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WAR IN THE MIDDLE EAST

The British - French action in the Suez Canal area has ended. British and French forces are leaving the Canal zone and indications are that the withdrawal will be completed by Christmas.

A token United Nations "police" force is moving in to keep the uneasy cease-fire between Egypt and Israel. British Naval salvage units, meanwhile, have been clearing parts of the canal—choked by the blockships which Egypt sank when the Anglo-French action began.

Apart from any question of the morality of the Anglo-French intervention—and the British Commonwealth itself is divided on this point—what has this action gained? In the immediate sense the result has been chaos. The canal has been put out of action for at least six months, according to expert reports. Port Said and the Egyptian airfields have been shattered by the air- and naval-power of the two intervening countries. Lives have been lost on both sides.

Britain, as her leaders must have expected, is now feeling the economic pinch which the Suez closure has caused. Petrol rationing is imminent. There is talk of rationing by price regulation—in the form of higher petrol tax which will mean higher petrol prices. Britain's gold and dollar reserves are causing alarm, and cabled dispatches hint at British approaches to America to suspend the interest payments, now coming due, on dollar loans.

Above all, a harsh result has been a rift in Anglo-American friendship which temporarily at least has pushed the two countries further apart than at any time since before World War II.

These, for Britain, are the immediate fruits of Suez. What will be the long term results? Time alone will tell. But if Britain has achieved her intention of breaking the dangerous Egyptian clutch on the Canal, the results are very significant indeed, not only to Britain herself but to the whole of the maritime world.

The Suez Canal, as the 1888 Convention emphasised, is a waterway of international importance—economically, commercially, and strategically. In fact it is the world's most important waterway and its control cannot be allowed to rest in the hands of a capricious dictator.

Britain from the outset has urged international control of the Canal. The London conference of 22 maritime nations supported this contention. It is to be hoped that the United Nations, now that they have moved into the Canal zone, will ensure that the international character of the canal is continued.

The Middle East affair should bring home to the Governments of the Commonwealth countries the vital necessity of being prepared to cope with "local" wars, waged with conventional weapons, as well as the dreaded global war with its fearful potential of destruction by nuclear weapons. A conflagration can be prevented by prompt action at what is a small incipient fire.

Since the end of World War II British forces have been engaged in local wars in Korea and now in Egypt. They have been committed to military action in the geurilla fighting in Malaya and against the Mau Mau. France has been engaged in Korea, in Indo-China, and in North Africa. We have seen the "local" war between India and Pakistan, and the so-called police action which failed to continue Dutch rule in the East Indies.

Australia, as well as the other Commonwealth countries, must be prepared to meet "local" aggression. We must not forget Indonesian ambitions in New Guinea. We must not ignore the fact that for our own protection our interests are tied to the interests of other nations, and that we must be ready to discharge our responsibilities if called upon to do so.

The mobility and flexibility of the Navy makes it our first line of defence. It should be given the men, arms, and facilities to carry out its duty with confidence.

AIR AND SEA

No sensible person would attempt to underrate the immense significance of aircraft development—in peace and war. But there are, regrettably, some who see modern aircraft as the sole answer to our needs of transport and aims.

An interesting sidelight on this was given in Britain recently by Admiral Sir Michael M. Denny, when speaking to the United Service Institution.

He pointed out that U.K. imports and exports in 1954 from all areas by air was approximately 300,000 tons out of a total of dry cargo imports and exports of 90 million tons.

He went on to illustrate the relative carrying capacities of ships and aircraft by comparing a modern cargo vessel and a Bristol Britannia.

"It is estimated that it would take 20 Britannias to carry in one year the same quantity of bulk cargo across the Atlantic as one modern cargo ship of 10,000 tons deadweight," he said.

"This estimate is based on the assumption that the aircraft would each fly 3,000 hours a year and that the ship, under war conditions, would make from four and a half to five round voyages annually.

"As a new vessel of this kind would cost under £750,000 and the cost of 20 Britannias would be in the region of £15 million, it is clear that the use of aircraft for the conveyance of any worthwhile quantity of bulk cargo would be impracticable, even if the number of aircraft could be spared for such a wasteful service."

DIVING TO GREAT DEPTHS

News was received in London recently from H.M.S. "Reclaim" (Lieutenant-Commander G. M. H. Drummond, R.N.), the Navy's Experimental Diving Ship, that a new world record for deep diving has been established in Norwegian waters.

THE dive was made from H.M.S. *Reclaim* by Senior Commissioned Boatswain George Wookey, aged 34, of Plymouth, who reached a depth of 600 feet in a helmeted flexible diving suit, receiving a breathing mixture of oxygen and helium supplied from the *Reclaim*.

The previous world record was established by Petty Officer Diver William Bollard of the Royal Navy, who reached the depth of 535 feet in Loch Fyne on August 28, 1948.

The record dive was made in accordance with new diving tables calculated by two officers of the staff of the Royal Naval Physiological Laboratory, Alverstoke, following research carried out at this establishment. The two officers, Mr. H. V. Hompleman, Senior Scientific Officer, of Gosport, and Surgeon Commander W. E. Crocker, R. N., are at present in H.M.S. *Reclaim*.

Senior Commissioned Boatswain Wookey joined the Royal Navy in 1939. He has been a diver for 12½ years and took part in diving operations during the search for the submarine *Affray*, lost in the English Channel. In recent trials he reached a depth of 1,060 feet in an observation chamber. He is a married man with daughter aged 12 and his home is in Bridewell Road, West Hill, Plymouth.

