss "their" ship, which I found in all ranks, the plaque which marks the snot where the surrender of Japan marked the end of WW2, all of these produced an indelible personal memory, for which I am indebted to Missouri and her men

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# **RFA Argus:** a new flexibility

by ANTHONY PRESTON, Naval Editor, Janes Defence Weekly

Royal Fleet Auxiliary has acquired a container ship for conversion When RFA ARGUS replaces the RFA ENGADINE this year she will not only be larger than any ship in the Royal Navy, but will also bring a new flexibility to the Fleet Air Arm

In 1982, the RoRo container ship CONTENDER BEZANT was one of a number of Ships Taken Up From Trade (STUFT) for service in the South Atlantic After a five-day conversion she sailed for the war zone. carrying RAF Chinook helicopters and Harriers, as well as a large number of vehicles. After only one more round trip she was returned to her owner, Sea Containers, like the rest of the STUFT ships

In the meantime, the RN had been considering the question of a replacement for the successful, but small, aviation training ship ENGA-DINE, which is operated by the REA. Her role is to take Sea King antisubmarine warfare helicopters out to deep water for training, and thereby eliminating "dead time" spent flying to and from shore bases. Early in 1984, the decision was made to buy the CONTENDER BEZANT outright. at a price of about £13 million, and to convert her to the air training role

#### SUPERSTRUCTURE

A £50 million contract for the conversion was awarded to Harland & Wolff of Belfast, and after her purchase at Hamburg, she arrived at the shippard in March that year

The biggest element of the conversion was the installation of a complete block of superstructure, seven decks in height. As a container ship, she had been crewed by 32 officers and men, but as a Royal Fleet Auxiliary operating aircraft she would require accommodation for 254 officers

The new superstructure would accommodate not only the civilian RFA crew (23 officers: 10 senior rates: 46 junior rates), but also a permanent RN detachment to run the operations room and communications (3) officers 11 senior rates and 24 junior rates) and a squadron training detachment from time to time (42 officers, 38 senior rates and 57 junior

In addition to accommodation, the new block contains a spacious operations room, equipped with displays for air surveillance and the control of fixed and rotary-wing aircraft. The equipment includes an action information organisation (AIO) system based on Racal-Decca's CANE and what may be the Link 11 automatic data-link A deck above is the communications centre, and there are, in addition, a computer room, aircrew briefing rooms, magazines for air-defence weapons, etc.

The main sensor is a Plessey Type 994 surveillance radar, backed up by two smaller sets, one for navigation and the other dedicated to aircraft

An artist's impression of RFA ARGUS, showing her massive block of forward superstructure, housing accommodation and operational areas. The ship boasts a clear sweep with her 113.5m flight deck. (Photo — Royal Fleet Auxillary).

O meet the urgent need for a new Aviation Training Ship, the UK's control. The ship is also to be equipped with a Type 182 torpedo decoy. and will have Sea Gnat decoy-launchers to port and starboard. Her armament includes two single BMARC 20 mm and two twin BMARC 30 mm guns, the 20 mm guns are at the forward end of the superstructure, while the 30 mm mountings are at the after end.

The original machinery, twin Pielstick 18PC2.5V diesels, remain, but they will run on standard dieso light distillate, rather than diesel oil. To meet the naval requirement for two-compartment flooded stability, the engine room has been subdivided by a new continuous watertight bulkhead between the main and auxiliary engine rooms, and another at the forward end of each shaft tunnel

The hold is only some 46 cm above the waterline, and to provide a good measure of resistance to battle damage three 9.75 x 6 1 m sliding watertight doors have been fitted to the hangar deck

To reduce the ship's initial stability (which gave her an uncomfortably rapid roll and would have hampered aircraft operations) it was necessary to put a large amount of weight back into the hull, as high as possible Harland & Wolff's designers hit on the idea of using the original hatch covers, upturned and filled with cement - an expedient which accounted for about 1.800 tonnes

In her original state, the ship had a large overhead gantry for handling containers, but this was removed, leaving only the original trackway as a catwalk along either side of the flight deck. The port side funnel was removed, and a new enlarged starboard funnel casing has replaced the original on the starboard side.

A new flight deck has been built in sections. The original deck has been extended by 2 m over the stern, and beneath it is a full-width sponson for working mooring and towing wires.

To bring aircraft from the hangar, two large lifts have been provided. staggered to port and starboard, the starboard lift further forward. Designed by McTaggart-Scott, they are raised and lowered by cantilever arms at right-angles to the side of the ship. When lowered to the hangar deck, the cantilever arms fit into recesses, one of which is only a few centimetres above an anxiliary machinery compartment

The novel design of the lifts is to circumvent a long-standing problem, that of moving aircraft in the hangar, the absence of struts at the corners of each lift simplifies the problem to a great degree.

The removal of the port funnel has meant that diesel exhausts had to be re-routed. The ship is fitted with passive flume stabilisers, and this necessitates a complex of transverse piping below the hangar deck. Aircraft workshops, stores and magazines are arranged along the starboard side of the hangar

#### REPLENISHING

In addition to 1000 m' of avcat for aircraft, the snip has been fitted with tanks for 4436 m3 of dieso. This allows for replenishing other ships at sea which will be done via the aircraft crane on the flight deck (port side, abaft the superstructure)

As built the ship had two side doors, giving access to a vehicle deck. Most of that deck now forms the floor of the hangar so the starboard door and ramp right forward have been sealed.

However, the after starboard door and ramp have been retained, giving the ship a limited ability to embark vehicles, artillery and trailers for a Royal Marine commando. With camp beds in the hangar it will be possible, in an emergency, to lift a large part of an RM Commando.

The ship's complement of aircraft will vary with operational and training requirements. In her normal helicopter training role she will embark six Sea Kings or, eventually, the EH 101 helicopter, but she is also capable of embarking up to 12 Sea Harriers, either in small numbers as an auxiliary carrier, or the full outfit as a ferry carrier.

Hangar clearances are wide enough to permit RAF Chinooks to be embarked as well, when needed.

The lack of a ski-jump limits the fuel and payload of Sea Harriers taking off, so the ship cannot be regarded as a substitute for a "core force" of INVINCIBLE class carriers. On the other hand, she is ideal as a "spare deck" to enhance the range and versatility of Sea Harriers and helicopters when operating with an under way replenishment group or small task

No matter what use is made of the ship in a military role, her comprehensive outfit of communications. AIO and maintenance equipment gives her the ability to operate with regular warships. Her other attributes, large fuel capacity and limited amphibious warfare capability give her additional flexibility in naval operations

The ship is undoubtedly much more capable than the ENGADINE. RN sources suggest that she may prove so useful that she will spend more time in operational roles than in pure training.

The new auxiliary, to be commissioned as RFA ARGUS in commemoration of the RN's first flush-decked aircraft carrier, was undocked in August Following contractors' trials she is expected to be handed over to the RFA early this year. As a training ship, she will be based at Portland, Dorset, under the control of Flag Officer Sea Training.

Although RFA ARGUS has yet to prove herself, all concerned with her have no doubt that she will prove a great asset in service. What she does prove beyond any doubt is the real lesson of STUFT shipping in the Falklands (Malvinas) conflict. Whereas many commentators believe that merchant ships can be rapidly converted to a configuration which makes them the equal of warships, exactly the opposite is true, most STUFT ships had severe weaknesses, particularly in their resistance to the slightest

The STUFT conversions showed how many problems had to be

January, 1987

solved, particularly the needs of a much-enlarged complement, in terms not just of accommodation but sanitary and messing requirements. Even the comparatively elaborate post-1982 conversion of RFA RELIANT using the US Navy's prototype ARAPAHO flight deck and hangar has not been an outstanding success and the ship has been taken out of service

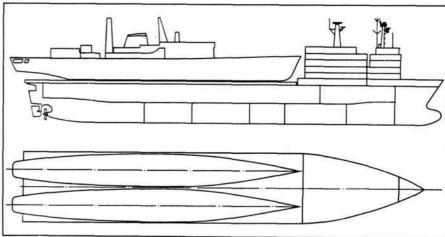
The ARGUS conversion shows that an elaborate conversion and adaptation of mercantile hull yields a quasi-warship with great flexibility. but without the weaknesses inherent in a rapid STUFT conversion. The cost is considerable, but even if the total cost of ARGUS rises from £63 million to £100 million, she is far cheaper than a carrier of the INVINCI-RI F class

For the future, a sister of CONTENDER BEZANT could be bought, to meet the RN's need for additional auxiliaries, particularly in the amphibious role. According to the builders, it might even be cost-effective to build a third ship to the same design, but reconfigured "from the keel up"

## SPECIFICATIONS OF RFA ARGUS

sment: 22,256 tonnes (standard), 28,063 tonnes (full

u: 175.12 m (oa), 160 m (ppl) x 30.4 m x 8.19 m Machinery: 2-shaft diesel, 23, 400 bhp = 20 kt (max). Aircraft: 12 Sea Harriers/8 Sea Harriers, 6 Sea Kings, etc. Armament: 4 x 30 mm (2 x 2), 2 x 20 mm (2 x 1). Complement: 254 (including 137 air group).



On a displacement of 28,000 tonnes, RFA ARGUS could theoretically accommodate two Type 42 destroyers on her flight deck.

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January, 1987 Page Thirty-two THE NAVY

THE NAVY

Page Thirty-three



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## **Sparrows Among The Hawks**

## Skipboard Aviation of the Smaller Navies, 1919-1939

by R. D. LAYMAN

PART ONE

THE story of the development of shipboard aviation between the world wars has been told repeatedly, but almost always from the standpoint of its major practitioners, Britain, America and Japan and usually linked to the history of the flight-deck carrier. Its more modest role in the smaller navies has, in general, been ignored, although many of these fleets strove to develop a shipboard air arm within the limits imposed upon them.

The most fundamental and obvious of those limits was economic. Financial restrictions ruled out the flight-deck carrier: the budget of a small navy could not be stretched to afford a vessel so costly to build, equip, man and maintain, desirable although such a ship might be considered.

Economics also accounts for the seemingly strange fact that many aircraff of the smaller navies were of foreign manufacture and/or design. The aerial needs of a small navy did not generate a significant market demand for such a highly specialised product as the naval airplane. Such a craft would be purchased in so small a number as to make the expense of designing, testing and manufacturing it a risky investment, even in a nation with a developed indigenous aircraft industry (which not all nations covered in this study possessed in the 1920s and '30s). It was therefore usually expedient for a small navy to obtain its aircraft from a foreign manufacturer that had suitable models in production (or could readily put them back into production), or have foreign designs of proven performance built domestically under licence. This was also the case with the shipboard catapult, a machine with an even more restricted market; the only catapults seen on small-navy vessels in the 1930s were of British. German and Italian manufacture.

The economic factor became even more influential during the worldwide depression of the early '30s. As national budgets reeled under its impact, the flight-deck earrier became even more of an impossibility; even the seaplane tender turned into a luxury item, and it is noteworthy that not a single such vessel was placed on contract by a small navy after 1931.

Economics aside, the development of shipboard aviation in the small navies, like naval aviation in general, was influenced by geography, potential enemies, naval tactical thinking, and national political and defence policy. A navy with overseas colonial possessions to protect, for instance, would find it useful to equip with aircraft its warships that would have to function beyond range of land-based planes (it would also favour the long-range flying boat, but that consideration is outside the limits of this study). A navy designed purely for coastal defence would, on the other hand, find the shipboard airplane of far less

The fortunes of shipboard aviation also were affected in several nations by the establishment of independent air forces under which navies lost operational and administrative control of their aircraft and air personnel. Typically, the new force put its naval commitment into a small-strength, shore or harbour-based "co-operation" unit. In no case does there appear to have been a military or strategic need for the new service; the independent air forces were political creations generated by losing control of "air power" propagandists. Not all navies suffered by losing control of their air branches in this manner — some of the co-operation units performed very well — but all too often the new service became indifferent to naval needs.

As a result of all the foregoing factors, the pace, pattern and size of shipboard air components varied considerably from nation to nation. The one common denominator was the seaplane, which in the absence of the flight-deck carrier was the only type of aircraft that could function from a ship. The total disappearance of the naval seaplane for the past three decades has often caused the importance accorded it between the world wars to be forgotten. But for most of that period it was regarded as a virtually equal partner of the carrier-based landplane, and during the 1920s it had not yet begun to lag so drastically behind the landplane in performance — a gap that was to start to doom it during World War III although it still played a useful role to the very end of that conflict.

For the smaller navies, then, shipboard aviation was a modest affair of seaplanes carried by warships and/or auxiliaries, only in a few instances by special vessels. Sometimes the ships were modified — from moderately to drastically — to suit them for carriage and operation of aircraft, but very often not. With that in mind, let us take a look at the aircraft carried by ships of the small navies and at the ships that carried them.

## ARGENTINA

IN 1928 six British Fairey IIIF Mk IIIM floatplanes were ordered for use on the battleships MORENO and RIVADAVIA, which carried them at times although lacking catapults. These aircraft were also operated occasionally by the Italian-built cruisers ADMIRANTE BROWN



LA ARGENTINA. Note Seagull V embarked.
THE NAVY

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and VEINTE CINCO DE MAYO after the vessels' delivery in 1931. The cruisers were originally equipped with fixed catapults on the forecastle in the manner of many Italian cruisers of the period, with aircraft accommodation on the deck below. Unlike the IIIFs so widely employed in the British Navy, the Argentinian Faireys were powered by 450 hp Lorraine-Dietrich engines. They were later re-engined with 560 hp. Armstrong Panther VI radials, changing their appearance

These planes were unpopular, being unwieldy and slow, and at least once in 1932 ADMIRANTE BROWN embarked an American Vought 02U-1A floatplane. Either or both cruisers also carried British Supermarine Walruses from time to time

During modification of the cruisers at the Puerto Belgrano Naval Arsenal in 1943 the vessels' fixed catabults were removed and replaced by midship turntable catapults, the forecastle hangar being converted to crew quarters, and midship aircraft handling cranes installed. Thereafter the cruisers carried American Grumman JF-2 amphibians from a group of eight purchased before World War II. Nominal aircraft capacity was two but it appears that lack of accommodation space resulted in only one being carried normally

The British-built cruiser LA ARGENTINA came equipped with a catapult and two Supermarine Seagull V amphibians (as the ubiquitous Walrus was first called) upon delivery in 1939. This equipment was retained until the 1950s, but was removed before the ship went into inactive reserve for eventual discard

## AUSTRALIA

the end of World War I, three ships of the Royal Australian Navy serving with the British Grand Fleet were equipped with aircraft - the battle cruiser AUSTRALIA and light cruisers MELBOURNE and SYDNEY (Earlier, the light cruiser BRISBANE had carried a seaplane briefly while searching for the German commerce raider WOLF) Their planes were left behind when the RAN ships returned to home waters postwar, pending formation of an Australian

In 1920, a British Avro 504K floatplane of the Australian Army Air Corps was experimentally carried by AUSTRALIA, being transferred to MELBOURNE when the battle cruiser paid off. Difficulties of operation under tropical conditions caused the experiment to be abandoned in November 1920. The next year the first specifically Australian naval aircraft were acquired - six Fairey !!!D floatplanes that went into service with the newly formed Royal Australian Air Force, successor to the Army Air Corps. One of these was operated by the ex-British sloop GERANIUM (transferred to the RAN in 1919) during survey work along the Great Barrier Reef

The IIIDs were the aircraft the RAN seaplane carrier ALBATROSS was originally designed to operate, and some of that ship's dimensions and internal arrangement were determined by their size and weight ALBATROSS, although designed by the Directorate of Naval Construction in Britain was built in Australia. She was essentially a more modern version of the British ARK ROYAL of 1914 - roomier, faster, better armed, better arranged for aircraft carriage and handling, although financial strictures prevented initial installation of the catapult she was designed to mount.

By the time ALBATROSS was commissioned, January, 1929, the Fairey floatplanes had been replaced by six Supermarine Seagull III flying boats, and these formed the new vessels's aerial complement. One similar plane, a Wackett Widgeon, was also embarked briefly for trials in January, 1987

1929. Although three more Seaguil Ills were acquired late, by 1931 their deteriorating performance made it apparent that a replacement was needed. In the interim ALBATROSS operated only four of them.

No replacement aircraft had arrived by 1933, when, for financial reasons. ALBATROSS was placed in reserve at Sydney, where she remained for the next five years. Her Seagulls were transferred to the heavy cruisers AUSTRALIA and CANBERRA, which still lacked catapults and had to handle them by crane

ALBATROSS was not entirely inactive during her reserve period. but served as a maintenance, fuelling and mooring base for seaplanes in Sydney harbour. In early 1936, as a preliminary to recommissioning. she was finally fitted with a catapult and with it carried out trials of the Supermarine Seagull V (later called the Walrus) RAN requirements reportedly figured in the design of this aircraft. 24 of which were ordered by Australia soon after the prototype first flew in 1933. Seagull Vs. replaced the Seagull IIIs on AUSTRALIA and CANBERRA after the cruisers were equipped with catapults in 1935 and 1936 respectively

Although six Seagull Vs were assigned to ALBATROSS, her proposed recommissioning was abandoned and she was transferred to the Royal Navy in part payment for the light cruiser APOLLO, renamed HOBART in the RAN. The catapult-equipped HOBART, along with light cruisers SYDNEY (ex-PHAETON) and PERTH (ex-AMPHION) all carried single Seagull Vs after their transfer to Australia from the Royal

Although designed to accommodate nine aircraft. ALBATROSS never carried more than six while in Australian service, not until early 1942, while serving with the RN, did she embark a full complement of

HE Royal Canadian Navy lacked an air arm from 1919, when the Royal Canadian Naval Air Service established the previous year was disbanded, until after World War II, and did not possess an aviation vessel until the aircraft carrier WARRIOR was transferred from the Royal Navy in 1946.

In 1934, however, Canadian attention was attracted to a proposed small but fast seaplane carrier designed by John I. Thorneycroft and Co as a private venture. This was a 3000-ton, 28-knot vessel to be armed with three 4.7 inch guns and four light AA guns and carry seven seaplanes. Aircraft were to be launched from a forecastle catapult and recovered either by an aft crane or by Hein mat drawn up an inclined ramp reaching to the waterline at the extreme stern. Plans for this vessel were requested by the Canadian navy's chief of staff, but lack of funds ruled out any serious consideration of construction

MONG the small number of aircraft acquired by Chile's SERVICIO DE AVIACTION NAVAL soon after its establishment in 1919 were British Short 184 and Sopwith Baby floatplanes, but a report in BRASSEY'S that one of the Shorts was embarked on battleship ADMIRANTE LATORRE in the 1920s for experiments with aerial spotting for gunfire has been denied. However, the old armoured cruiser GENERAL O'HIGGINS did carry one or more of the Babies briefly

A turntable catapult was mounted on ADMIRANTE LATORRE's quarterdeck during her 1929-31 modernisation in Great Britain, and the battleship subsequently carried a Fairey IIIF, four of which were stationed

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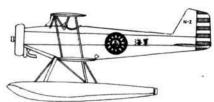
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Chinese Navy NING HAIR No. 2 reconngissance plane

at Quintero, the naval air arm's main base, for fleet co-operation duties with the Chilean Air Force established in 1930. The catapult was removed before the battleship was discarded after World War II. Earlier. one of the IIIFs was carried by the submarine depot ship ARAUCANO.

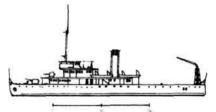
HINA possessed two small seaplane carriers during the 1930s the TEH SHENG and WEI SHANG, 932-ton gunboats launched in 1922 and converted ca 1929-30 by removal of aft superstructure to provide an accommodation deck for two aircraft to be handled by crane. Neither, however, embarked an aircraft before both were sunk as blockships in the Yangtse River on November 18, 1937. during the fighting with Japan

An aircraft hangar was a feature of the small cruiser NING HAI completed in 1932 in Japan, but was omitted from her sister, PING HAL completed in 1936 in SHANGHAI. Two aircraft were constructed for the vessel Designated NING HAI No 1 and No 2 Reconnaissance Seaplanes, they were 130hp single-seat unarmed folding-wing floatplanes. The first reportedly was built in Aichi Kokuki K. K. in Japan, although the design has been credited to the Kiang Nan Dry Dock Co. which constructed the second

Both were reportedly embarked by the NING HAI and took part in manoeuvres with the vessel. It is doubtful that she carried aircraft being taken over by the Japanese navy, in whose service, renamed IHOSHIMA, she was sunk by a US submarine in September, 1944.

## DENMARK

IRCRAFT occasionally used aboard ship by the Royal Danish Navy during the 1920s and '30s were twin-float monoplanes of the type designed by Ernst Heinkel for the German navy during World War I Six of these, Hansa-Brandenburg W29s given the Danish



Chinese TEH SHANG class seaplane carrier, converted from gunboats but never employed as a carrier.

designation HM1 (Hydro-Monoplane No 1), plus a single German Friedrichsfaven FF29 biplane, formed the 1st Luftflottila (Air Flotilla) organised in 1926 for naval co-operation work. The survey ship WILLEMOES was sometimes used as a tender for these planes, and one HM1 was carried by the coast defence ship PEDER SKRAM.

in 1928, the Heinkel He8 began to replace the HM1s, the last two of which were retired in 1930. The He8, with the Danish designation HMII, was an improved, modernised version of the basic W29 design. Twenty-two of them were acquired during 1928-38. The 1st Luftflotilla operated six to nine HMIIs, occasionally tended by the fishery patrol vessel BESKYTTEREN

From 1934 to 1938 two to six Heinkels were employed in exploration and survey work in Greenland, basing on the schooners GUSTAV HOLM and GODTHAB During 1937-38 the fishery protection survey ship HVIDBJORNEN carried an HMII for photographic surveys of Icelandic waters, and another was carried by INGOLF, a similar ship.

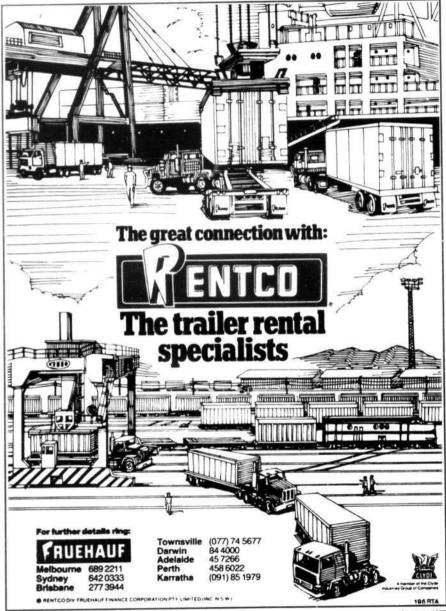
The naval air arm was unable to offer any resistance to the German invasion of 1940; its aircraft were placed in storage in Copenhagen, where they were destroyed by Danish saboteurs in 1943.

## NETHERLANDS

THE Royal Netherlands Navy's Marine Luchtogartdienst (MLD) was the largest naval air arm possessed by a minor power during the interwar years, nearly rivalling the serial services of some



Danish INGOLF, 1937. An HM II floatplane is embarked





Dutch gunboat FLORES or SOEMBA (Photo - RNN)

major navies in number or aircraft (in fact, in number of shipboard aircraft during this period it far exceeded the Soviet Union)

The MLD was officially established in 1917, but the Dutch Navy had begun acquiring aircraft and training aviators some years earlier. One of the first four Dutch naval officers to obtain a pilot's becnee in 1915 was Karel Doorman. later the tragic hero of the Battle of the Java Sea Unlike most other smaller navies that of the Netherlands was eventually able to operate almost entirely indigenous aircraft, thanks to the return to his native land after World War I of aeronautical engineer designer Anthony Fokker. The Fokker firm, re-established in Holland after turning out great numbers of aircraft for Germany during the war, soon became one of the world's great aviation companies:

The first seaplane to be operated by the MLD in quantity, however, was not a Fokker but another of Ernst Heinkel's wartime designs, the



Dutch SOEMBA with her C VIIW aboard (Photo - RNN)

Hansa-Brandenburg W12, a twin-float biplane. It was built under licence in Holland by the Van Berkel firm, designated the Van Berkel WA. Production of an eventual 40 of these began in 1919, 20 of them served in home waters and 20 in the Dutch East Indies.

Despite the predominance of the WA, the first major Dutch warbins to carry alercaft, the light crussers JAVA and SUMATRA, each operated a pair of British Fairey IIID floatiplanes acquired in 1924. Their floats were too fragile, however, to stand the heavy swells of the Indies, and after 1926 they were replaced on the cruisers by Fokker CVIIW floatiplanes, the first 12 of which were ordered that year Thereafter the CVIIW began to replace the WA, although the last Van Berkel was not phased out until 1932.

From the early 1920s to the late 1930s a number of Dutch warships carried seaplanes — either WAs, CVIIWs or both in succession — from time to time. These vessels included (with the number of aircraft carried in parentheses) the coast defence ship JACOB VAN HEEMSKERCK (two), training ship HERTOG HENDRIK (two), submarine depot ship PELIKAAN (two to four), minelayer SERDANG (two to three), gunboats FLORA and SOEMBA (one each), minelayers RIGEL and WILLEN VAN DER ZAAN (one each) and supply ship ZUIDERKRUIS (one) The SERDANG's sisters, ASSAHAN and SIBOGA, occasionally served as seaplane tenders before they were stricken prior to World War II.



Fokker C VIIW aboard DE RUYTER, the only Dutch cruiser fitted with a catapult (Photo - RNN)



Dutch training ship HERTOG HENDRIK with a Van Berkel WA floatplane. (Photo - RNN)

After the destroyer BULHOND experimentally embarked a WA in the "Os, the Dutch Navy outfitted an entire class of DDs with aircraft — the eight-ship EVERTSEN. Class launched between 1926 and 1930: EVERTSEN. PLET HEIN, VAN GHENT. BANCKERT, VAN GALEN. VAN NES and WITTE DE WITH. Each carried a seaplane, initially a CVIIW. on a light deck aft of the second bank of torpedo tubes, handling it with a derrick on the mainmast." The purpose was to provide the destroyers with means of aerial reconnaissance while operating independently, but the concept was abandoned before the Japanese attack on the indies and the aircraft removed, the decks they had occupied being used instead for boat stowage. Earlier, however,

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In this story an Indonesian submarine is suspected of moving to a position where it can unleash its arsenal of nuclear-tipped missiles at an Australian city. It happens sometime in the mid 1980s, hence it is a cold war situation. The public are not informed of the threat, which in any event is thought to be short lived ... because anti-submarine forces from friendly nations are helping Australia find its quarry. It is not, therefore, a story about WWII destroyers dashing about the ocean, pinging with quaint ASDIC sets trying to pinpoint a sub lurking close by. It is rather a story of a very determined renegade and some of the most sophisticated antisubmarine units in the world searching an area of 5m square kilometres.

The possibility of the hunt not being successful and the incident escalating to a full war situation, involving other countries, becomes an unwelcome reality. None of the seasoned veterans of anti-submarine warfare (ASW) quite believe that the old Soviet made Indonesian sub can elude its computerised pursuers for very long. But the Pelandok or Mousedeer, in its English translation, has some tricks up his sleeve, like the Pelandok of the Malay Indonesian animal tables

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Dutch destroyer BANCKERT with C VIII aboard. Photo taken 1939 in Sunda Strait. (Photo - Courtes, James W. Gossl.)

arrangements for aircraft carriage and handling were included in the design of the four destroyers of the ISAAC SWEERS class, the name ship of which was laid down in 1938. These provisions were eliminated in the only two vessels of the class to reach completion - ISAAC SWEERS herself when she finished fitting out in Britain and GERARD CALLENBURGH, completed by Germany as ZH1

The CVIIW was succeeded in Dutch shipboard service by an improved Fokker floatplane, the CXIW, 14 of which entered service in 1938 Two CXIWs were carried by the light cruiser DE RUYTER. This was the only Dutch warship to have a catapult - a German Heinkel model. Catapults were included in the original design of the cruisers DE. ZEVEN PROVINCIEN and EENDRACHT, but they were omitted as outmoded when the vessels were completed to a differing design after World War II. Plans for the proposed battle cruisers of 1939-40 also included catapults

The light cruiser TROMP carried a single CVIX, handled by crane. but use of the aircraft was abandoned early in World War II. TROMP's sister. JACOB VAN HEEMSKERCK (not to be confused with the coast defence ship of the same name rechristened IJMUIDEN in 1939), was to have had this same arrangement, but the aircraft was omitted when she was completed as an anti-aircraft cruiser after being towed to Britain in

The only other Dutch vessels that might be said to have had an aeronautical association were four balloon boats, former fishing craft, that operated in British waters - the CLEON, DE HOOP, HERDIS and THORA In 1946 the Royal Netherlands Navy finally received its first true aviation vessel, the aircraft carrier NAIRANA purchased from Britain and appropriately renamed KAREL DOORMAN

## **NEW ZEALAND**

HE catapult-equipped light cruisers ACHILLES and LEANDER. lent by the Royal Navy, each carried a single Supermarine Walrus in 1939

### POLAND

n the early 1930s the Polish Navy proposed to equip new warships to be built abroad with aircraft. These were the minelayer/training ship GRYF, constructed in France, and at least one of the two British built GROM-class destroyers. The minelayer, and perhaps one or both of the destroyers, was to have a catapult

Proposals for both a catapult and a light flying boat suitable for it were submitted in August, 1934, by Jerzy Nikol, a private aeronautical engineer. Plans for inclusion of a catapult were abandoned before the new ships were completed, but reportedly not before space for one had been incorporated into the GRFY's design to the detriment of engine room layout that may have resulted in a drop in designed speed

Construction of the aircraft, however, began in 1935 and the prototype flew in March, 1939. Designated the Nikol A-2, it was a



HMNZS ACHILLES, 1936. A supermarine Walrus is perched on the catapult. (Photo - RNZN) THE NAVY



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January, 1987



Portuguese BARTOLOMEU DIAS in 1936 Note the Hawker Ospres

two-seat pusher-engine monoplane amphibian, reported to have had "admirable handling characteristics in the air and the water." It is unclear whether the A-2 was still intended for shipboard use in 1939. but in any event the single example was destroyed during the German invasion later that year, there are varying versions of its loss

Although Poland never possessed an aviation vessel, a small carrier was included in a proposed naval construction programme drawn up for the Geneva Conference of 1936. Its sketchy particulars are reported as 4,500 tons displacement with eight 6-inch guns and a speed of 35 knots Like other ships of the programme, the carrier was purely a paper project - apparently intended to give Poland some political weight at the conference - and it is unlikely that any serious design work on it was ever undertaken

#### PORTUGAL

ORTUGAL's Aviacao Naval, although employing seaplanes primarily, did not operate aircraft from shipboard until nearly two decades after its formation in 1917. Had economic factors not intervened, however, the Portuguese navy might have possessed a seaplane carrier the equal of Australia's ALBATROSS

Such a ship was included in a 10-year naval construction programme authorised in a decree issued by the Council of Ministers on July 17, 1930. The carrier's specifications included a complement of 12 aircraft, six of them operational and accommodated in a topside hangar, six stowed in reserve. The ship was to mount a catapult, have an economical cruising speed of 14 knots and be capable of 10,000 nautical miles at 10 knots. Armament was to be four 4.7 inch (120 mm) or 5 inch (127 mm) guns (the calibre to be determined by decisions in a destroyer programme proceeding in parallel) with 200 rounds per gun; four 3 inch (76 mm) 50 calibre with 400 rpg, and four 40 mm AA pom-poms with 1000 rpg. A quite detailed complement was specified: a captain, five other officers. 12 chief petty officers and 80 enlisted men. On the aviation side the complement was to include 12 pilots, a specialist engineer. 12 CPO and enlisted aviation mechanics and five CPO and 15 enlisted workshop artificers. The vessel was to carry 50 to 80 tons of aviation gasoline, three to five tons of aero engine oil, 500 aircraft bombs and 200,000 rounds of aircraft machine gun ammunition

The aircraft were to be folding-wing "hydroplanes" (ie. seaplanes) fitted with "double machine guns", cameras and radio, and capable of carrying two to four 100-pound bombs.