During the record dive Able Seaman George Clucas, 24, of Newcastle - on - Tyne, was the diver's assistant.

Since the world record dive of 535 feet carried out on August 28, 1948, the Royal Navy has been steadily increasing its efficiency in the realm of deep diving. The object has not been to establish further records but to make diving to great depths a matter of routine.

Deep diving means the operation of flexible suited helmet divers, supplied and controlled from a surface vessel, to depths to 180 feet and downwards. Many people have the impression that the helmet diver has been outdated by the invention of the aqualung. This is quite false. The aqualung is a shallow diving apparatus. The French, the acknowledged experts in its use, say that only specialists should venture with it below 60 metres (just under 200 feet) and that the "fatal limit" is not far beyond 80 metres (260 feet).

More picturesque language is used by an American writer describing the use of the aqualung. He says that "the free diver who descends even to 200 feet has one foot on a tightrope between mortality and oblivion." Hence the deep diver begins roughly where the aqualung diver leaves off.

This does not mean that it will never be possible to "free swim" at great depths with self-contained apparatus. This may come in the not too distant future but not with apparatus of the aqualung type, which is fundamentally unsuitable for very deep work, and not without elaborate control arrangements comparable with those now necessary for the helmet diver.

There is at present no known depth limit for the deep diver. He uses a breathing mixture of oxygen and helium. Two ships, the Experimental Diving Ship, H.M.S. *Reclaim*, and the Submarine Rescue Ship, H.M.S. *Kingfisher*, have recently been fitted with completely new systems for supplying divers with this mixture. It is an improvement on air for two reasons. First, nitrogen in air produces a narcotic effect which prevents the diver working at full efficiency in depths exceeding 240 feet. Second, the oxygen content of air is such that it reaches a toxic pressure at just under 300 feet. Three hundred feet can, therefore, be regarded as the outside safety limit for a diver using compressed air.

There is no such limit for the oxy-helium mixture. Helium apparently has no narcotic effect. If such an effect does exist, it is likely to be at a depth beyond that at which other limiting factors will intervene. The chief of these is the decompression time.

Oxygen poisoning can be prevented by limiting the percentage of oxygen in the mixture. Such a mixture does not provide adequate oxygen until a certain depth is reached. A change over must take place from air to mixture at a fixed level both in the descent and the ascent, or the diver will suffer from lack of oxygen at shallower depths.

The result of experimental work on oxy-helium diving so far is that divers working from the *Reclaim* and the *Kingfisher* can carry out routine dives to a depth of 430 feet and work at this depth for a maximum time of 20 minutes

Among 300 National Service trainees who returned to Sydney on November 8 in the aircraft-carrier H.M.A.S. "Sydney" from a voyage to Singapore and Hong Kong were Queenslanders Jim Nutter, of Ipswich, and John Wade, of St. George, pictured with the coolie hats and guitars they bought during the cruise. The trainees later went to Melbourne in the carrier for the Olympic Games.

with ease comparable with that experienced at about 100 feet when breathing air.

This limit is not governed by physical exhaustion but by the fact that while the diver is at depth, the helium gas penetrates his tissues and the longer he stays down and the deeper he is the more helium is absorbed. This means that a diver will take longer to "decompress."

To "decompress" in the shortest possible time without risking "decompression sickness," more generally known as "the bends," is a complex problem, particularly with helium, and one which has not yet been completely solved. Much original work has been done recently on this subject at the R.N. Physiological Laboratory, Alverstoke, Hants., and results are encouraging

The importance of keeping the decompression time as short as possible is best illustrated by quoting an example. After five minutes on the bottom at 600 feet, a diver must remain under gradually reducing pressure for five hours and 38 minutes before finally "surfacing."

The term "surfacing" applies to pressure and it does not mean that the diver is in the water for the whole of the decompression period. At an early stage he enters a submersible decompression chamber which is lowered down to meet him. This chamber is a vertical cylinder with doors at each end. It is supplied with air from the surface and contains an attendant. When it is lowered into the water the lower door is open and air pressure keeps the chamber clear of water on the diving hell principle.

At a depth of some 200 feet, the ascending diver enters the chamber through the lower door. Here the attendant takes the diver in charge, removes his heavy gear, disconnects supply pipe and breastrope and finally closes the lower door, so locking in the chamber air pressure equivalent to its depth. The chamber is then hoisted inboard and decompression proceeds in safety, pressure in the chamber being gradually reduced until "surface" pressure is reached. Pure oxygen is breathed at the later stages of the decompression period and this speeds the elimination of helium.

Throughout the dive communication is maintained by loud speaking telephone with the diver and with the attendant in the submersible decompression chamber.

Experience is needed to interpret the diver's voice, distorted as it is to a "Donald Duck" quality by the effects of pressure and helium. Experience and careful drill are also needed in a variety of tasks on the surface.

The operation of the control valve which regulates the divers gas supply, the handling of his breastrope and supply pipe, the accurate timing of the decompression schedule, are a few of many duties to be carried out. All are important to the well-being of the diver. Some are essential to his life.

A successful deep dive is therefore not only a question of skill on the part of the diver. It is a team event.

Why is deep diving necessary? To save life. There are vital tasks for divers in connection with submarine escape and for this purpose it is necessary to establish how far it is practicable for a diver to descend and work. It is with this object in view that trials continue.

Navy Surgeons' Use of Polio Vaccine

SALK poliomyelitis vaccine apparently can be given with relative safety to both children and adults during an outbreak of poliomyelitis, the Surgeon General of the United States Navy, Rear Admiral Bartholomew W. Hogan, M.C., U.S.N., announced recently.

Releasing the results of use of the vaccine during an outbreak of poliomyelitis last autumn among Navy families living in Hawaii, he stated that there was no evidence that the vaccine had caused paralysis to occur among persons who were possibly infected with the virus at the time of vaccination.

Because past outbreaks had tended to be more severe in military families stationed in Hawaii than in the civilian population, it was decided to give the Salk poliomyelitis vaccine to the approximately 26,000 children and parents before further spread of the disease could occur. Previous outbreaks tended to last for several months.

Admiral Hogan directed that a special allotment of vaccine from the Navy's share under the Federal Interstate allocation plan be sent for this purpose. Vaccine was also made available by the National Foundation for Infantile Paralysis and the Territorial Health Department.

A voluntary programme of vaccination was started in early October and approximately 80 per cent. of the total children and married adults applied for and were given two doses of the vaccine.

About 30 days after the vaccine programme was started the outbreak was almost over.

NEW FIRST LORD DISCUSSES R.N.'S ROLE IN PEACE AND WAR

Making his first public speech as First Lord of the Admiralty, the Rt. Hon. Viscount Hailsham, Q.C., at a Navy League luncheon organised to commemorate the anniversary of Nelson's victory at Trafalgar, said he was "faced inescapably with the necessity for a programme of new construction at a time when public opinion is visibly clamouring for a reduction in the Estimates for the fighting Services."

THE First Lord made this statement after observing that the Navy had, for reasons which were in themselves laudable enough but whose consequences might be serious, delayed in modernising the Fleet. Even the new Tiger Class cruisers, when they come into service, which they have not yet done, were first conceived some years ago, and ships which are now in service have hulls which in the ordinary course of events will be worn out by 1965 at the latest and in some cases soon after 1970, he said.

The necessity for a new construction programme would be easier to face if at the same time he could say that all was well in the matter of accommodation and buildings. But accommodation and buildings, as his predecessor had pointed out, were very far from satisfactory and a programme of £70,000,000 would be necessary to bring them up to standards which all agreed are required in the twentieth century. These were extremely daunting factors, but they were also challenges which had to be met.

Referring to the atomic threat, the First Lord questioned whether people were not becoming too preoccupied with this. During the past ten years a number of atomic explosions had taken place over mountains, deserts and oceans, but since 1945 no nuclear weapon had been exploded in anger. Instead there had been a constant use on a small and limited scale of conventional weapons in a number of apparently unconnected, but in truth interdependent, incidents taking place in almost every quarter of the world. These were Korea, Malaya, Indo-China, Kenya, Cyprus, and now Suez.

It was true that the strength of Britain could be destroyed overnight by an atomic explosion; it was also true that it could be brought low with no less certainty by a series of conventional nibbles which she was unable to

The Duke of Edinburgh meets Service Chiefs on his arrival in Sydney on November 28. Centre is Rear Admiral H. J. Buchanan, Flag Office rin Charge East Australia Area.

DUKE OF EDINBURGH'S STANDARD

Signal ratings at H.M.A.S. "Kuttabul" inspect the 19 ft. x 9 ft. standard of the Duke of Edinburgh, which arrived in Sydney by air on November 7.

counter because she had devoted her entire potential military strength to the development of a deterrent and in preparation for a strategy of global war which never happened.

"It is evident that in the present age we need a mobile force, flexible in its character, capable of bringing air power to bear where there are no aerodromes, or no aerodromes in our control; peaceful in its nature, capable of making its appearance unobtrusively and without political domination, in distant quarters of the world showing the emblem of Britain in friendliness but also in strength; a power that is capable of moving small bodies of troops complete in themselves and capable of action at very much shorter notice than a full-scale military preparation could achieve; a force trained to operate in all kinds of climates and above all things ready, economic, mobile and, at the point where it is applied, it is to be hoped decisive," the First Lord continued.

"This role we cannot fulfil without the Navy. It is no function of the modern naval commander or of the Minister responsible for the Navy to belittle or disparage the vital and indispensable contributions of the other two services, but on this occasion and in this company it is as well, I think, to consider a little of ourselves and of the contribution which we have to make.

"The future development of ballistic missiles makes one wonder whether in the long run if, which God forbid, great nations should once again enter into conflict with one another, the great fleets of bombers which have dominated the skies in the last two wars will once again enter into conflict with

"But one thing is certain: so long as we remain at peace or in cold or limited war, so long as there is a need to carry out influence from the Falkland Island to the Far East, over Asia and Africa, from the north of Norway south to Antarctica, so long will there be an urgent and indispensable need for a Royal Navy capable of discharging its duty. We may have to put up with a smaller Navy than we would like, but let us resolve not to be content with an obsolete one. For, remember, three years after the weapons are off the production line in Russia they are in the hands of Russian satellites. We cannot use inferior or obsolete material.