The ship's specifications indicate that, like ALBATROSS, it would have been essentially an up-to-date version of Britain's 1914 ARK ROYAL. There are hints that it would have possessed the long aircraft-handling forecastle of those vessels

It is difficult to reconcile the aircraft specifications with any planes then possessed by the Aviacao Naval, but they are vague enough to apply to any number of naval aircraft then available on the world market and doubtless would have been filled by foreign purchase. However, at this time the Portuguese navy had eight French CAMS 37A amphibians and six Italian Macchi M18 flying boats capable of shipboard use

On December 2, 1930, the Portuguese Ministry of Marine issued requests for bids on vessels of the initial instalment of the construction programme, which besides the carrier included two submarines and two "second-class scout cruisers" (actually sloops or gunboats), with a deadline for receipt of February 2, 1931. The Italian firm of Cantieri del

Adriatico. Monfalcone, was awarded the carrier contract. In September 1931 it was announced that the vessel was to be named SACADURA CABRAL, honouring a premiere Portuguese naval aviator killed in a crash in 1924 soon after having made a record setting flight from Lisbon to Rio de Janeiro

The Italian yard worked up characteristics of the carrier, which were announced as displacement of 5,100 tons (condition not stated). dimensions of 407 by 57 feet (124 by 17.5 metres), four Yarrow watertube boilers and geared turbines yielding 14,000 hp for a maximum of 22 knots. The armament apparently was still in a state of flux, for the contract reserved the Portuguese right to have 6 inch guns substituted for the smaller-calibre main battery, the design to be structurally compatible

Unfortunately, the contract also stipulated that the construction price was to be paid in British pounds sterling, and a sudden fall in the pound's value in early 1932 caused the shipbuilder to rescind the agreement. Thus, once again, the pernicious influence of world economic conditions on shipboard aviation was demonstrated

Nevertheless, the ships, including the carrier, were again put up for bid, with a deadline for submission of June 8, 1932. Offers reportedly were made by British, Italian, French, Dutch and Spanish builders, but the deadline was allowed to pass without the award of a contract for the carrier. Finally on December 3, 1932, the Portuguese government decided to abandon all consideration of a seaplane carrier

Consequently, the only Portuguese naval aircraft to see shipboard use were two British Hawker Osprey III reconnaissance fighter floatplanes acquired in 1935 to equip the new sloops ALFONSO DE ALBUQUERQUE and BARTOLOMEU DIAS. (Six other Ospreus were purchased later for harbour-based operations.) The sloops had been ordered from the Italian firm of Odero-Terni-Orlando, but their contract had been cancelled at the same time as that for SACADURA CABRAL and probably for the same reason. They were re-contracted to a British builder, R. & W. Hawthorn, Leslie & Co. This firm modified their design, so that it is unclear whether provision for aircraft aboard them was originally intended. Use of Ospreys was abandoned long before the sloops reached the end of their service lives."

### SPAIN

PAIN's Aeronautica Navale had the distinction of being the first air arm of a minor navy to boast of an aviation vessel between the world wars, and the ship was the only one of its kind to take part in combat during that period.

This vessel was one of six German merchantmen interned in Spain during World War I that were ceded to Spain postwar in partial reparation for mercantile losses. They were given the interim designations ESPANA NO 1 through ESPANO NO 6, NO 6, the former NEUNFELS built in Britain in 1901, was turned over to the Spanish navy and rebuilt in Barcelona as a seaplane-balloon carrier, emerging in May, 1922, with the name DEDALO in tribute to the legendary originator of human flight.

DEDALO was well and ingeniously equipped for her new role, with a seaplane-handling deck aft above a hangar deck. Her aircraft were handled by booms from parallel masts just aft of the single funnel. The midships superstructure housed a hydrogen plant for two captive kite balloons. The most unusual feature was a tall airship mooring mast at the extreme bow. This could be, and was, utilised by the small naval airships

January, 1987 THE NAVY Page Forty-five

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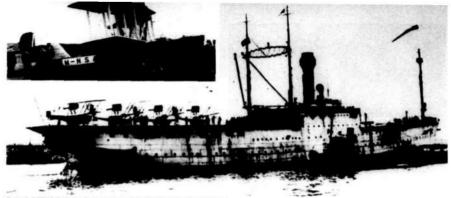
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Spanish DEDALO Inset. Spanish Scarab aircraft, one of twelve in service.

SCA1 and SCA2. Built in 1922, these were 130 feet long and had a gas volume of 53,000 cubic feet. DEDALO thus shared with the USS PATOKA the distinction of being the only surface vessels ever specially equipped for mooring of airships.

DEDALO's nominal aircraft capacity was 25, but that figure probably applied to the number that could be transported non-operationally, photos indicate and no more than six to eight seaplanes could be ranged on the aircraft deck. Her aircraft were initially Italian Savoia S16 and Macchi M18 flying boats, but these were replaced in 1924 by British Supermarine Scarab amphibian flying boats. Twelve of these were purchased that year. DEDALO proceeding to Southampton to embark them

While DEDALO was the Spanish navy's only mobile aviation vessel, two ancient warships were utilised as harbour-bound seaplane tenders and supply ships — the cruiser RIO DE LA PLATA and destroyer AUDAZ isster of two vessels sunk at the Battle of Santiago in 1898). Together with a pontoon-like barge named COCODRILO used for the same purpose, they were permanently moored to a dock at the Barcelona naval air station. Some smaller craft were also attached to this station as utility and crash boats.

DEDALO was among the ships covering the Spanish troop landing at Allucemas Bay in Morocco on September 3, 1925, at the start of the Franco-Spanish campaign against Abd el Krim's short-lived "Republic of the Riff". Her Scarabs flew reconnaissance, fire-spotting and bombing missions during the operations that led to the capture of Ajir on October 2. The two airships also took part, reportedly basing on DEDALO between flights, and her kite balloons may also have been used.

Although DEDALO's planes were credited with useful work at Alhucemas, they were often hampered by heavy seas that prevented takeoff, pointing up the restrictions suffered by an aviation vessel lacking either catapult or flight deck. Consequently, the ship became almost entirely inactive upon hier return to Spain. On March 7, 1934, however, she took part in an experiment with significance for the future when Juan de la Cierva, inventor of the Autogiro, made a landing on and takeoff from her deck in one of his craft at Valencia. This, plus earlier land-based demonstration flights in which naval officers were carried as observers, led the Spanish navy to acquire two Cierva C30s and to dispatch six officers to Britain for Autogrof flight training.

Both rotary-wing craft were used successfully by government forces during the suppression of the Asturias uprising in October, 1934. Both were still in service when the civil war began in July, 1936, but saw no operational use — probably because their pilots were killed early in the upheaval.

The outbreak of the civil war prevented the scheduled breaking up of DEDALO. Although in Republican hands, she remained inactive during the conflict, tied up at Sanguntor, where she was damaged by aerial bombing and where she was found when the victorious Nationalists entered the port on March 29, 1939. She was towed to Valencia for scrapping, but broke in two and sank before work could begin. The wreckage was blown up to clear the harbour, and DEDALO was officially stricken on March 1, 1940. Her name was perpetuated with the rechristening of the US carrier CABOT, transferred to Spain in 1967 for use — interestingly enough in view of the 1934 experiment — as a helicopter carrier.

The civil war saw no use of shipboard aviation by either side, for although catapults and aircraft were included in the design of the heavy cruisers CANARIAS and BALEARES, the British-ordered catapults had not arrived when fitting-out was hastily completed by the Nationalists at Element.

BALEARES was lost in 1938, and continued plans to fit CANARIAS with a catapult were abandoned when she finally underwent modernisation during 1952-53 Earlier, however, a catapult was mounted on the light cruiser MIGUEL DE CERVANTES during her 1940-46 reconstruction, and this vessel carried a German Heinkel Hel 148 floatbale until the 1950s.

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January, 1987

THE NAVY

Page Forty-seven



#### WARSHIP ILLUSTRATED

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By Norman Polmar and Dorr B. Carpenter. Review Copy from Conway Maritime Press.

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The midget and suicide boats of 1939-45 are also assessed, as are Army submarines, submarine carriers and tenders, and finally, many of the torpedoes used

Illustrations are of a very high and unique standard, supported by a series of scale drawings of many types. The photograph on the back cover depicts a Type A midge. four of which attempted to attack shipping in Sydney Harbour on May 31 June 1, 1942

## Thanks for the peace of mind

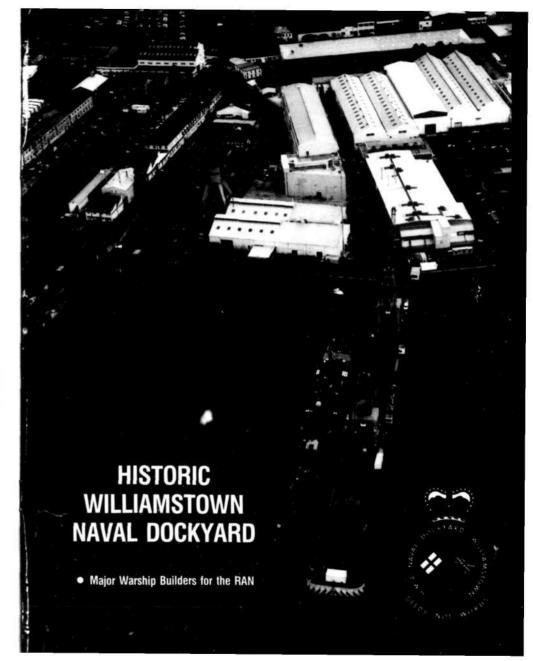


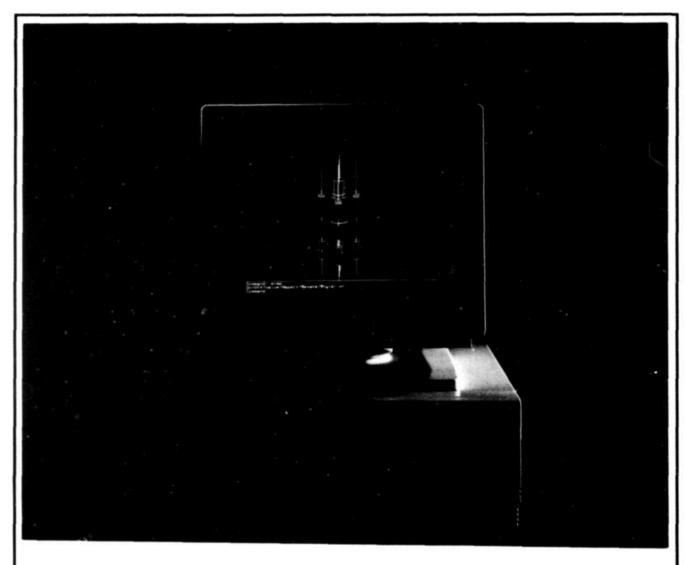
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THE NAVY

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No 2



The last of HMAS COLAC is towed from Sydney and then sunk as a target off Jervis Bay in March, 1987. (Photo - Ron Hart)

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## Our Cover Photograph

Small Ships of the RAN during the Second World War. The paintings of the auxiliary minesweeper HIMAS GOONAMBEE with HDML 1324 and ML 817 is from the limited edition volume, "The Royal Australian Navy — The First Seventy-five Years."

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THE NAVY

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## TYPE 2400—PATROL SUBMARINE

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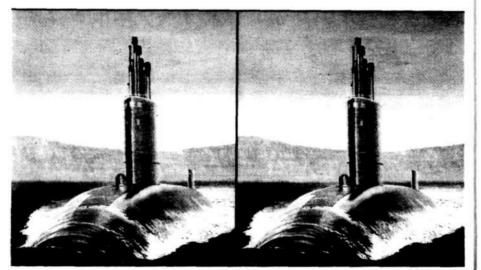
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For many years the "defence" objectives of the Navy League of Australia have been contained in a single paragraph:

"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 indispensible elements of our national well-being and vital to the freedom of Australia".

ROMPTED by publication of Mr Paul Dibb's Review of Australia's defence capabilities and the subsequent public discussion, the Federal Council of the League decided there was a need for its objectives to be spelled out in greater detail so that all concerned with the country's maritime well being knew where the Navy League stood in regard to a variety of matters

The Navy League is no fly-by-night organisation. With a history stretching back nearly one hundred years, it has raised and spent tens of thousands of dollars on sea training facilities for young Australians; it is one of the very few privately-funded organisations to study maritime defence issues and for many years it has kept a watchful eye on the state of the navy, quite often drawing attention to deficiencies.

With a diverse membership - nearly all the many parts that together form the maritime community are represented by members with extensive experience in their own spheres, including the highest offices in the Defence Force - the Navy League is well-placed to observe and comment, from time to time, on many aspects of our country's maritime

riempoint

Regrettably, dispassionate comment on the unexciting subject of maritime security is not a readily saleable commodity; it does not beln to sell newspapers or make for entertaining radio or television. Widespread disinterest in defence matters generally does not help. It is important therefore for every member of the Navy League to "sell" the message we wish to convey to our fellow citizens - that the maritime integrity of Australia is fundamental to their well-being indeed to their continued existence as a relatively free neonle

The objectives listed in the Statement of Policy published on page 10 of THE NAVY are, the Federal Council believes, realistic and attainable if successive governments are consistent in their approach to the maritime dalance of the country

On behalf of the Federal Council, I commend our objectives and ok forward to receiving your support

Federal President The Navy League of Australia

#### DEADLINE

The deadline for the July-September issue of The Navy is MAY 1, 1987

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Page Three

The helicopter-landing deck on the stern of HMAS STALWART, the destroyer tender, which at present serves as the flagship of the RAN, provided an appropriate venue in Sydney on 20th January, 1987, for one of the most significant defence announcements of recent years, made by the Minister of Defence, Mr Kim Beazley.

EFORE a gathering of media representatives, and flanked by the Chief of Naval Staff. Vice Admiral Fludson—and the Fleet Commander, with warships alongside, ensigns fluttering in the breeze, the Minister stated that the Government has instanted the largest Naval shipbuilding programme in Australia's peacetime history by inviting companies from around the world to submit established designs for a new class of eight light patrol frigates for the Royal Australian Nav.

Of equal, if not greater significance, was his statement that these new ships, costing around \$3.5 billion, will dramatically increase the size and capability of the Navy's planned surface fleet from 12 to 17 major warships.

Mr Beadey went on to state that the huge projects reflects the Government's commitment to the vital role of the Navy in our defence, and the need to equip the Navy to meet that role, in conjunction with other elements of the Australian Defence Force, with a sufficient number of high quality ships to deal with possible military situations in separate locations simultaneously.

All eight ships will be built in Australia, maybe in more than one yard, and based on an established ship design, probably European, to be developed to meet Australia's specific requirements.

An Australian company will be chosen as the prime contractor, and there will be maximum Australian. Justry involvement in all phases of the project.

The first ships will be delivered in the early to mid-1990s — a timescale made possible by using an established design

THE Minister stated that these ships will need to meet the requirements identified by Navy and by the Dibb Review for large numbers of fast, long-range, capable ships to operate throughout our region. They would have a desirable range of 6.000 nautical miles at 18 knots, a speed of at least 27 knots and a hangar and deck for the Navy's Seahawk belicopter.

The primary role of these vessels is to be "Patrol and surveillance in Australia's area of military interest," and they are to have "baseline capabilities" including, in addition to the helicopter, a medium calibre gui of 76 mm or larger, radar and electronic detection systems, a short range surface-to-air missile system, antisubmarine systems, and a modern modular type Combat Data System to provide coordination within the ship and with friendly freeze.

Options will also be considered for making provision for later fitting of ship-launched torpedoes and Harpoon missiles Information has been sought for making allowance for the fitting of a close-in weapons system for defence against anti-ship missiles, a towed-array sonar system, an active decoy system, and an enhanced air surveillance radar canability.



## by ANDREW ROBERTSON, RADM, RAN [Rtd]

Vice President, Navy League of Australia

though it is not clear whether these are to be fitted initially or not

Mr Beazley stated that the project offers good potential for increasing defence co-operation with New Zealand, as the New Zealand Navy has a need for similar ships

The Minister indicated that the great cost of the programme could be covered within present levels of defence spending provided such levels were maintained. Present expenditure on capital equipment was about \$2.5 billion yearly. This new buy would be spread out over 10 years, and if could be accommodated.

AVY was offering salvation to Australian shipbuilding as this project would give one or two yards effectively a decade of work. He expected the vessels would be of about 2:500 to 3:000 tonnes displacement. The short list of contenders should be established be mid-1987.

The Minister agreed with a questioner that these ships would give the Navy a substantial increase in capability to operate in the South West Pacific

The decision announced by the Minister represents a milestone of great significance in the development of the Australian Defence Force to meet the changing strategic circumstances of the latter part of this decade and the 1990s, and will provide future governments with somewhat wider options in meeting developments in our general area of interest.

An aspect which is likely to cause some debate in defence circles and, if not altered, bedevil decisions on equipment to be fitted, is the stated very limited role of "Patrol and sur-

veillance in Australia's area of military interest."
This seems very low key. There is no mention of sea control, including escort of shipping and other essential wartime tasks, for which these ships will undoubtedly be used, for their very numbers ensure that they will become the "maids of all work" of the navy. Indeed the defined role hardly seems to fit with Mr. Beazley's statement that the project reflects the need to equip the navy "to deal with possible military situations".

E are much more dependent on shipping than is generally realised. It is doesn't take an expert to imagine the chaos which would ensue in our industry, in preparations for our defence, and in our economy if, for instance, attacks on shipping were to interrupt or stop tankers, into nore bulk carriers, bauxile carriers and container ships from interstate or overseas from arriving at our capital cities and such ports as Newcastle. Port Kembla, Gladstone, and Cockburn Sound (let alone the other 60-odd ports). It is impractical for road and rail transport to replace inter-state and intra-state shipping in the carriage of bulk cargoes because of the great tonnaces involved.

Indeed, if distribution by sea tanker of fuel oils and products were to cease, the trucks and trains would also soon stop rolling, as refineries would down and petrol and diesel pumps dried

Defence of essential shipping is thus a vital element of our security

The projected Light Patrol Frigates must have a role beyond mere "patrol and surveillance"

Few naval commentators will argue against the 6,000 nautical mile range or the helicopter requirements, both of which are highly destrable for effective surveillance in our geographic environment of huge expanses of overal and great distances.

Given the underwater speed of modern submannes, especially those which are nuclearpowered, there seems, however, a case for a somewhat higher speed than the 27 knots minimum top speed specified. One regional power already has nuclear-powered submannes and another is reported to be obtaining them Four other nations operate such vessels in the Indian and Pacific Oceans. More could join the club during the 30 odd year life of these Light Patrol Frigates.

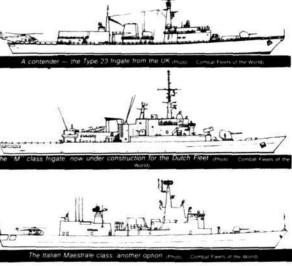
HILE it is early days in the project and there are many decisions to be announced baseline capabilities for these ships are to be so rodimentary, and that later fitting of such important armaments as Harpoon missibes and ship jaunched torpedoes should be considered as "an option". If these vessels commission without such types of weaponry, they tike our Fremantle Class Patrol Boats! will be the most poorly equipped ships of their type in the Indian or Pacific oceans. Indeed they will be more like coastguard vessels than warships capable of feiring "possible military situations".

Of course, there are those who argue that required systems can be fitted when the situation deteriorates, but the practical scene is quite different. Time of rising crisis is precisely the mee when the ships cannot be spared, the needed systems may not be available, the lead time for acquisition is likely to be long, dockyard effort to fit them is not likely to be on hand, and the reews will not be trained. In practice, as has almost always been the case, our ships will have to fight with what they have set.

One curious omission from the baseline caping the control of the control of the control of the control of the capabilities, is a comprehensive anti-missile fit. Most attacks on warships these days are likely to end up as missile attacks, whether launched from submarines, surface vessels or aircraft. We must not send our saliors out on military roles in the 1990s without such basic modern defence equipment nor should we risk such valuable and expensive ships by not equipping them with effective self-defence systems.

Another surprising feature is the apparent acceptance of a gun of perhaps 76 mm size Every war in which we have been engaged since the founding of the RAN has involved our ships in inshore warfare, particularly in the island areas with which our region abounds Bombardment of shore targets and support of the army or naval landing parties have always been prominent toles and it is well proven that a gun of 76 mm size is not only too small, but its short range exposes the ship to unacceptable risk due to the necessity to get too close to the target to ensure effectiveness. Most army tanks and artillery could outrange such an illequipped vessel should it close an enemyoccupied shore

AYBE the stated role and the outline of baseline ship capabilities has been defined to suit. New Zealand requirements which, under their current political guidness ewern to favour coast-guard type vessels. There has also been speculation that it is a move to placate left wing elements of our own political scene, who seem to desire a very low profile for our defence force.



Be that as it may, we cannot put at risk our sailors and our ships must be well-armed from the start. They will have a fough enough time with uncertain, or no, air-support, and it will be nothing short of irresponsible to send them to sea without comprehensive armament. Commonsense must in the long run prevail, for if it doesn't we will be lucky to get the crews to man them.

While the importance of the decision, insofar as it increases the ship numbers in the navy, should not be underestimated, it is equally important that the military significance of individual ships should not be overemphasised.

Even if the frigates are finally equipped with all the "additional capabilities" the navy desires, they remain "frigates" — vessels at the lower end of naval capability. In the absence of supporting integrated air-power (particularly long-range strike and fighter aircraft) in some form of aircraft-carrying ship they will remain at risk in many naval situations, and limited in roles.

In naval terms, compared with some other types of warships, their deterrent and "flagshowing" value is modest. One has only to look at the long-range air and missile strike capability of a number of nations in the Indian and Pacific oceans to see that the RAN will remain outclassed by the navies of most regional powers The scene improves somewhat when air cover can be provided by our FA 18s, but only within about 400 nautical miles of established air bases. And, of course, the projected new submarines will in due course add considerably to our naval deterrent capability - but on present plans there will only be six of them, good though they may be (China has over 100 and India and Japan are reported to be building up to 20 or more each)

These aspects apart, and though the navy has a long way to go before it again reaches the capability appropriate to a nation in our geographic and trading situation, the Government has taken a major step towards defence selfreliance

The decision can be seen to involve three major moves extending well beyond the Navy

Firstly, it will be seen as a signal to our friends and alliles, and to others, that Australia will be capable of taking a somewhat larger role in the security of not only its own waters, but of those in the South West Pacific and adjacent Indian Ocean areas which are so important to our, and their, security

Secondly, it indicates a firm commitment to follow up the now-recognised need for a twoocean navy with action to support that concept.

And lastly, the decision, if pursued to furtition, could well be a water-shed for our ship-building industry and for defence industry as a whole. The construction of a minimum of eight ships (more if New Zealand joins in), which is double the number of advanced warships ever ordered initially before, ensures reasonable production runs for local firms tendering for contracts, and the size of the programme pspread over several years — gives some assurance of continuity in naval shipbuilding orders, for, by the time the project is finished there will almost certainly be a necessity to replace other vessels, including the Guided Missile Destroyers of the "Perth" class

Taken with the coming submarine construction programme, the two Frigates now being built at 'Villiamstown in Victoria, the 10 Pacific Patrol Boats building in Western Australia; and the Mine-Counter-Measures Vessels being constructed at Newcastle. NSW, it is clear that this latest major naval construction programme wilf, in due course, have a most important impact, not only on our capability for defence, but also on industry, employment, balance of payments and our international standing

(BY COURTESY OF THE PACIFIC DEFENCE

Page Five

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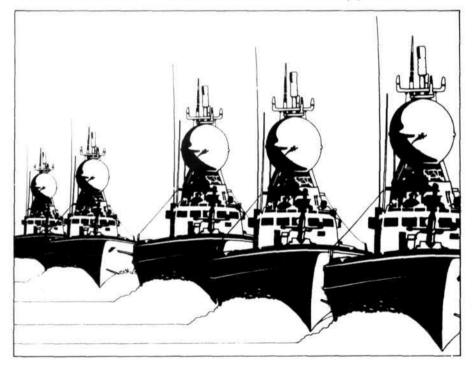
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## **BOOK REVIEW ARTICLE**

# THE ROYAL AUSTRALIAN NAVY: THE FIRST SEVENTY-FIVE YEARS

THE ROYAL AUSTRALIAN NAVY. The First Seventy-five Years is without doubt the finest collection of naval paintings to have been published in Australia. The book, which is divided into two parts, consists of a narrative history of the Royal Australian Navy from discovery in 1770, to the colonial navies and through to the present fleet. The second section consists of reproductions of 26 magnificent paintings by Australian artist Phil Belbin.

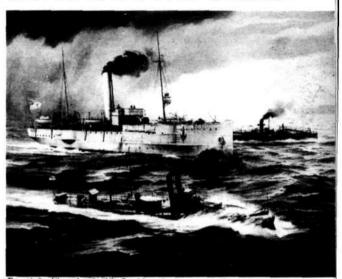
Each of the reproductions is supported by a highly descriptive narrative including recollections of many of the people who were there. These narratives add life and feeling to the superb paintings. The narratives were written by Ross Gillett who also authored the first section of the book dealing with the history of the Royal Australian Navy.

The first section is also illustrated with 30 pen sketches by Phil Belbin, giving the reader a good insight into general naval life. The finished product is a book that any art lover or naval historian will be proud to own, and one that will also appreciate in value.

For the technically minded. The Royal Australian Navy: The First Seventy-five Years consists of 296 pages hand-bound in Australian leather and buckram with gold-blocking on the spine and face. To do full justice to Phil Belbin. the book has been produced in a large format, 470 mm x 345 mm. The text pages have been printed on high quality, 160 gm Archive Cartridge, with the supporting pen sketches being reproduced in a complementary second colour The 26 full-colour reproductions of Phil Belbin's oil paintings have been printed on 118 gm embossed art paper to give the finished product the look and feel of canvas. Each of the reproductions, which measure 360 mm x 286 mm has been hand-tipped onto the page and is protected by quards inserted into the binding

All-in-all, there will be 350 individually numbered volumes for sale, with each of the volumes being signed by Phil Belbin, the artist. Ross Gillett, the author and Vice-Admiral Mike Hudson, the Chief of Naval Staff. To protect this valuable publication, each book is supplied with a durable buckram-bound slipcase. To ensure that this high quality publication maintains its value, the plates and films that produced the publication were destroyed on completion of the production run.

The twenty-six paintings which make up this book are the result of years of hard work and painstaking research to ensure the greatest accuracy and attention to detail. Unlike many recent artists who have attempted to paint Australian warships, Phil Belbin has produced a series of paintings that are not only accurate and highly detailed, but a series of paintings that also draws the viewer into the particular



The majority of the early units of the Royal Australian Navy were the former colonial warships. Seen here are HMA Ships CHILDERS, PROTECTOR, and in the background, COUNTESS OF HOPETOUN.

scene depicted. Of the 26 reproductions the ones that this reviewer favorus are: the depiction of the ships of the old colonial navies that were transferred into the Royal Australian Navy; HMAS PIONEER in action off the East African coast, HMAS HOBART during the Battle of the Coral Sea and last, but not least, HMAS ARUNTA escorting HMAS WEST-RALIA en-route to the landings at Leyte Gulf. One other aspect of the book that deserves mention is the variety of ships and scenes that have been depicted, in particular, the number of lesser known craft that have been illustrated.

The following are reproductions of the foreword by the Chief of Naval Staff and from one of the author's narratives preceding the painting of the small ships, depicted on the front cover.

"This beautiful book is constructed around 26 splendid paintings by Phil Belbin which depict famous ships and major naval events of our past . . Each picture is supported by a narrative of physical description and historical context by Ross Gillett . Pictures and text have been put together with wonderful effect

## by Lieutenant JOE STRACZEK RAN

"The book is a delight and a rich source of memory . . it is truly a thing of beauty and a worthy testimonial to the Royal Australian Navy.

"Appropriately, the book looks right, feels right and is right."

#### THE SMALL SHIPS

"So quickly did ML 817 react to the situation that by the time I had boarded from SHEPPARTON, the lines were let go, the gun creus were closed up and the Midshipman, his face covered in blood, was at his action station prepared to direct the gunfine."

COMMANDER G. BRANSON Royal Navy, 3 September, 1943

At the outbreak of the Second World War,

April-June, 1987

THE NAVY

Page Seven



HMAS PIONEER attacking the German cruiser KONIGSBERG during the Great War, July, 1915.

the Royal Australian Navy was a small, efficient Fleet comprising fourteen major warships and five support vessels

To design, build and then commission the number of front line and support ships required to wage an effective war at sea was a long and involved process. But by August 1945, at the close of conflict the Navy had grown by more than 570 vessels, from cruisers and destroyers through to patrol craft and general purpose vessels

To achieve such massive growth in this short time the Government ordered over 250 builtfor-the-purpose ships, but overall still relied heavily on tonnage already in service with the Australian maritime fraternity. From the latter group came more than 300 coasters, motor vessels, trawlers, launches, oilers and a multitude of other ship types to establish the backbone of a local naval defence while the larger and more capable Fleet units served as far afield as the Atlantic theatre, the Mediterranean Sea, the Indian Ocean and everywhere in hetween

Supporting the "Requisitioned Fleet" were the mass-produced patrol craft of British design, the Harbour Defence Motor Launches and the larger Fairmile 'B' patrol boats

Together with the auxiliary minesweepers. requisitioned after only hours following the outbreak of war, the small ships undertook many important tasks, but also the majority of the more mundane, but still necessary, routine patrols

To properly illustrate three of the smaller warship types in Royal Australian Navy service during the Second World War, artist Phil Belbin has dramatically recreated the above scene with the Harbour Defence Motor Launch No. 1324 the auxiliary minesweeper HMAS GOONAMBEE, and Fairmile 'B' Motor Launch No. 817 at sea during a coastal voyage in June

The twenty-eight Harbour Defence Motor Launches were commissioned into the Fleet from early October 1942 to January 1945. All of the launches experienced war service

The threat posed by German raiders and submannes capable of laying mines in coastal waters resulted in the requisitioning of a fleet of fishing trawlers, coastal steamers and even a former Royal Navy minesweeper Thus, the Royal Australian Navy commissioned into its fleet vessels with such illustrious names as HMAS BOMBO, HMAS OLIVE CAM, HMAS TERKA and HMAS GOONAMBEE

In the Royal Australian Navy's 75th Year.

one HDML. No. 1325, survives in naval service

with the Naval Officer Commanding, WEST-

RALIA, 42 years after first commissioning on 4

November, 1943

Such was the dilemma facing the Navy that some of the requisitioned tonnage dated as far back as 1907. Ironically, in the mid-thirties the 1919 vintage S Class destroyers and Flower Class sloops were scuttled off the coast of Sydney, all-purpose built warships which would have proved invaluable in the coming conflict

The Royal Australian Navy's Fairmile 'B' motor launches were ordered in 1943, with the specific aims of hunting enemy submarines, and if need be to provide an escort for convoy work and to satisfy stationary patrols. Wartime saw them do a great deal more!

In his book, "Australia's Ships of War", naval historian. John Bastock, described the Fairmile 'B's as useful, seaworthy and versatile craft of simple construction which distinguished themselves in the "Island War" to the north of Australia and in the New Guinea region

By late 1945, most of the 33 surviving Fairmile 'B's had paid the price of peace, either laid up in reserve, or already earmarked for sale. All 33 were eventually sold between 1947 and 1949, but ironically, most survived into the 1960s, 1970s and even some to the present day, rebuilt as private launches or ferries, but still unmistakably former Fairmile 'B's of the Royal Australian Navy

April-June, 1987

working either from Australian ports or in the New Guinea zone. Three were imported as built from Britain, another sixteen from the United States of America and the remaining nine

constructed locally by Australian shipbuilders. The main armament carried by the HDML was the 20 mm Oerlikon gun and for anti-submarine work two sets of four depth charges located aft on each beam. No HDMLs were lost during the conflict with many being retired after victory in the Pacific

THE NAVY

tarbour Defence Motor Launch No.