"The present situation is, as I have said, daunting. But it is a challenge to us all; and having lived as we all have lived through the anxieties and dangers which have beset us since 1914, and having survived as we all have survived so long in the midst of so many and great dangers, I cannot bring myself to believe that in these latter days we shall go down to disaster in a welter of little men and mean measures."

FIFTY YEARS AGO SAW . . .

THE FIRST BIG-GUN SHIPS

By NORMAN BEEDLE

October saw the 50th anniversary of the completion of H.M.S. "Dreadnought," the first big-gun ship of the Royal Navy designed under the inspiration of Lord Fisher. With the recent recommissioning of H.M.S. "Girdle Ness," we approach another revolution in naval armament and possibly also in naval shipbuilding, and it is therefore particularly appropriate that we should look back and consider what the "Dreadnought" and her sisters meant to the Royal Navy of 50 years ago.

FEW ships were ever more aptly named than *Dreadnought*, first of the Royal Navy's "all-big-gun" vessels, and forerunner of the greatest battleship-building revolution since the coming of the ironclad.

Commissioned in late 1906, less than 14 months after a "hush-hush" laying-down at Portsmouth Dockyard, *Dreadnought* owed much of her speedy inception and revolutionary design to the far-seeing genius of Sir John Fisher, then in his first term of office as First Sea Lord.

It was the volcanic Fisher, who, acutely aware of the rapidly growing German menace in the North Sea, refused to be content with a total of some 30 or 40 existing capital ships; placing his faith instead in a fast, heavily armed vessel capable of out-fighting two, or even three of these warships at the most extreme ranges.

How well he succeeded is now naval history; and almost overnight, the battleships of the world were split into two classes — Dreadnoughts and pre-Dreadnoughts.

The new warship was the ninth of her name. Forebears had distinguished themselves under Drake at Cadiz, and with Nelson at Trafalgar. Tradition was precious in the Royal Navy, and ancestors who had fought under Britain's greatest admirals demanded a worthy successor. Nor would they have been disappointed in the latest of the line.

Vickers steam turbines drove the 17,900 ton *Dreadnought* through the water at a speed of 21 knots. This was the first time a capital vessel of this size had been fitted with the new machinery, and gave her several knots in hand over existing battleships. Provision was also made for the use of either coal or oil fuel — another revolutionary step.

Armour, too, had been increased and now reached a maximum thickness of 11 inches at vital points. Submarine attack was anticipated by the addition of substantial torpedo-bulges, both at, and below the water-line.

But, by far the most outstanding feature of all was the hitting power of this new £1,750,000 warship. The primary armament consisted of no less than ten 12-inch guns — six more than that of any other vessel afloat. These were mounted in five twin turrets; two for'd, one aft, and one on either beam; an arrangement enabling eight of the guns to be trained on either broadside, or alternatively, six ahead or astern.

Here indeed, was the "all-big-gun" ship with a vengeance — a vessel capable of taking on two pre-Dreadnoughts on the broadside, or three of the same class firing ahead or astern.

This tremendous increase in primary fire-power had been wrought at the expense of the secondary armament — hitherto a fire-controller's nightmare — consisting on previous vessels of a heterogeneous collection of 9.2 inch, 6 inch, and twelve pounders. Instead, only the quick-firing twelve pounders remained, 24 in all, for dealing with venturesome torpedo craft. Five submerged torpedo-tubes, four broadside and one astern, completed *Dreadnought's* armament; although on later vessels the twelve pounders were to give way to a more lethal 6 inch secondary armament.

Early 1907 saw *Dreadnought* take her place as flagship of the Home Fleet, a potent reminder to hostile powers of British naval strength. But nevertheless, Britain could not afford to be complacent. Having rendered her existing capital vessels semi-obsolescent in one bold stroke, she now had to maintain her lead in this new field. Germany speedily took up the challenge, widening the Kiel Canal to accommodate the increasing dimensions of her warships, and the final stage of a naval race that was to culminate in the mists of Jutland nine years later, was under way.

By the outbreak of the 1914-18 war, both nations possessed a considerable fleet of Dreadnoughts and battle cruisers, although Britain, by utilising her tremendous shipbuilding potential to the full had managed to increase her

lead. The Royal Navy also held trump cards in the shape of several super-Dreadnought battleships and battle cruisers mounting 13.5 inch guns; whilst almost nearing completion was the *Queen Elizabeth* class equipped with a 15 inch armament. H.M.S. *Dreadnought*, in fact, was already middle-aged!

Age, however, was no object at the beginning of the First World War, and after taking part in many sweeps of the North Sea with the Grand Fleet, *Dreadnought*, commanded by Captain Alderson achieved further fame by ramming the *U-29* whilst on patrol in March, 1915.

This proved to be the vessel of Commander Weddigen, the submarine ace, who earlier in the war had torpedoed the armoured cruisers *Cressy*, *Hogue* and *Aboukir* within three-quarters of an hour, whilst in the *U-9*. Responsible also for the loss of the cruiser *Hawke*, his untimely end must have dealt a grave blow to the morale of the enemy underseas raiders.

But *Dreadnought* never took her place in the line at Jutland. After the German raid on Lowestoft on 25th April, 1916, the Third Battle Squadron, consisting of *Dreadnought* and seven pre-Dreadnoughts was detached from the Grand Fleet and based on the Thames as a deterrent.

After Jutland, the brief career of the famous ship rapidly drew to a close. Paid off on 7th August, 1918, the end of the war found her still and deserted, with only the ghosts of an illustrious past for a crew.