One of the longest serving HDMLs, No 324, remained an active unit of the Royal Justralian Navy from her commissioning on 12 lune. 1944, until laid-up for disposal in 1982

The launch was present, with other units of the Navy, at the Japanese surrender aboard the survey ship HMAS MORESBY on 11 September 1945 at Koepang. Timor. After the war. HDML 1324 was reclassified as a seaward defence boat (SDB) and in February 1953. commissioned as a tender to HMAS TARANGAU at Manus Island

After four and a half years in New Guinea waters. SDB 1324 sailed for Hobart to commence duties as a naval reserve training vessel. For the new cole she was named HUON In June 1967, she sailed for Melbourne with the Battle Class destroyer. HMAS ANZAC as her escort, her place having been taken in Hobart by the general purpose vessel. HMAS RASS

The Second World War veteran had commenced yet another phase of her long career in Port Phillip Bay, as the training vessel NEPEAN, attached to the Royal Australian Navy Reserve Training Depot. HMAS Lonsdale, at Port Melbourne. This routine continued to the early 1980s, when her responsibilities were assumed by the Attack Class patrol boat. HMAS BAYONET

NEPFAN was de-stored at the Williamstown Naval Dockyard during 1982-83, where she remains today in a state of ever-increasing

#### HMAS GOONAMBEE

One of the thirteen trawlers requisitioned during the early stages of the war. GOONAMBEE, was originally built for the New South Wales Government. In 1926 she was purchased by the Sydney-based Red Funnel Fisheries Ltd. who sold her to Cam and Sons Pty Ltd. another Sydney fishing group, three vears later

After a rather unadventurous life, trawling from Sudney for over two decades: the vessel was requisitioned for naval service on 28 June. 1940 She was fitted out as an auxiliary minesweeper, armed with guns and depth charges and received her livery of naval grey, including two large distinguishing letters GB, painted on her hous

GOONAMBEE commissioned as HMAS on 9 August 1940 with Lieutenant Commander E. M Andrewartha RANR in command Initially the ship served as a member of the Brisbanebased Minesweeping Group 74

By the time of the Japanese midget submarine attack in Sudney Harbour (on the night of 31 May 1 June 1942). GOONAMBEE had been transferred south. During the submarine attack she alerted naval authorities to the location of a suspicious object in Taylor Bay. Sydney Harbour, which ultimately led to the destruction of a midget submarine by channel patrol vessels

The Royal Australian Navy purchased GOONAMBEE outright from Cam and Sons on 29 June, 1943, but less than a year later, 21 June, she had been decommissioned

On 4 October, 1944, she was resold to Cam and Sons Ptv Ltd with whom she operated until 1954 Four years later, C OONAMBEE, a hero of the midget submarine attack, had been broken up in Sydney

#### Fairmile 'B' Motor Launch 817

Motor Launch 817 commissioned for war service on 16 February, 1943, under the command of Lieutenant A. G. Townley, RANVR After a short work-up in Sydney, and another ten weeks operating along the Queens land coast. ML 817 sailed for New Guinea as the advance vessel of what would become an Australian Flotilla of 16 Fairmile 'B' and four Harbour Defence Motor Launches based on Milne Bay

ML 817 arrived on 28 June, 1943, and up to late September joined in the closing phases to drive enemy forces from the Huon Peninsula. On 1 September, 1943, ML 817 sailed to join the 7th Fleet Amphibious Force (Task Group 76) for troop landings at Lae and Salamaua, her task being to shepherd landing craft from the dispersal areas to the assault rendezvous

Bu 3 September, the Fairmile was at Morobe. a settlement now subject to Japanese aerial attacks. Aboard ML 817 was the Naval Officerin-Charge, Milne Bay, Commander G. Branson, RN During one of the attacks ML 817 was splinter-holed in several places on her port side Commander Branson commented

"I was much impressed by the efficiency and morale in ML 817 Lieutenant Commander Townley got his ship under way in a matter of seconds, although the blast had thrown him on his face on the quarter deck. Midshipman Price had an extremely lucky escape in that he suffered a scalp wound over the left eye, which, but for a fraction of time, might well have killed him So quickly did ML 817 react to the situation that by the time I had boarded from SHEPPARTON, the lines were let go, the gun crews were closed up and the Midshipman, his face covered in blood, was at his action station prepared to direct the gun fire. As soon as ML. 817 was clear of the SHEPPARTON, the former opened fire from her for'ard twopounder gun

Despite the holes in her hull, ML 817 remained at the front and on 4 September, assisted the landings by HQ 9th Division and 20th and 26th Australian Infantry Brigades on two beaches east and west of Bula Plantation. As a result of these landings and the subsequent land operations. Japanese resistance in southeastern New Guinea was defeated

During December 1943, ML 817 returned to Sudney for refit and to repair the bomb damage. The ML left for New Guinea again on 15 February, 1944, with Lieutenant John A. Doyle, RANR (S), replacing Lieutenant Townley (transferred to ML 424) For the ensuing nine months, ML 817 operated in the southern region, then to Altape, Madang, Hollandia, Mios Woendi and Biak Island During this time the ML formed part of an RAN force which bombarded Karkar Island

In November 1944, it was decided to withdraw the vessel to Australia, towed by the minesweeper HMAS TOWNSVILLE. The two ships arrived in Sydney on 27 November, and thereafter, until paying off into reserve on 10 October 1945, she remained active in local

After victory in the Pacific ML 817 was declared surplus to future naval requirements and was auctioned without engines on 25 October, 1947

All-in-all, the publication of The Royal Australian Navy: The First Seventy-five Years is a worthy tribute in recognising the invaluable contribution made to Australia by the men and women of the Royal Australian Navy during The First Seventy-five Years



The year is 1965, HMAS MELBOURNE steams in company with the destroyer HMAS VAMPIRE and frigate HMAS PARRAMATTA.

"N" class destroyers HMA Ships NIZAM and NESTOR in action in the Mediterranean.

A publication worthy of your collection.

April-June, 1987 THE NAVY

# Navy League Looks Ahead

## STATEMENT OF POLICY

The Navy League is mindful that the strategic background to Australia's security has changed and in some respects, deteriorated, in recent decades. In this regard, the principal gauge for assessing what this country might face in the future from a potential enemy is to determine what his capability is today and, based on that, what it can be in the future. Australia is, of geographical necessity, a maritime nation whose prosperity, strength and safety depend to a relatively great extent on seaborne trade and the maritime forces guarding it. In view of the foregoing the League believes it is essential that the nation develops steadily the capability to defend itself, paying particular attention to maritime matters

#### The Navy League:

Believes Australia is defensible against attack by other than a super power and that the prime requirement of such defence is an evident ability to control the sea and airspace around us and essential lines of sea and air communication to our allies

Supports the ANZUS Treaty and the future re-integration of New Zealand as a full

Calls for closer co-ordination of foreign and defence policies, including a redirection of foreign aid to friendly countries in our area which are of strategic importance to us

Believes it is in our national interest to restrict Eastern Bloc influence in our region and discourage further political or military penetration

Opposes the basing of Soviet fishing or other maritime vessels in Australia or its Territories

Urges a close relationship with the ASEAN countries. PNG and the Island States of the South Pacific in all relevant fields

- Believes there must be a significant deterrent element in the Australian Defence Force (ADF) capable of retaliation at considerable distances from Australia
- Believes the ADF must have the capability to protect essential shipping at considerable distances from Australia, as well as coastal shipping
- Supports the concept of a strong maritime Air Force and highly mobile Army, capable of island and jungle warfare, as well as the defence of Northern Australia

Advocates the retention of amphibious forces to ensure the security of our off-shore territories and enable assistance to be provided to friendly Island States in our

\* Advocates the acquisition at an early date, of a small number of Short Take Off Vertical Landing (STOVL) aircraft to enable the ADF to be familiar in all respects with this versatile and proven type of aircraft.

### As to the RAN, the League:

Supports the concept of a Navy capable of effective action off both East and West coasts simultaneously

- Believes it is essential to maintain a destrover/frigate force, including ships with the capacity to meet a high level threat, as well as ships suitable for dealing with lower level contingencies that could arise at short
- Advocates the acquisition of cost effective platforms for the deployment of integrated air power with the Fleet. The platforms should be capable of operating STOVL aircraft as well as helicopters. Options such as the conversion of merchant ships, as has been done in Britain, should be investigated
- Supports the acquisition of an organic Air Early Warning (AEW) capability by the conversion of existing Sea King helicopter units The technology has already been developed by the Royal Navy

Advocates the eventual acquisition of a small force of nuclear powered submarines to augment the currently planned conventional force, thus enhancing Australia's deterrent capability. In the meantime, the League believes importance should be attached to training appropriate elements of the ADF to deal with fast moving, ie. nuclear-powered, underwater targets

Supports a patrol boat force of well-armed. long range patrol boats, with good sea keeping and high speed capabilities. At least some should be fitted with surface-tosurface missiles. (These patrol boats would be primarily for northern defence and for training our own forces and could include modern hull forms such as hudrofoil.)

Supports the creation of a mine countermeasures frace.

Supports retention of modern survey and oceanocraphic research capabilities.

Recommends an examination of the national advantages and disadvantages of transferring the Maritime Patrol Aircraft (ORIONS) from the RAAF to the Navy Advocates the retention of naval vessels of potential value in a defence emergency, in a

Reserve Fleet, rather than disposal Supports an increase in Naval Reserves to help man, in times of defence emergency. vessels and aircraft in reserve, or taken up for service and for other specialised services Supports the objective of transferring selected operational bases from Sudney to Jervis Bay and Cockburn Sound, when strategic and economic resources permit.

### The League:

Advocates measures to foster a build-up of Australian flag shipping to ensure the carriage of essential cargoes in war, and to reduce the pressure on our balance of pay-

Supports ship construction in Australia. acknowledging the necessity to improve productivity and noting the advantages to employment, balance of payments, technological enhancement, returns via taxation. and construction and repair capacity in war-

Advocates eventual transfer of responsibility and necessary resources for Coastal Surveillance to the Defence Force

Calls for a bi-partisan political approach to national defence with a commitment to a steady long-term build-up in our national defence capability, including the industrial infrastructure

While recognising current economic problems and budgetary constraints, the League believes that, given leadership by successive Governments, the effective defence of Australians can be achieved in the longer term within acceptable financial and economic parameters.

## **RAN Fleet Relocation** To Go Ahead

The Minister for Defence, Mr Reazley, announced on 25 February that half of the RAN Fleet will be based at HMAS STIRLING in Western Australia over the next decade.

The Government will also pursue the possible relocation of the remainder of the Fleet to Jervis Bay, in southern New South Wales "The Government is committed to the concept of a two-ocean Navy, and the move of half the Fleet to Western Australia will make this a reality." Mr Beazley said

"Environmental studies for the proposed relocation of the other half of the Fleet to Jervis Bay will now proceed, I would like to stress that no final Government decision on a move to Jervis Bay will be made until these studies are fully completed

"if, at the end of these studies, the Government decides to proceed with the Jervis Bay move, a massive development project of more than one billion dollars will begin in New South Wales

"However, even if the move were to proceed immediately, after a favourable EIS, relocation of the Fleet to Jervis Bay could not be achieved before the 21st Century.

"The future growth of Sydney will impose increasing constraints on the Navy's operations, with inevitable and competing demands for prime in big cities

"One area of particular concern is the 260hectare Naval Armament Depot at Newington in Sydney. Not only is the extent to which it can be used limited by new safety standards and encroaching development, but its use for this purpose - in the centre of a city - is neither prudent, nor operationally sound

"A move to Jervis Bay would free harbour side real estate for the people of Sydney. However, high priority needs, such as the development of mine countermeasures facilities in Sydney will still proceed, despite the Fleet relocation." Mr Beazley said.



On the intention to build up the Fleet at HMAS STIRLING. Mr Beazley said the strategic need for a major Fleet base in the west had been recognised for 76 years

"The Government's commitment to defence self-reliance for Australia demands that such a development be no longer deferred.

"Ships operating in the strategically important areas of the north and north-west and supported from STIRLING will gain a substantial increase in their effective operating time by 13% for destroyers and 31% for sub-

"The Government has also decided to make a commitment in principle for a Commonwealth contribution to a Western Australia marine support facility, based around a ship-lift.

"Detailed negotiations will now proceed with the West Australian Government on the development of this facility

"The development of HMAS STIRLING will have major local impact, including: . Investment in the area of more than \$330

- million over ten years Jobs for up to 1,000 people in the construc-
- tion stages. . An additional 690 houses in the local area.
- . An influx of an extra 3,000 Navy personnel. wives and dependents into the area, a consequent increase in demand for consumer goods and services of some \$50 million annually."



Melbourne Authority for the Royal Australian Navy was the complete overhaul, at a cost of \$160,000, of the target towing craft CERBERUS V.

In addition to structural repairs the original engine of the 40-year-old craft was reconditioned, the engine room was converted from manned to unmanned and new equipment included firefighting services and hydraulic capstan.

<sup>·</sup> Priority objectives



HMS STARLING, February 1987

## Royal Navy In Port

The Port of Fremantle was inundated with visitors in February.

Two Royal Navy patrol vessels from the Hong Kong Squadron battled for a place to berth amongst the many ocean liners and tall ships already there

The two ships, HMS PEACOCK (P239) and HMS STARLING (P241) were the first British patrol ships from the Hong Kong Squadron to visit Fremantle

Displacing 710 connes, the ships carry a complement of seven officers and 36 sailors. Each ship has a length of 62 6 metres, and is capable of 25 knots.

Each is armed with a single 76 mm Oto Melara gun and its associated British aerospace fire control system Up to four 7.62 mm general purpose machine guns can be positioned about the upper deck, and there are two-inch rocket launchers midships.

Built by Hall Russell Limited. Scotland, the ships are specially designed for patrol duties in Hong Kong waters, including search and rescue, and have the ability to stay at sea during trabcons.

HMS PEACOCK was commissioned on 14 July, 1984, and HMS STARLING on 10 August, 1984



The first of the 12 Australian Shipbuilding Industry ASI,315 165 frome patrol boats under construction at South Coogee in Western Australia has had its superstructure lowered into place. This vessel is the first of four for Papua New Guinea. It will be named HMPNGS TARANGAU. The others are destined for Fiji (4), and one each for Vanuatu, Western Samou, Solomon Islands and the Cook Islands. The 31.5 metre boats has been specifically designed for operating in a remote and harsh environment, with emphasis on ease of maintenance and good seakeeping Qualifies. (Proto. ExpH E Pelman RMs)





USS VINCENNES, first Ticonderoga class cruiser to visit
Australia, Fremantle, December 1986 (Photo LSPH E. Pilman,
RAN)

## Compiled by NAVAL ROUNDUP "GAYUNDAH"

## Major Modernisation of Guided Missile Launcher

The first modernisation of the Navy's guided missile launcher system to take Harpoon, as well as Standard missiles, has been successfully completed at Garden Island Dockyard.

The launcher is fitted in the Royal Australian Navy's guided missile frigates and guided missile destroyers currently being modernised at Garden Island





The General Manager of the dockyard. Rear Admiral Nigel Bertjin, said that the completion of this major project represented a remarkable achievement for the dockyard. He elaborated that it was a major dockyard project using, in part, state-of-the-art weapons technology as used by major weapon manufacturers in the USA, completed on time and cost, principally by a team of dedicated dockyard employees, breaking new ground in Australia.

Doing the job at GID saved \$2.5 million, and resulted in the fauncher being available 12 months earlier.

The launcher facility is the only purpose built facility of its type to offer disassembly, overhaul, reassembly, and full test canabilities.

It is already attracting the attention of other navies, and of launcher manufacturers. The facility, coupled with the co-located 254-tonne crane, also offers the unique capability of removal and return of the 60-tonne launcher to the ship as a complete unit, minimising work required on ship.

The facility will be in use until the next century for the programme of Navy missile launcher overhauls and modernisations. The first completed missile launcher was lifted by the dockyard's 254-tonne crane, and fitted into the guided missile destroyer. HMAS BRISBANE. on 25 February.

## Lose a cannon, gain an airplane?

Ballarat may ask the Navy for an obsolete naval aircraft as a replacement for HMVS CERBERUS' gun, formerly in their Botanic Gardens.

The City Council agreed to return the historic cannon to the Royal Australian Navy as a 75th anniversary gesture, but declined the offer of a Bofors gun in its place

The Mayor, Cr Jim Reeves, said he had had an informal suggestion that the Navy might be asked to donate an old naval aircraft for the Eureka Aviation Museum.

The council agreed that the Mayor should follow up the idea with the museum and the

The council received a letter from the Assistant Minister for Defence. Mr Brown, thanking the city for agreeing to transfer the CERBERUS gun.

Mr Brown said that this contribution by the people of Ballarat to the 75th anniversary of the Navy was greatly appreciated

"Items such as the ex-HMVS CERBERUS' gun. because of their rarity, are of tremendous importance to the history of the Navy and, indeed, to our nation's maritime heritage," he

"This will be particularly so for the thousands of naval personnel who pass through the Recruit Training Establishment. HMAS CERBERUS, where the gun will be located and also to the members of the public who will have the opportunity to view the gun within this naval environment."

THE NAVY

## Early Seatime for New Breed of Sailor

Sixty-eight young men headed for travel and adventure with the Royal Australian Navy on 27 February, pioneering a new job category — general duties.

Aged between 17 and 28, they arrived at HMAS Nirimba, Quaker's Hill, near Blacktown, NSW, for basic training after signing on for two

After an eight-week course, including the traditional sailors arts of ropework, drill, plus firelighting, damage control, nuclear, biological and chemical defence (NBCD), they will join a seagoing naval unit

After two years, the men will be able to discharge, or apply to transfer after six months to a specific specialisation such as radar plotter or submariner, depending upon availability and suitability.

The Navy aims to sign on some 300 of the men in the new category each year and hold four courses during this period

## Maritime College Wins Minesweeping Contract

A Tasmania-based research company has received a contract worth more than \$500,000, which could enable minesweeping to be done by some commercial craft rather than minesweepers.

The contract for development of a prototype wire trawl capable of sweeping moored mines has been placed with the Australia Maritime College research company. AMC Search Ltd. in Laurecton

Announcing this, the Minister for Defence, Mr Kim Beazley, said successful development of the minesweeping trawl would complement other minesweeping development work being undertaken by the Royal Australian Navy's Research Laboratory at Purmont, in Sydnavia

"The contract has been let as part of a plan by the RAN to regain a minesweeping capability based on extensive use of Australian commercial infrastructure." he said.

"The minesweeping programme accords with the high priority given by the Government to the acquisition of a mine countermeasures capability for the defence of Australian ports."

The development work and trials so far carried out on the RAN Research Laboratory equipment, had been very encouraging and he believed that AMC Search Ltd was capable of producing a prototype sweep to meet the Navy's requirements.

"The excellent facilities at the Maritime College in Launceston, combined with the expertise of the development team formed for the wire trawl project should ensure every opportunity for success in this complex task," he said.

The Minister added that, if the developments prove successful. if should be possible to use suitable commercial craft for minesweeping rather than expensive, purpose-built minesweeping vessels.

## Compiled by NAVAL ROUNDUP "GAYUNDAH"

## MORE MISSILES FOR THE minimum cost, based as closely as practicable NAUY

The Minister for Defence, Mr Kim Beazley, has announced the acquisition of Standard surface-to-air missiles for the Royal Australian Navy and Harpoon anti-ship missiles for use by both Navy and Air Force. The combined value of these purchases is about \$98 million.

Mr Beazley said that both missile purchases were part of a continuing missile acquisition programme and would maintain Navy's and Air Force's skills and operational readiness into the

He said the missiles were being bought under a foreign military sales agreement with the USN from the Harpoon supplier. McDornell Douglas, and the Standard suppliers. General Dynamics

The RAN is the first Navy to integrate the Harpoon missile into the fire control system of a conventional submarine, and the RAAF's F111C integration is also unique

The Royal Australian Navy Missile Mainten ance Establishment at Kingswood, NSW, will provide maintenance support for the Standard and Harpoon weapons

## Australian Prime Contractors for Warship Construction

Australian organisations have been invited to register their interest in tendering as prime contractors in the Navy's New Surface Combatant Project, the Minister for Defence. Kim Beazley, has announced.

"The prime contractor will be expected to complete detailed design, build the ships and support them in service in the largest naval shipbuilding programme undertaken in Australia in peacetime

"To be selected for the competitive tendering process, organisations would be expected to have a sound financial status and corporate strength, together with proven capacity and experience in the management of major shipbuilding or engineering projects. The prime contractor would also be expected to have access to suitable existing shipbuilding facilities More than one Australian shipbuilder could be involved in this project." Mr Beazley said

It is expected that tenders for the prime contract will be invited later this year, and close in mid-1988. The total cost of the programme is estimated at \$3.5 billion (April 1986 prices)

The issue of the Invitation to Register (ITR) follows the issue, in December 1986, of a Request for Proposals, which sought shin designs that meet, or nearly meet, the assessed capability needs of the new warship at

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on existing designs

"The precise nature of the ships will be determined in the selection of designs following evaluation of the responses of overseas designers to the Request for Proposals. The key factors in selecting the design to be constructed and the Australian prime contractor will then be

the level and nature of the involvement of Australian industry, the project price and confidence of performance as reflected in fixed price provisions and warranties. The details of the way in which Australian organisations will compete for the contract could be influenced by the designs chosen and the responses by Australian organisations to the ITR". Mr Beazley said

## Defence Assistance to Export Minehunters



A Newcastle shipbuilding firm is to receive an advance of \$1.5 million, in line with the Government's policy of stimulating defence exports, the Minister for Defence, Mr Kim Beazley has announced.

The advance, to Carrington Slipwaus Ptv Ltd. is to provide material to build an Australian-designed fibreglass cata varan, similar to the two prototypes ordered for the Royal Australian Navu

It will allow early purchase, mainly of fibreglass and PVC foam, the main construction materials of the minehunters, in anticipation of an overseas order

"This offers the prospect of an early start of construction for export, using the workforce and expertise built up in the construction of the first two RAN vessels," Mr Beazley explained.

"It will reduce the delivery time to meet export orders for this highly innovative and cost-efficient minehunter system.

The Minister said the launching of the first new minehunter. HMAS RUSHCUTTER last year, had created considerable interest overseas, and led to an intense export effort by the

This minehunter is a unique Australian design, highly suitable for mine countermeasures in shallow waters and harbour focal areas," he said, "and it has considerable advantages over its competitors.

"This is one of the first instances of industry receiving direct stimulus under the package of measures I announced last 14 October. designed to assist Australian industry to sell more to the Australian Defence Force, and in export military markets."

The package includes a wide range of technical assistance from defence, on a full cost recovery basis and provided that the scarce resources can be made available without detriment to defence priorities. In the case of the minehunters, it may include, in due course, access to facilities such as test ranges and train-

HMAS RUSHCUTTER was commissioned into Naval service at Carrington's Tomago shipyard on 1 November

Trials are in progress, and the second prototype is scheduled to join the trials in mid-1987.

## BICENTENNIAL SCHOONER

Over the years, many in the RAN have cherished the idea of the Navy having its own sailing ship. Part of that dream will come true in January 1988, when a 200-tonne Brigantine will sail under the Australian White Ensign. The new vessel will be presented by the British Government to the people of Australia as a Bi-centennial gift.

The Royal Australian Navy has been tasked to introduce the vessel into service and operate it on behalf of the nation for the benefit of all young Australians

The ship will be a round-bilged steel sailing vessel, fore and aft rigged, but with square sails on the foremast - making her technically a Brigantine

The 43 metre vessel is designed to have a full sailing performance on all points of sailing, with an estimated speed under sail of 14 knots.

She is also to be fitted with twin main engines to give her a maximum performance under power of 10 knots

A Royal Australian Navy contingent departed for the United Kingdom during January 1987. The passage to Australia will be conducted by

a joint Anglo Australian crew sailing under the British flag

The passage will follow in broad terms, the route of the First Fleet via Tenerife. Rio de Janeiro, Cape of Good Hope and Mauritius

Additional stopovers are likely to be Albany. Adelaide and Hobart

The ship will rendezvous with several other Tall Ships in Hobart in late 1987 before taking part in the Tall Ships Race between Hobart and Sydney in January 1988

During the bi-centennial celebrations in Sydney, the ship will be formally presented to Australia as a gift to the nation for the benefit of Australian youth

The concept of using a sailing ship to provide

an opportunity for young people to experience adventure, and to learn more about themselves is not new - there are many examples throughout the world and in Australia.

Although there are slight variations, the central idea of giving young people an adventure and challenge at sea to aid their personal development is constant

After handover, the ship will be manned and operated by the RAN.

The RAN envisage the vessel operating on regular cruises of about six to 10 days duration. perhaps from various Australian ports.

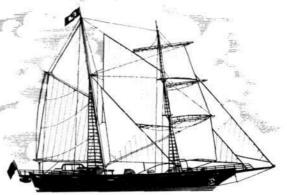
Although it is likely that the ship will be home-ported out of Sydney in order to utilise Naval Support facilities, the concept of taking the ship to the trainees, rather than the trainees to the ship will be developed by deploying the ship to various ports for short periods.

In order to give the maximum number of young Australians an opportunity to experience life and work at sea, the ship will be programmed to operate for approximately 10.5 months per year, the remaining period being devoted to maintenance.

An experienced naval crew of eight will permanently man the vessel to instruct and supervise the 24 young trainees, both male and female, that the ship is designed to carry

The Australian Bi-centennary Authority and a RAN Project Team are liaising with their British counterparts to assist in bringing the ship into service

The vessel will be officially named at a ceremony in the Pool of London in June 1987.



The new Bi-centennial schooner

The Australian Bicentenary 1788-1988

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## **EMAIL-YORK AIR CONDITIONING**

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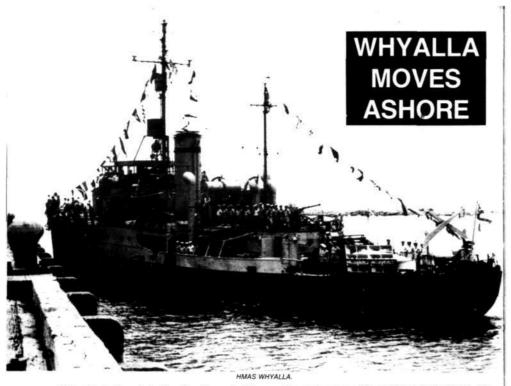
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THE NAVY April-June, 1987

April-June, 1987 THE NAVY



What is believed to be the biggest ship transported overland in Australia will be moved next month by two Perth companies.

The former Royal Australian Navy corvette, HMAS WHYALLA, which saw active service in World War II, will be hauled out of the sea at Whyalla, South Australia, and transported several kilometres to a roadside museum.

The 800-tonne warship, which is 56.4 metres (180 ft) long, will make its last voyage on 272 wheels, hauled by two giant Mack Superliner prime movers in a unique engineering operation masterminded by the WA firm. Dawson Offshore Pty Ltd.

The success of the move will establish the company at the forefront of its didustry, although the movement is not its biggest in its six years' exist ence

The firm specialises in transporting and setting up massive offshore oil-drilling rigs:

Dawson will combine with the heavy haulage division of Brambles Manford of Perth to carry out the warship movement in February.

Brambles will supply five massive platform trailers and two 400 hp Mack trucks to haul it to the Whyalla Maritime Museum and Tourist Information Complex on the outskirts of Whyalla. Here it will be a major tourist attraction for travellers on the Port Lincoln Highway.

The Whyalla, built for the RAN in 1941, was the first ship launched at the former BHP shipyard at Whyalla.

During the war it carried 85 crew and a full range of armaments

After the war it was decommissioned and modified for navigation work out of Melbourne, and was renamed the RIP

For the past two years, the ship has been undergoing restoration work, much of it carried out by volunteers.

The entire restoration and \$600,000 removal project is being financed under the Federal Government's Steel Region Assistance Plan, and funds from the SA Department of Tourism.

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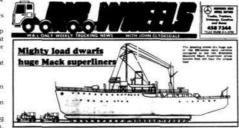
The operation manager of Dawson Offshore, Mr David Shade, said moving the massive ship entailed a major engineering programme

Transporting it was fairly simple, but getting it safely out of the water held the greatest danger — the possibility of the ship breaking in two To move it, a specially-built steel support cradle will be fixed to the

It will then be towed at high tide to a disused slipway, where a steel skidway, suitably greased, has been built.

The ship, borne by its cradle, will then be hauled bodily out of the water, up the skidway by winches on the Mack trucks, a static 10-tonne winch and an anchored Caterpillar D8 bulldozer.

Once clear of the water, the ship and cradle will be lifted by a series of 150-tonne capacity hydraulic jacks to enable the platform trailers to be positioned underneath.



A drawing of how WHYALLA was transported. (Photo - Big Wheels).

SUBMARINE
ESCAPE
TRAINING
FACILITY

by VIC JEFFERY,
Navy public Relations
Officer (WA)

The Royal Australian Navy's Submarine Escape Training Facility (SETF) is presently under construction at the HMAS STIRLING fleet support facility located on Garden Island in Cockburn Sound.

Construction work commenced in February, and the completion date is planned for mid-1987. When completed, the facility will be the fifth of its type in the world, and the only one in our region.

Since the RAN reintroduced submarines in the 1960s, we have relied on the Royal Navy to provide the training necessary to operate these vessels at HMS DRYAG.

Over the years, differences in equipment, the Royal Navy not always being able to meet the RAN's needs, resulting in shortages of trained personnel; the inevitable increased costs over the years, and the manhours lost sending personnel overseas; and finally, the Federal Government's policy to develop a greater self-reliance and reduce dependence on foreign navies made the building of our own facility on Australian soil desirable.

The SETF project is not directly linked to the new construction submarine project. The SETF is intended to have an operational life in excess of 40 years, to meet the long-term training requirements of the Royal Australian Navy

Designed and positioned not to break the existing skyline the building will be 30 metres high. The RAN SETF will consist of

- A main column of water 20 metres deep and 5.5 metres in diameter containing 400,000 litres of fresh water heated to 34°C. The tank will be fitted with a diving lock at nine metres, instructors blisters (one-man air locks) at five and 15 metres, a diving bell and a moving platform. A control position, with closed circuit underwater TV monitors and systems display is situated at the tank top;
- (b) At the base of the water column there will be two modules representing submarine escape compartments and fitted with the escape arrangements found in submarines. From these compartments, both compartment and tower escape techniques will be practised.
- (c) Six man/two compartment recompression chambers will be situated at both the tank top and the ground floor outside the submarine recompartment.
- (d) A shallow diving training module for specialist diving training is provided.
- Office space, classrooms, staff rest rooms, medical facilities.
- machinery rooms, storerooms and workshops to support the facility.

  (f) Heating of the facility is to be provided by solar panels (120 in number) situated in a special services compound adjacent to the building. Solar heating will be supplemented by an LP gas boiler.

The SETF will have a staff of 19 service personnel. Overseas training of about three months duration for the initial staff will be undertaken in the UK and Federal German Republic. This overseas training was due to commence late 1986 for the officers while the remainder proceed overseas in the first half of 1987. Follow-on training will be conducted in Australia.

The Submarine Escape Training Facility Project is being managed for the Royal Australian Navy by the Department of Housing and Construction (DHC) as a "turn-key project". Under this arrangement, DHC are responsible for the design, construction and setting to work of the facility to satisfy Navy requirements. The facility will also be certified as a diving system by an accredited civilian marine survey authority. Det Norske Veritas (DNV).

The principal contract has been let to Sabemo-Transfield joint venture for \$12 6m. The main contract covers construction of the building and water column and management of nominated subcontracts for specialist equipment in the building, including recompression chambers, bell and moving platform, air-conditioning, lifts and operating and maintenance manuals.

The associated support services for the water column including the pumps, compressors. LP gas boilers, air storage and water treatment equipment, etc., will be managed separately by DHC, as will DNV certification, setting to work and trials.

The total project is \$15.3m, comprising \$11.6m for the main contract, \$3m for additional amounts for DHC, not included in the main contract and \$0.7m for Navy furnished equipment and training.





THE NAVY

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April-June, 1987

## THE BEAR CAN SWIM TOO!

THE worthier citizens of Adelaide in 1882 surely raised their evebrows when hearing some of the tales of the visit of a small Russian fleet of three ships to their colony. Apparently, the Russian Admiral was somewhat overcome by the hospitality at a picnic given by the Governor at Mount Lofty and, having imbibed rather too freely of the excellent local wines, had to be returned to his flagship in a cart!

Stories such as this, in addition to meatier stuff, entertained the gathering of some 130 distinguished quests and members at the annual NSW Division of the Navy League symposium held at Tattersall's Club. Sydney, on 19 November, 1986

The subject of the evening was "The Bear Can Swim Too, or. The Growth of Soviet Maritime Power and its Implication for Aust-

The presentation was opened by Rear Admiral Andrew Robertson, a Vice-President of the Navy League. He outlined the steady development of the Soviet Navy, from a poorly-equipped coastal force in 1945, to the modern, superbly equipped, world-wide navy it is today

He told of the speech of Mr Kruschev, Secretary of the Soviet Communisty Party, at the Royal Naval College, Greenwich, in 1956, at which Kruschev had stated that the Soviet Union would out-build the US and create the greatest fleet in the world. That year Fleet Admiral Gorschkov was appointed to head the Soviet Navy, a post he occupied until he retired last year. During those 29 years, class after class. of new submarines, destroyers, cruisers, amphibious vessels, and eventually helicopter and VSTOL carriers slid down the slipways in the USSR

The Soviet Fleet moved out from Soviet coastal waters, first into the North Atlantic then, as it gathered strength, to the North Pacific, the Mediterranean, the Caribbean, the South Atlantic the Indian Ocean, and after the Vietnam War, the South China Sea, based on the ex-USN base at Camranh Bay, in Vietnam. We should note the writings of Admiral Gorschkov that

"Sooner or later, the West will have to understand that it is no longer master of the seas Soviet sea power, merely a minor defensive arm in 1953, has become the optimum means to defeat the imperialist enemy and the most important element in the Soviet arsenal to prepare the way for a communised world"

It was also important to note the recent speech by Mr Gorbachev in Vladivostok. summarised by The Economist journal as: "a firm statement that Russia is determined to be a power in the whole of the Pacific, right down to Australia and New Zealand"

The first speaker, Lieut-Commander Bob Nicholls, RAN (Rtd), author and historian, gave a fascinating address on "Russia and the Australian Colonies, a historical perspective", in which he outlined contacts with Russia in the early days. Having mentioned the early fears of the colonists of attack by the French and then by the Americans, he showed how more scares, usually exaggerated, were caused by the Russians than by any other nation.