She was placed in reserve commission at Rosyth, on 25th February, 1919, and on 31st March, 1920, appeared on the Admiralty "For Sale" list together with the pre-Dreadnought *Lord Nelson* and others. As a final mockery, two pre-Dreadnoughts, the *Agamemnon* and *Commonwealth* survived her, remaining in commission as target and gunnery ships.

Apart from a law suit, the result of a minor collision with a Norwegian vessel whilst moored in the Firth of Forth in December, 1920, little more was heard of *Dreadnought* until August of the following year when she was finally sold as scrap for £44,000.

Ironically enough, several of the Navy's pre-Dreadnoughts had played far more active roles in the war than their successor; but there can be little doubt that had war broken out earlier, say, in 1907, *Dreadnought* would have taken a major part in deciding the issue at sea. As it was, she had to be content to watch others reap the glories of battle in her stead.

The Duke of Edinburgh on November 21 inspected H.M.A.S. "Albatross," the R.A.N. air station at Nowra (N.S.W.). He is shown here discussing with Lieutenant-Commander L. M. Bateman survival exercises if naval aircraft crash. Lieutenant-Commander Bateman had been shot into the "ditching" pool in a dummy cockpit. Pictured with the Duke is Captain P. E. Fanshawe, Commanding Officer of H.M.A.S. "Albatross."

Crowds Swarm Aboard Submarine

Children bustled adults as they filed on board H.M.S. "Telemachus," which was open for public inspection at Manly (N.S.W.) wharf on November 11. The submarine was at Manly at the invitation of the Mayor, Alderman M. Paine.

NEWS OF THE WORLD'S NAVIES

Two naval aircraft collide in air

Two Royal Australian Navy Firefly aircraft collided in the air near Jervis Bay (southern N.S.W. coast) on November 27 and the pilot and observer of one were lost.

A helicopter rescued the pilot and observer of the other aircraft after it had "ditched" into the sea.

The aircraft were on a training flight from the R.A.N. air station at Nowra.

The missing pilot and observer vanished when their plane hit the water with great force.

A wide search was carried out by three air-sea rescue launches, two helicopters, and other naval aircraft, without success.

Admiralty gift brought by "Britannia"

The commander of the Royal Yacht *Britannia*, which brought the Duke of Edinburgh to Australia for the Olympic Games last month, presented three glass panels to the N.S.W. branch of the Royal Empire Society.

The panels, a gift of the Admiralty, were from the previous Royal yacht, *Victoria and Albert*.

The panels bear a coloured arabesque design.

Royal Marines to serve in small ships

The Admiralty has announced that Royal Marine detachments are to be embarked in certain frigates instead of seamen.

This is a departure from the traditional sea service of Royal Marines, who until now have served only in ships of the size of cruisers and above.

The first of three frigates to be manned by marines is H.M.S. *Loch Killisport*, which sailed from Portsmouth recently for service on the East Indies Station and the Persian Gulf. The frigate carried 20 marines.

Lowering of W.R.N.S. age limit

The lower age limit for entry into the Women's Royal Naval Service has been reduced from 18 to 17½ years. The consent of parents or guardians will, however, be required by all recruits wishing to enter the Service under the age of eighteen.

In addition to widening the recruiting field, the new minimum age limit will shorten the gap between leaving school and entry in the Service. It will also enable young women of this age group, from whom many enquiries are received at recruiting offices, to settle in a full time career in the W.R.N.S.

England "won't be bullied," says First Lord

England would not be bullied over her actions in the Suez Canal zone, the First Lord of the Admiralty, Lord Hailsham, said at Oxford (U.K.), on November 30.

Referring to criticism of Britain in the United States and United Nations, Lord Hailsham said "We will not be sermonised. And please, we do not wish to hear any moral lectures from those whose moral weakness and incapacity to see the facts was the precipitating factor in the present crisis."

Lord Hailsham said he had been trying to arrange a technical meeting on clearing the Suez Canal.

"That meeting has so far been frustrated in New York," he added.

Lord Hailsham, whose mother was an American, said: "For the first time since the war, almost for the first time in my life, I have begun to find it hard to say that I am half American and still harder to say that I am proud of it."

Explosion, fire on former Navy ship

The former Australian Navy L.S.T. *Tarakan*, on which eight men lost their lives in an explosion and fire in Sydney Harbour in 1950, was nearly the scene of a similar disaster further upstream on November 27.

Reports state that a spark from an oxy-acetylene torch caused an explosion, in which the oil tanks blew up, sending flames and black smoke hundreds of feet in the air.

Two workmen on the ship probably saved their lives by throwing several oxy-acetylene cylinders overboard to prevent their exploding in the flames.

Firemen used foam and water on the fire for more than an hour before bringing it under control.

Museum gets mast from Royal Yacht

The former mizzen mast of H.M. yacht *Victoria and Albert III* has recently been erected outside the National Maritime Museum. The Museum has long desired a spar of suitable dimensions from some historic ship to replace the rather inadequate flag staff previously used, and so was extremely glad to accept the gracious offer by Her Majesty the Queen of this mast, together with other relics from the old Royal Yacht.

Plans for the rigging of the mast were prepared by the Constructive Department of H.M. Dockyard, Chatham, but some difficulty was experienced in finding firms who would undertake the necessary rigging and erection.