Although the Russian corvette. Dvina, had visited Sydney in 1853, it was not until the end of the Crimean War that they began the practice of sending naval ships on long-distance training and exploration expeditions Successive Russian "scares" led to the construction of forts and batteries around our coasts and the building of colonial navies. It was not until the rise in the power of Germany, towards the end of the nineteenth century, that fear of

The next speaker was Lieutenant-Commander. Ken Wray, of the Naval Reserve, who described current Soviet ships and maritime capability, including command organisation. location and compositions of fleets, weaponssystems, aircraft and bases

STENERS were particularly impressed with his description of the Soviet submarine force, now at over 360 vessels, the world's largest, and the new aircraft carriers. Particularly impressive was the new Tuphoon submarine, the world's biggest at 25,000 tonnes displacement. This submarine carries 20 missiles each with 6-9 warheads and a range of 8,300 km

The Soviet Pacific Fleet has now expanded greatly and includes two of the three aircraft carriers and over 600 vessels including some 125 submarines

While those present were amused at some of the comments when, during his speech, some of the slides of ships caught fire in the projector, all were most impressed at the awesome naval power now possessed by the Soviet Union.

He then told of the immense growth of the Soviet merchant marine, with its implications, both economic and military

With some 1,800 ocean-going vessels it was now the world's largest in terms of numbers, though not yet in tonnage.

Effort had been carefully directed to creating a fleet that can perform a commercially competitive task in peace-time and satisfy military logistic requirements in crisis or war. Soviet merchant vessels have, in recent decades, been increasingly constructed to military standards, incorporating such key features as chemical-biological-radiological protection, increased endurance and service speeds, improved capability in handling gear and self-servicing features, advanced communications, navigation and electronics. including identification-friend-or-foe systems - systems which are restricted to naval ships in the West.

The current Soviet Merchant Marine shipbuilding programme emphasises technological modernisation in designs that have direct military applications These include: roll-on/rolloff, roll-on/float-off, lighter aboard ships and container ships

The operations of the Merchant Marine are priate conditions of sea and air superiority.

To ensure their readiness to perform such

closely co-ordinated with naval requirements from the Moscow level down to the smallest port facility. On a regular basis, in peacetime, a significant amount of logistic support required by the Soviet Navy, especially in distant areas. is provided by merchantmen. This flexibility allows Soviet merchant ships to obtain supplies for naval use in ports where warship visits might be denied. In a crisis, the highly organised, centrally controlled merchant fleet can provide suitable military support quickly and effectively, particularly for amphibious operations, troop movements and arms shipments. For example, to support military operations, the Soviet Far East merchant fleet has an estimated capacity to transport up to seven motorised rifle or tank divisions in a single lift operation if given appro-



sissions. Soviet merchant ships are ommanded by naval reserve officers and outinely participate in naval exercises.

Another arm of Soviet maritime power is their fishing fleet, again the world's largest. It numbers some 3.800 vessels of over 100 gross tons, over half of which are of more than 1,000

The actual nummber of Soviet fishing vessels operating in the Pacific Ocean is not known, but is estimated to be between 500 and 1,000 ships and is responsible for about 40% of the total Soviet catch

N our area of the Pacific, the Soviets have a fishing agreement with New Zealand. The I former agreement with Kiribati has recently expired. There is always the possibility of other Pacific States concluding agreements, including Fiji, Vanuatu or Tonga

Commander Wray's speech was followed by supper and refreshments after which the main speaker of the evening. Mr Dennis Warner, talked on "Soviet Maritime Power, the Political, Military and Economic Implications".

Dennis Warner, a noted author and journalist, with over 40 years experience in Asian affairs, is currently the Editor of "The Pacific Defence Reporter

He outlined the historical thrust of Russia. eastwards, in the 17th to 19th centuries, across the Asian mainland to the Pacific, Alaska, and the West Coast of North America. This led to subsequent clashes with China and Japan.

He noted developments in the region until modern times, including the formation of a Soviet combined HQ, covering military units in the Far East. Transbalkal, Siberia and Mon-

1986 has seen a particular concentration on the Pacific.

The Soviet Ministry of Foreign Affairs has been re-organised with special departments to cover Japan, Australia, New Zealand and the South Pacific Islands; South-East Asia. including PNG: and a third for other countries.

A diplomatic drive has been launched into the South-West Pacific including endeavouring to obtain fishing permits with small island

As their military strength increased, Mr Warner saw the Soviet aims in the Pacific as-

To establish the Soviet Union as a superpower throughout the Pacific;

· To increase Soviet trade;

To play a more active role in our part of the world in what was formerly an ANZUS lake;

. To contest US dominance in the region.

O achieve all these aims he considered that Soviet maritime power must play a vital role, and he outlined the use of this power in the past: the establishment of a strong preserice in 1956 in the Middle East, Libva, and for a time, Egypt; the 1969 attempt to increase influence in the Caribbean - particularly in Cuba and Nicaragua; the use of Soviet maritime power to assist Cuba in Angola, and to content rising with unemployment, poverty, overpopulation, pollution and increasing crime - fertile ground for Soviet penetration, backed by Soviet maritime power in all its aspects.

He concluded with a quote from Lord Palmerston, written over a century ago:

"The policy and practice of Russian Governments have always been to push forward its encroachments as fast and as far as the apathy or want of firmness of other governments allow it to go, but always to stop and retire when it met with decided resistance and then to wait for the most favourable opportunity to make another spring on its intended victim"

After a lengthy and informative question period, Rear Admiral Robertson concluded the evening by giving a brief summary of deductions from the three presentations.

He noted that quite apart from the intelligence and military implications of the Soviet merchant shipping, the mere withdrawal of such shipping in time of crisis could have serious economic effects.

There was much to be said for developing our own merchant shipping as far as economically possible, not only for trade and defence reasons, but also to reduce our chronic balance of payments problem

TE drew attention to the statement by Lieutenant Commander Wray that officers in Soviet merchant ships were members of the Soviet naval reserve.

The recent incident in the North Atlantic when a Soviet nuclear-powered submarine on



interfere in the Somali-Ethiopian war in 1977; the display of power in 1980, during the Sino-Vietnamese war, and the move to Camranh

He saw Soviet naval policy as being based on a drive to extend national influence by maritime activities. Its aim was sea control, to have the capability to cut sea lines of communication and if need be, to destroy enemy naval forces.

If things go wrong in the Philippines, and the US is pushed out of Subic Bay and Clark Airbase, the South China Sea will become a Soviet

In the South Pacific he saw the tide of dis-

patrol off the American coast met with a serious accident, illustrated the close control of the Soviet merchant marine by the Soviet Navy. Within hours of the accident, several merchant ships had been diverted to the scene to take the submarine under tow. In effect, the Soviet merchant marine was a type of auxiliary of the Soviet fleet and ships were often used as such.

He concluded with the thought that, whoever controls the oceans around Australia, will eventually control, if it so wishes, Australia itself. Such control lay in British hands from 1788 until 1942, then it rested with the US Fleet

Today, great changes were taking place in the balance of maritime power, not only in the Soviet challenge to US naval supremacy, but also in the considerable development of other navies in the Indian and Pacific oceans, including those of India, China and Japan. These developments had most important implications for Australia.

Against the background of the decline in the relative strength of US maritime power, and a reduction in the effectiveness of ANZUS, it was now time for us to move rapidly towards building up our maritime strength, including merchant shipping, to control and use our own true frontier - the sea around us.



The former RAN Fleet Commander, Rear Admiral Ian Knox (right), and the Commanding Officer

of HMAS CANBERRA, Commander Chris Oxenbould, watch the progress of the new Russian

nuclear-powered cruiser FRUNZE through the South China See in November, 1985. FRUNZE

was on its way to join the Russian Pacific Fleet.

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THE NAVY

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## **CUP VISITOR A VETERAN**

One interesting ship operating in local waters for the duration of the America's Cup race series was the passenger ferry, TEAL.

Displacing nearly 500 tonnes. TEAL has had a 31-year career with two Commonwealth navies and in three commercial roles.

Laid down in the yards of Philip and Son Limited of Dartmouth, England, in January 1953, she was commissioned as the Royal Navy Ton class minesweeper HMS JACKTON in 1955

She was armed with two single 40 mm Bofors guns and carried a complement of 34

Along with five sister ships, HM Ships, CHEDISTON SWANSTON SOMER LEYTON, SINGLETON and ALCASTON, she was bought by the Royal Australian Navy in

Re-engined and refitted at Brooke Marine at Lowestoft, she was commissioned in the RAN as HMAS TEAL on 30 August 1962

On 1 October, 1962, she sailed from Portsmouth as a unit of the 16th Minesweeping Squadron, with her sister ships, HMA Ships GULL, HAWK, IBIS. SNIPE and CURLEW They arrived in Sydney on 7 December

One of the more prominent tasks carried out by HMAS TEAL during her RAN service included sweeping a channel into Tonolei Harbour, Bougainville, where 150 mines had been laid by US aircraft in 1943, in October 1963, with her squadron

In September 1964, the Indonesian Confrontation emergency, HMAS TEAL, with sister ships IBIS and CURLEW were operating out of Singapore, from where the three combined with Royal Navy and Malaysian warships in anti-infiltration patrols in the Malaysian-Borneo

While on one of these patrols on 13 December, TEAL intercepted two Indonesian sampans. In a brief exchange of fire, one sampan surrendered and the other fled into Indonesian waters

HMAS TEAL sustained no damage or casualties, whereas the captured sampan lost three, killed

The ship's commanding officer, Lieutenant K. Murray, was awarded the DSC as a result of this action, and was the only RAN officer to be decorated for service in the confrontation emergency

Along with HMAS IBIS, she returned to Sydney on 8 February, 1966, after 18 months service off Malaysia. They were relieved by sister ships, GULL and HAWK

From late 1966, these two ships were based at Darwin for service in northern waters and in 1967, they carried out limited survey work off the WA coast

1970 saw TEAL with two other minesweepers, participate in the large scale exercise Bersatu Padu, in Malaysian waters.

The 1970s saw TEAL operate in New Guinea waters, clearing a war-time minefield off Port Moresby, participating in ANZUK naval force exercises; visiting places such as Makasar, Darwin and Singapore, and carrying out fisheries patrols and exercises in Bass Strait

Paid-off for disposal in 1979. TEAL was sold. to private interests in Hobart, Tasmania, where she was stripped and converted into a prawn by VIC JEFFERY



HMAS TEAL during the early 1970s.

In 1983, she was bought by Teal Produce Limited of Hobart, which further modified the ship into an abalone trawler mother vessel operating in Tasmanian waters

Recently, the wooden hulled TEAL was extensively re-fitted at Port Huon in Tasmania. and rebuilt as a passenger ferry, still retaining the original bridgehouse superstructure

Aft of the bridge, a two-deck accommodation structure has been built, and a bar and meals servery area have been fitted. Seating provides for 300 passengers.

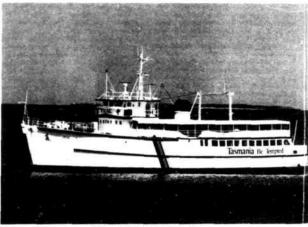
The ship's stem has been modified with a small diving platform/landing stage structure

As an America's Cup spectator ship. TEAL looked immaculate, with her white hull and

Railings and features were finished in light blue, and her black-topped white funnel has blue and red bands

A diagonal set of blue and red bands were painted down the hull and she sports red Tasmanian tourism logos aft

Like all thoroughbreds. TEAL carried her age



TEAL rebuilt for the America's Cup.

## **Sparrows Among The Hawks**

## Skipboard Aviation of the Smaller Navies, 1919-1939

by R. D. LAYMAN

### SWEDEN

THE Royal Swedish Navy was one of the world's first to operate a specialised aeronautical vessel on a permanent basis - a balloon barge built in 1904 that remained in limited service until tecommissioned in 1929 - displayed a progressive interest in aviation from an early period. It received its first airplane, a Swedish-built French. Blenot, in 1913, as a donation from a wealthy brewery owner, and its tirst seaplane, a French float Nieuport, the same year, also a gift. By 1917 similar donations by individuals or organisations had given the navy 14 planes, mostly single examples of Swedish-built foreign types although including a few floatplanes designed by the pioneer Swedish aero engineer, Enoch Thulin

The formal organisation of a naval air arm in 1919 was followed by the acquisition of a few German Friedrichshafen float biplanes of the FF series. Beginning in 1923 these were supplemented and eventually superceded by Hansa-Brandenburg twin-float monoplanes and similar later Heinkel types based on the wartime W29-W33 designs. Between 1923 and 1937 nearly 50 aircraft of this basic design entered service. many of them built under licence by Svenska Aero AB, under the



Swedish designation S1, S2, S3, S4 and S5A through S5D, "S" stood for spaningsflygplan (reconnaissance airplane) and the differing designations referred mainly to engine types. A few of these remained on strength until 1945

The fact that these were seaplanes, however, did not connote naval usage for all of them: most were assigned to independent operation under the Swedish air force (Flyguapner) established in 1926 found seaplanes useful for work from harbours or lakes. On the other hand, creation of an air force had little original adverse effect on the navy, for a specifically naval air wing (designated F2) was formed and there was strong naval representation in the higher ranks and administration of the new service

Numbers of foreign aircraft were acquired before World War II.



DRISTIGHETAN, Sweden, 1930. She is carrying a J4, and aft of it of T1 torpedo plane

including other Heinkel models and various Dutch, British and Italian types During 1939-40 these purchases included 12 Heinkel He115 twin engine float monoplanes for use as torpedo planes under the Swedish designation T2 (one was destroyed shortly after delivery) and 12 Heinkel He114 single-engine float biplanes (Swedish designation

The Swedish navy's first seaplane tender was the old depot ship JACOB BAGGE, a former torpedo gunboat dating from 1898. She served in this role from 1929 to 1936, with only slight modifications including removal of the aft 4.7 inch gun to permit hoisting aboard of a seaplane for repair or maintenance. The still more ancient (1885) former frigate FREJA was used until 1927 as a receiving ship for naval air personnel, with accommodation for 95 men. Similar service was provided later by the old coast defence ships GOTA and NIORD

A study of the desirability and feasibility of constructing a specialised aviation vessel began in 1925. Originally this was conceived as a pure seaplane or airplane carrier, but the idea was soon modified to encompass what was considered a more useful vessel - a combination of cruiser and seaplane carrier. Construction of such a ship was authorised in May, 1927, with an appropriation of 16.5 million kroner (\$4,422,000) but this sum was found insufficient for the original design. Consequently, the design was scaled down to reduce costs, the modifications including placing two main battery guns in casemates instead of a third turret and elimination of one of the two proposed catapults (although it has also been stated that technical factors caused the latter change). The result was the unique GOTLAND, contracted in 1930 and commissioned in 1934. She is fully described in WI No. 3.

Meanwhile, the old coast defence ship DRISTIGHETEN, nearing the end of her officially decreed service life, was converted into a seaplane carrier/tender during 1928-29 after authorisation in 1927. Her main and secondary batteries were removed, she was rearmed entirely with AA guns, and a seaplane handling deck and crane were installed aft. Her renovation is described in WI No. 1, 1978. A proposal that the still older coast defence ships ODEN and THOR be similarly converted was not acted upon, probably for financial reasons.

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Swedish FREJA, as built

DRISTIGHETEN could carry no more than three aircraft, but was able to supply and maintain a greater number. Her original complement was three \$5 (HeSS) séaplanes, later she carried one Heinkel HD19 reconnaissance-lighter floatplane (Swedish designation J4) and one Heinkel HD16 float torpedo plane (Swedish designation T1). The large dimensions of the T1 necessitated the reduction in aerial complement. Still later she served as a harbour tender for the T2 (He115) and \$12 (He114) types. remaining in aviation service until 1944. Decommissioned in 1947, she was used as a target ship and finally sold for scrapping in 1961.

For use by GOTLAND, a new type of aircraft entered Swedish service — the British Hawker Osprey reconnaissance-fighter, a twin-float biplane. Unlike the British and Portuguese Ospreys, which were postered by in-line liquid-cooled engines. GOTLAND's had Swedish-bull Pegasus air-cooled radials. Her catapult was a German Heinkel model. Although she was designed to accommodate up to 11 aircraft, budgetary restrictions resulted in only six Ospreys being acquired for her.

Shortly after GOTLAND's completion the separation of the Swedish navy and air force became total when in 1936 continued political agitation for a more truly independent air service brought about a fastic reorganisation of the Flygenpet. Under this restructuring the naval air wing was reduced to a "co-operation" unit with a project strength of 32 planes.

GOTLAND's diminishing value as a seaplane carrier became evident in World War II, as ship-based floatplanes became increasingly inferior in all categories of performance to land-based aircraft Consequently, she was stripped of her aviation equipment and rearmed as an anti-aircraft cruiser during 1993-44. She was again rearmed and further modernised during 1953-54 to serve as a training ship, a role she performed until paid off in 1960. She was broken up in 1962.