Finally the work was accepted by two who have always proved extremely good friends to the Museum. Messrs. William Cory & Son, Ltd., undertook the rigging and preparation of the mast, while Sir Robert McAlpine & Sons Ltd., who had previously lifted the mast from the river and brought it to the Museum grounds free of charge, undertook the ground works and actual erection, which has recently been satisfactorily completed.

The mast is from a single tree, and was originally 129 feet in length, but the lower part, formerly below deck level, was found to have opened up somewhat, and it was found advisable to cut it away. The mast now stands 105 feet above the ground, the same height that it previously rose above the deck of the yacht.

First aircraft direction frigate

H.M.S. *Salisbury*, first of the new aircraft direction frigates was commissioned on October 22 at Plymouth. She is also the first ship to be built in Devonport Dockyard since the war.

H.M.S. *Salisbury*, commanded by Commander W. A. E. Hall, R.N., has an overall length of 340 feet and a beam measurement of 40 feet. Her main armament will consist of two 4.5 in. guns with two smaller weapons.

She is the seventh ship to bear her name in the Royal Navy, the first being a 48-gun fourth-rate acquired by the Service in 1698 and the sixth an American World War I destroyer, transferred to the Navy in 1940.

The Deans and Chapters of the Cathedrals at both cities of Salisbury have agreed to accept the White Ensign and Union Flag flown during the *Salisbury's* commissioning, the former to be hung in the English Cathedral and the latter in the Rhodesian.

At the commissioning ceremony Salisbury, Rhodesia, and the English cathedral city of that name were represented by the High Commissioner for the Federation of Rhodesia and Nyasaland, Sir Gilbert McCall Rennie, G.B.E., K.C.M.G., M.C., and Lady Rennie and the Bishop of Salisbury, the Rt. Rev. William L. Anderson, D.S.C., D.D., Mrs. Anderson, and civic representatives from Salisbury.

The Commander-in-Chief, Plymouth, Admiral Sir Mark Pizey, K.B.E., C.B., D.S.O., and Lady Pizey and the Lord Mayor and Lady Mayoress of Plymouth were also present.

American fighting forces warned for readiness

Early last month the United States Joint Chiefs of Staff stated that U.S. service commanders in all parts of the world had been warned to tighten their defence readiness.

American Associated Press reported that some naval training manoeuvres had been cancelled.

As a preparatory measure, it stated, the U.S. Navy had ordered a big air strike force to sea.

The 60,000-ton carrier *Forrestal* had steamed out of Norfolk, Atlantic coast base, with the 45,000-ton carrier *Franklin D. Roosevelt*, the heavy cruisers *Des Moines*, and more than a dozen destroyers.

U.S. Navy headquarters said the ships would remain under the direct operational control of Admiral Jerrauld Wright, Supreme Commander of the Atlantic alliance Naval forces, and commander of the U.S. Atlantic Fleet.

The newsagency quoted the Joint Chiefs of Staff as having emphasised that there was "no new, imminent crisis."

Tribute to Royal Navy salvage work

Sydney "Daily Telegraph's" correspondent in the Suez Canal Zone, Ronald Monson, in a dispatch to his newspaper late last month, praised the Royal Navy's operations in clearing part of the Suez Canal of Egyptian blockships.

THE CHINA RIVER GUNBOATS

By A. CECIL HAMPSHIRE—in London

In the spacious days between the wars before Post and General Lists were thought of, the average young Lieutenant-Commander might well find himself holding a unique command.

NOT only would he have become a fresh water sailor, but in addition to normal responsibilities, he might be called upon to cope at the drop of a hat with battle, murder and sudden death, coupled with the daily threat of international "incidents" guaranteed to turn an experienced diplomat's hair grey. For all this, and more, was the lot of commanding officers of those one-time small but important units of the Navy, the China river gunboats.

Up to the outbreak of World War II, 13 of these vessels patrolled the Yangtse and five the Si-kiang, or West River. The Yangtse Flotilla boasted a Rear-Admiral in command, and the West River Flotilla had a captain as senior naval officer.

Most of the gunboats belonged to the "Insect" class, of which 12 were built in 1915-16 for service on the Danube against Austro-Hugarian montors. In alphabetical order, these were the *Aphis, Bee, Cicada, Cockchafer, Cricket, Glowworm, Gnat, Ladybird, Mantis, Moth, Scarab* and *Tarantula.*

They were 237ft. 6in. long, displacing 645 tons, with a beam of 36ft. and a mean draught of 4ft. They had two funnels abreast, their twin screws were sited in tunnels, and with three rudders they were very manœuvrable. Their designed speed was 14 knots, but this was frequently exceeded. Two 6-inch guns comprised their main armament, and on a battery deck protected by steel plating, they mounted a number of smaller weapons. Both the *Bee*, the Yangtse flagship, and the *Tarantula* (S.N.O. West River) had a 6-inch gun removed to provide quarters for their senior officers.

To reach the Danube the "Insects" were to have been taken to Salonica and transported overland in sections. But the collapse of Serbia nullified the plan. Nevertheless, the *Glowworm* and *Aphis* did eventually reach the Danube in 1920. When the Austrian Emperor abdicated, he and his Empress and their suite were accommodated on board the little *Glowworm*.

Eventful careers

Of the rest, the *Mantis, Moth, Tarantula* and *Scarab* took part in the Mesopotamian Campaign, the *Aphis* and *Bee* were employed in Egypt, and others on coastal defence duties at home.