Inferior although seaplanes might be to landplanes, they were still useful for coastal patrol and associated duties, so to supplement its tenders, the Swedish navy in March, 1940, requisitioned the 1235-GRT merchantman RANE of the Stockholms Reder AB Swea She was converted to an auxiliary seaplane tender at Malmo, work being completed June 25, 1940. Like JACOB BAGGE, she was not a true seaplane carrier, but aircraft could be hoisted aboard for repair and maintenance performed from a workshop fitted in the aft cargo hold RANE served until October, 1945, when she was returned to her owner. Later renamed ELEONORA, she was broken up in 1968.

A final craft used as a seaplane tender and naval air wing utility boat, beginning in 1929, was the 58 ton V19 (ex-VB19), built in 1914 as a searchlight boat and rerated a vedette in 1918. She remained in naval service until 1947



Hawker Osprey aircraft aboard GOTLAND

## YUGOSLAVIA

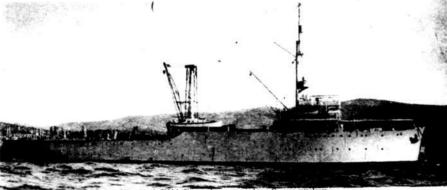
HE Royal Yugoslavian Navy's sole venture into shipboard aviation came with the commissioning of the seaplane carrier/tender ZMAJ (Kite). built in Hamburg in 1928-30. Very little is known about this vessel, which apparently was intended to serve as a mobile maintenance, repair and supply station for seaplanes operating from the many coves, bays and inlets of Yugoslavia's long Adriatic coast. Her aircraft capacity is given as 10, but that seems excessive for her size and probably refers to the number of planes she could transport. It is likely that the first aircraft she tended were French Hantriot H41 seaplanes, the early maintstay of the small Yugoslavian naval air arm. Later aircraft may have included some of the 12 German Dornier Doc2KR floatplanes purchased in 1938.

ZMAJ fell into German hands during the 1941 invasion and was renamed, in a straightforward translation, DRACHE (Kite). In 1942, after having served as a Luftwoffe utility vessel, she was turned over to the German navy and converted to a minelayer, being extensively rearmed As DRACHE, she operated a Flettner F1.282 helicopter for at least a short period during 1942, thus becoming one of the first warships in the world to be equipped with this type of aircraft. She was sunk by British aircraft at Samos in December, 1944.

#### Conclusions

The catapults that Spanish and Argentinian cruisers carried into the 1950 were anachronisms even then, for the development of helicopter during World War II spelled an end to a period of aeronaval history that began when Glenn Curtiss' first seaplane was hoisted aboard the USS PENNSYLVANIA in 1911. The future of shipboard aviation resided in the flight-deck carrier and, for other warships, the helicopter The beginning of the changeover from seaplane to helicopter among the smaller navies might be said to be symbolised by an event of May, 1950, when a float-equipped Bell 47D helicopter made the first landing of such a craft in the Argentinian navy, touching down on the aft turret of ADMIRANTE RROWN

The utility of the rotary-wing aircraft for shipboard use had long been foreseen; it could operate from small deck spaces and, unlike the seaplane, did not require a special launching device and did not depend upon favourable sea conditions for landing. The ments of such a craft had been reported to the US navy well before World War I. The British Admiralty's Airship, Aeroplane and Seaplane Subcommittee had studied a form of helicopter in 1915. The US, Italian and Spanish navies had conducted shipboard tests of Autogiros in the 30s, in 1935, speculating upon the future of the Autogiro. Oscar Parkes thought that its "ability to arise and alight in a confined space would seem to presage the end of the catapult which now makes such a call upon deck space and weight." Foru years later, Admiral Sir Barry Domville and two of his associates peered into a murky crystal ball and univestey predicted the



Yugoslavia's ZMAJ. She was later converted to a German minelaye

demise of the flight-deck carrier but opined that "possibly a rota seaplane is a suitable machine for capital ships."

Bringing such predictions into reality awaited the development of a truly practicable rotary-wing aircraft, which the Autogiro was not (although a few Autogiros saw operational shipboard use by the Japanese during World War II). Today, with operation of helicopters feasible from nearly every type of warship, shipboard aviation occupies a

more important place in the world's smallest navies than ever before. It may become even more important in the near future, for although the flight-deck carrier is still too expensive a proposition for most small navies, the development of V/STOL aircraft — which performed so successfully in their first test of arms over the Falklands — holds out the possibility that warships of the small nations may soon carry such planes as proudly as they did seaplanes in the 1930s.

| SALIENT PARTICLE ARS OF SMALL-NAVY SEAPLANE CARRIERS/TE | ALIENT DARTICLE ARS | OF SMALL N | AUV SEAPLANE | CARRIERS/TENDERS |
|---|---------------------|------------|--------------|------------------|
|---|---------------------|------------|--------------|------------------|

| Name and nationality              | Displ                 | Dimensions             | HP & Speed      | Armament  | Nominal<br>aircraft | Complement <sup>c</sup> |
|-----------------------------------|-----------------------|------------------------|-----------------|---|---------------------|-------------------------|
|                                   |                       |                        |                 |   | capacity            |                         |
| Dristigheten (Swedish)            | 3,270                 | 285 x 48.6 x 17 ft     | 5,600; 17 kts   | 4 3in AA,<br>4 MGAA, 2 25-<br>mm. AA added in<br>WW II <sup>5</sup> | 3                   | 16.1                    |
| Jacob Bagge (Swedish)             | 840 (FL)              | 220 x 27 x 9 ft        | 4,000; 19 kts   | 2 4.7in, 4 6 pdr*   | 1                   | 109                     |
| V19 (Swedish)                     | 58                    | 75 x 16 x 7 ft         | 105: 12 kts     | 1 37mm, 1 MG  | Nil                 | 14                      |
| Rane (Swedish)                    | 1.235 GRT.            | 264.8 x 37 x 14 ft     | 970: 11 kts     | 1 57mm. AA. 1   |                     | 207                     |
| nane (Swedish)                    | 2.006 DW              | 204.0 x 37 x 14 11     | 770. 11 110     | MG; in 1943, 2 40-<br>mm, AA, 2 MG                                  |                     |                         |
| Teh Shang, Wei Shang<br>(Chinese) | 932                   | 205.6 x 31 x 8 ft      | −. 16 kts       | 1 4.7in. 1 3in.<br>4 MG   | -                   | 93                      |
| Dedalo (Spanish)                  | 10,800                | 420 x 55 x             |                 |   | 0604010             | 10.00                   |
|                                   |                       | 20.6 ft                | 3,000: 12.5 kts | 2 4.1in. 2 57mm   | 25                  | 350                     |
| Albatross (Australian)            | 4.800                 | 443.7 x 58             |                 |   | 1940                | 1000                    |
|                                   |                       | (nominal)              | 12,000;         | 4 4.7in. AA, 2 2-   | 9                   | 372                     |
|                                   |                       | x 13.9 ft              | 22.5 kts        | pdr. AA. 24 MG*   |                     |                         |
| Zmaj (Yugoslavian)                | 1,870                 | 249.6 x 42.9 x 11.6 ft | 3,260, 15 kts   | 1 4in.*   | 10                  |                         |
| In standard time culous wikes     | access to discount of |                        |                 |   |                     |                         |

- In standard tons unless otherwise indicated Including aviation personnel where known
- Also equipped for minelaying

1974, p 384

1976, p 105

1966, pp 335-6

- Alt 4 7in removed when serving as tender
- Also 2 kit balloons and equipped for mooring an airship

same period in number of effective, commissioned vessels.

- Original armament, rearmed several times later
- As German Droche, carried two 4 1in, five 37mm AA, 13 20mm AA, one aircraft and 120 to 400 mines.

Gotland is omitted from this table, for her full particulars, see W/ No 3, 1976.

N

The adjectives "small" and "smaller" as used in this study refer only to the size of

a navy in comparison with fleets of the major maritime powers. No imputation of

inferiority in any other respect is intended. Some of the nations covered in the

study, although possessing small navies, were (and remain) quite large in terms of

territory, population and/or economic resources. Some "small" navies were

has nably large relative to some major powers. The Spanish navy of the 1920s,

for instance, was almost certainly as large as that of the Soviet Union during the

For particulars and an appearance sketch of these cruisers, see WI No. 4, 1972,

pp 433-5. For a photo of the Vought aboard Admirante Brown, see WI No. 4,

For a drawing of Albatross, noting her similarity to Ark Royal, see WI No. 2,

For additional details of these ships, and an appearance sketch, see WI No. 4.

### NOTES

- For a photo of an HM1 aboard Peter Skram, see WI No. 3, 1966, p 239.
  For a photo of two WAs aboard Hartog Hendrik, see WI No. 4, 1980, p 398.
- For a photo of two WAs aboard Hartog Hendrik, see Wi No. 4, 1980, p 398.
  For a photo of a CVIIW aboard Banckert, see Wi No. 1, 1981, p95.
- \*The description of the projected Portuguese seaplane carrier and its contractual history is taken from US Navy Office of Naval Intelligence Attache Reports ("ONI registers"). National Archives Record Group 38, entry 98, box 1270, file 4502, and supplied by Christopher C. Wright.
- and supplied of an Osprey aboard ship, see WI No. 3, 1970, p 256. The aircraft is British, aboard HMS Sussex, but is identical in appearance except for national
- insignia to those in Portuguese service

  "Oscar Parkes, "A Forecast of World Navies," Scientific American 153 No. 5,
  November 1935: 246-50.
- "Adm Sir Berry Domville, Vice Adm J. E. T. Harper and E. H. Baxter, "Capital Ships", in Charles W. Domville-Fife (ed), Evolution of Sea Power, Indian, Richards, Robert St. Cowan, 1939, p77 "Rota" was a British term for totary-wing aircraft in general.



GOTLAND as built. Two Ospreys share the flight deck



## "BATTLESHIP NEW JERSEY: AN ILLUSTRATED

Be PAUL STILWELL

Published by Arms and Armour Press.

Australian Distributor Capricorn Link, Sydney.

Price \$56.85

Reviewed by "Gayundah"

The visit by the USS MISSOURI to Australia in late 1986 for the 75th Anniversary of the RAN was a huge success. Not only did the public display their great interest in the mighty "Dreadnought", but the media. almost religiously, made her one of the principal stars of the event

As this issue of 'The Navy' goes to press, the USN has returned to service three of its four remaining battleships. NEW JERSEY. IOWA and MISSOURI while the fourth WISCONSIN has just begun her modernisation

The book. "Battleship NEW JERSEY An Illustrated History", is a massive publication. 319 pages long, which describes and illustrates the technical operational and human history of the ship. The book is the first to treat a current day warship in such a spectacular style land I hope that USS MISSOURI will be number two in the series)

From the beginning, the drawing board and then keel laying in September 1940, to commissioning in May 1943, then through her service in the Second World War, post war activities, then reserve recommissioning for Korea and then to reserve again. After being laid up for ten years. USS NEW JERSEY was recommissioned in 1968-69, and after another 13 years in reserve, was modernised as a missile and gun platform to counter the increasing Soviet naval threat

Apart from this almost too brief description of the ship's career, the preface describes the rationale behind the book. Part of this preface is

"To go to sea in the USS NEW JERSEY in the 1980s is to have the sense that she has managed to transcend the normal limitations of time This feeling probably becomes most evident at night as she glides through the dark sea, the water making a swishing sound as it travels from bow to stern and leaves a luminescent wake beneath the starlit sky. With the coming of night, the eyes no longer focus on the details which command attention during daytime. Instead, the imagination conjures thousands of nights past when this majestic giant has also moved beneath these same stars. The darkness obscures the changes which have been wrought, in order to make her again a potent weapon, as she was when she first took to the sea two generations ago

"A look back from the NEW JERSEY'S forecastle fills one with a certain knowledge of why battleships have inspired awe for so long. In the toreground loom six gun barries, each longer than many warships are wide. Beyond them is her towering superstructure, climbing toward that night sky. And one can see, also, the ship's bridge, illuminated by a dimred glow, as it was more than forty years ago, when this was Admiral Bull Halsey's flagship at Leyte Gulf, thirty-five years ago, when she steamed with the fast carriers off the east coast of Korea, nearly twenty years ago. when her thunderous salvos of gunfire saved the lives of US Marines ashore in Vietnam, and much more recently, when she was protecting Marines in Lebanon Now, more than four decades after doomsayers called Pearl Harbour the end of the line for battleships, she steams on yet again, with the same red glow from the bridge, the same imposing superstructure, and the same guns, which have for so long been a source of awe. This ship, designed in 1938, has accommodated to the passage of time and, in a sense, triumphed over it through the installation of today's

'During the nocturnal walk about the forecastle comes the realisation that there is much more to the ship than steel, guns and missiles Hundreds of Navy men breathe life and purpose into her inanimate elements. It is they who give her a soul and they who inherit the legacy. from thousands of NEW JERSEY men who have gone before. Many of them have probably had feelings similar to those expressed by one of BISMARCK

Herman Wouk's characters in The Coine Mutiny, when he came aboard with the idea of seeing Admiral Halsey. 'Can't you feel the difference between the NEW JERSEY and the CAINE? he asks. This is the Navy here, the real Navy

The number and quality of photographs in the book is excellent. As well as the traditional ship views, attention has been given to life onboard. the years in reserve and relitting for the three recommissionings

Those who prefer the technical side of the ship and her systems, are not ignored. Particulars of the ship in 1943, 1945, 1953, 1968 and 1981-82, are supported by some excellent line drawings. These are preceded by a brief design history of NEW JERSEY

The book describes the ship up to mid-1986, as NEW JERSEY was again at the forefront of her nation's naval might. A book of this type provides excellent reading and viewing and is thoroughly recommended

#### "THE WORLD'S AIRCRAFT CARRIERS 1914-1945" By ROGER CHESNEAU.

Published by Arms and Armour Press.

Distributed by Capricorn Link.

This 64 page, glossy booklet provides a brief photographic look at the formative years of the aircraft carrier through to the end of the Second

All carner navies are depicted with emphasis, because of numbers of ships, on the Royal Navy, United States Navy and Imperial Japanese

The illustrations reflect the crude nature of the early ships, the use to which surplus battleships and battlecruisers were put in the 1920s, and eventually, the purpose-built carriers. Also depicted are the "Jeep", or

#### "BRITISH DESTROYERS IN WORLD WAR ONE" Bu R A BURT.

Published by Arms and Armour Press

Distributed by Capricorn Link.

Another 64 pager from the Warships Illustrated series, "British Destroyers in World War One" illustrates the development of this type of warship from the 1893 vintage boats, through to the famous and longlived V and W class, four of which later transferred to the RAN

With few exceptions, most of the photographs have reproduced superbly. The picture of HMS PEYTON, in May 1915, is the best of a great selection, the M class boat is shown in incredibly heavy weather. almost completely awash

Good value and good reading

## "BATTLECRUISER INVINCIBLE"

By V. E. TARRANT.

Published by Arms and Armour Press. Australian Distributors Capricorn Link.

INVINCIBLE - the super-cruiser first of her type, was a revolutionary design, almost as far reaching in its significance as DREAD NOUGHT herself. Large, fast and powerfully gunned, she could overtake and destroy any enemy cruiser foolish enough to wander about the British

That was the concept. As a cruiser, she was a monster at 17,000 tons almost twice as big as her nearest German equivalent. At the time, she was the longest warship in the world, faster than any battleship, faster even than the fastest German liner. And she was the second most powerful warship in existence, with the ability to hurl more than four tons of high explosive at her foe every minute. Well could she bear the name.

Long, lean, ferociously handsome, she was to be the unchallenged quardian of the trade routes. And in her first action, she vindicated herself in that role. With her sister ship, INFLEXIBLE, she annihilated the German cruiser squadron of Von Spee at the First Battle of the Falklands But, as the First World War went on, and as naval strategy evolved, INVINCIBLE and her sister battlecruisers were called upon to perform a different role in the context of main fleet actions. Now they would be the scouting force, fast moving to locate the enemy battlefleet, then lure it onto the ouns of the battleships. And here their speed would not be sufficient compensation for the lack of armour that had been necessary to attain those extra knots. At Jutiand. INVINCIBLE perished in dramatic style under a hail of shells, blowing up spectacularly and breaking in two Of her ship's company - more than a thousand men - only six survived

As first of the battlecruisers, she promised much, but her Achilles, heel - inadequate armour to face battleship guns - was inherited by a family of beautiful, flawed warships. And, 25 years later, the last of the line. HOOD, was to explode in exactly the same way under fire from

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