In 1919 and 1920 the "Insects," originally called "Large China Gunboats" to conceal their real purpose, were towed out to the Far East to begin their eventful careers on the Chinese rivers. The *Glowworm*, however, was sold in Malta in 1928, and the *Aphis* and *Ladybird*, paid off there in 1921, were recommissioned for China service in 1927.

The policing of the Yangtse and Si-kiang by the Navy dated back to 1858 when the Treaty of Tientsin opened a reluctant China to Western trade, and permitted "British ships of war, coming for no hostile purpose, or being engaged in the pursuit of pirates, to visit all ports within the dominions of the Emperor of China."

But for a long time no warships suitable for river work were included in the China Squadron. Six first-class gunboats of 700-800 tons were on the station, but the first river gunboats built for the job arrived in 1899. Known as "shallow draught steamers," they were designed by Yarrow and sent out in "flotable sections" which were bolted together in the water.

First arrival was the *Sandpiper*, an 85-ton vessel, 100ft. long, with a beam of 20ft. and a draught of 2ft. She was coal-burning, with a speed of 10 knots. Armament comprised two 6-pounders, and her complement was two officers and 21 men. She took up her duties on the West River.

Then followed the *Woodcock* and *Woodlark*, larger vessels of 145 tons mounting two 12-pounders, and subsequently the *Nightingale, Snipe* and *Robin* of the "Sandpiper" class, and the *Teal, Widgeon* and *Moorhen* of the "Woodcock" class. Six were employed on the Yangtse and three on the West River. Contrary to popular belief, the *Robin*, last of the smaller gunboats to survive into the late 1920s, did not float across from the Yangtse to the West River during an abnormal flood season; she was never employed on the larger river. But such was her reputation against pirates that her successors were known to the Chinese as "Big L'obins."

The gunboats patrolled some 1,500 miles of the Yangtse and up to 500 miles of the West River. For naval purposes the Yangtse was divided into three sections: Lower, from Wusung to Hankow; Middle, from Hankow to Ichang; and Upper, from Ichang to Chungking. Although the "Insects" could reach Ichang at all times, the Upper section was attainable only during certain months of the year. Above Ichang precipitous gorges extend for 160 miles, between which the river becomes a stretch of swift flowing rapids with currents reaching 14 knots.

The first gunboats to make the passage from Ichang to Chungking were the *Woodcock* and *Woodlark* in April/May, 1899. The trip took 31 days, the ships having to be hauled over the rapids with the aid of coolies and stout bamboo ropes. Later two gunboats were permanently stationed on the Upper Yangtse.

Gallant vessels

The "Insects" who relieved these gallant old vessels had their accounting base at Hankow and refitted at Shanghai. Normally one gunboat was stationed at each of the Treaty ports, while the *Bee* with the Rear-Admiral (Yangtse) cruised between Shanghai and Ichang.

On the West River, with administrative and refitting base at Hong Kong, were the *Tarantula* (senior officer's ship), *Moorhen, Sandpiper* and *Robin*. The two last named were relieved by the *Cicada* and *Moth*, and the *Moorhen* was eventually replaced by the *Seamew*, first of a new class built in 1927. Normal limit of patrol on the West River was Wuchow, some 250 miles from Hong Kong, but during the flood season the "Insects" could reach Nanning, 250 miles farther on.

Also in 1927 came the *Gannet, Peterel* and *Tern*, and later the *Falcon, Sandpiper* and *Robin*. These new gunboats varied between 185 and 372 tons, were faster and more heavily armed than their predecessors, and boasted superior living accommodation.

China gunboats never paid off. The authorities at home were well aware of the effect on morale of a body of men cooped up within the limited compass of a small vessel in a hot, moist climate. Half the crews were therefore relieved annually, each having completed the statutory 2½ years' commission by the time they reached home.

But life in gunboats was popular and never monotonous. Political situations caused by the ambitions of aggresive war-lords blew up like tropical storms in their patrol areas, and were handled by the sailors on the spot with such consummate skill that they rarely hit the newspaper headlines at home. Activity against pirates and bandits was ceaseless, and Chinese as well as Europeans came to regard the White Ensign as a sure symbol of security.

These fresh water sailors rubbed shoulders with the teeming life of China at close quarters. They saw the customs of the people at first hand, from the amazing "Dragon Boat" festival, to the passage of the huge, paper-decorated palanquin in which the body of a dead patriarch is borne to its last resting place in the hills facing the river, attended by the wailing of professional mourners and the machine-gun ripple of fire-crackers to scare away evil spirits. They saw, too, death and destruction wrought by Man and Nature; by civil wars, floods and typhoons; by disease and poverty; and they felt the fascination of the great rivers upon whose bosoms whole communities live out their lives in junk and sampan.

World War II wrote *finis* to the story of the China gunboats, which, even without the rise of Mao Tse-tung, could never have resumed their historic role. The *Peterel* and *Cicada* were sunk by Japanese bombs in December, 1941, and the *Tern, Robin* and *Moth* scuttled at Hong Kong to avoid capture in the same month. The *Sandpiper, Falcon* and *Gannet* were given to the Chinese in 1942, and eight others left to fight elsewhere.

Of these the *Aphis, Gnat, Ladybird* and *Cricket* joined the Medi-

Continued on page 25

NEW BADGE DESIGNED FOR PATROL BOATS

A N official type badge symbolising the characteristics of fast moving craft has been designed by the Royal Navy for fast patrol boats.

In this category are craft known in World War II as Motor Torpedo Boats and Motor Gun Boats, but minelaying coastal craft and craft powered by gas turbines are now also included.

The badge, superimposed on a blue field and headed with the Admiralty Crown, is heraldically described as: "A flying fish with the tail of a scorpion white and in base two bars wavy also white." It is ringed with a coil of rope.

The badge is based on that originally designed for the first Motor Torpedo Boat Flotilla in 1937, and subsequently used unofficially as a type badge for all M.T.B.s and M.G.B.s.

A flying fish is intended to symbolise the high speed and skimming characteristics of these light craft, while the scorpion's tail indicates the powerful sting of their armament. In a former design the sting of the scorpion's tail was facing aft—an allusion to the fact that torpedoes in the early M.T.B.s were launched astern through the transom. Since torpedoes are now fired ahead, the scorpion's tail has been reversed.

IN THE COLD SOUTH

How many cigarettes can 230 Naval ratings be expected to smoke during six months in the Antarctic? How much chocolate will they eat? How best can their off-duty recreational needs be catered for in a part of the world where there will be few opportunities for "runs ashore"?

THESE questions arose on board H.M.S. *Protector* before she sailed from Portsmouth on October 5 for her second commission in the Falkland Islands and Dependencies. The answers are:

- Fifty-four thousand cans of beer, each containing twelve fluid ounces and storing them in an even temperatured magazine.
- More than a million cigarettes and seven tons of chocolate and sweets for sale in the ship's canteen.
- The constituents of thirty-three thousand portions of ice cream which experience has shown to be still popular in sub-zero weather.
- Seventy films, more than twice the number of library books usual for a ship of her size and a large quantity of recorded music.

Special attention was also paid to the educational and handicraft fields. Some ratings have already decided on courses in language study and classes in French, German, Spanish and Portuguese have been arranged. Others are taking correspondence courses and receiving instruction on board for examinations.

During the last commission, the ship's company spent more than £500 on rug making and it is anticipated that this will be equally popular again, special arrangements being made for the supply of materials. Before the *Protector* returns to Portsmouth again towards the end of May next, it is expected that one man in two will be busily making things for the home, or engaged in model making or leatherwork.

Strangest leisure-time pursuit on board is probably that of the Chaplain, the Rev. Eric Milner, M.A., R.N., whose home is at Ossett, Yorkshire. He has undertaken to collect fleas, lice and parasites for the South Kensington Natural History Museum from Antarctic birds. He has received special instruction in trapping.

The *Protector* will assist the Governor of the Falklands Islands and Dependencies during the Antarctic season in maintaining the security of the territories under his jurisdiction. After being specially strengthened, she took over this work for the first time from a frigate of the American and West Indies Station in the autumn of 1955.

For the first time, she has a survey officer and a small group of ratings trained in hydrographic work. They will undertake exploratory survey work in the vicinity of Graham Land to add further information to the charts of that region. Two S.55 helicopters are embarked for ice spotting, communications and transport.

Before leaving Portsmouth Dockyard the *Protector* was visited by the First Sea Lord, Admiral of the Fleet the Earl Mountbatten of Burma. He flew to the R.N. Air Station at Lee-on-Solent and there transferred to one of the ship's helicopters, landing on her small flight deck at the after end of the ship.

H.M.S. *Protector* is commanded by Captain J. V. Wilkinson, D.S.C., G.M., R.N.

AMERICA'S 350th BIRTHDAY

ONE of the main events in next year's celebrations in the United States of "America's" 350th birthday will be a joint Anglo - American exhibition — "The British Heritage," which the U.K. Central Office of Information is producing; and "New World Achievement," which is being prepared by the United States Authorities.

The exhibition will be part of a year-long series of commemorative events called "The Jamestown Festival: America's 350th Birthday", costing over £A10 million. Britain is the only nation invited to join with the U.S.A. in the organisation of the celebrations.

The British display will deal with the background to the colonisation of America. It was on May 16, 1607, that three British ships, which had sailed from Blackwall, London, moored at Jamestown, Virginia. That was both the beginning of the American States and the British Commonwealth.

The influence of the British legacy on American life will be traced and there will be an exposition of U.K. colonial policy demonstrating the development of the Commonwealth to the present day. The outstanding exhibit will be a large reconstruction of John Cabot's ship, "The Matthew." Through Cabot's famous voyage of 1497 Britain established a legal claim to a share in the North American continent.

One display section will illustrate the expansion of the British Empire, the development of Colonial policy after the loss of the first "Empire" in America, and the growth of the British Commonwealth of Nations.

First Commanding Officer of "Voyager" Appointed

The first commanding officer of the Royal Australian Navy's new Daring class ship "Voyager" will be Commander G. J. B. Crabb, D.S.C., R.A.N., who was in charge of the forward gun turrets of the cruiser "Sydney" when she sank the crack Italian cruiser "Bartolomeo Colleoni" in the Second World War.

COMMANDER Crabb, a graduate of the Royal Australian Naval College, at present is Naval Member of the Joint Planning Staff in Melbourne. He takes up his new appointment in the acting rank of Captain on December 12.

Besides serving in the *Sydney* in the Second World War, he also served in the destroyers *Rotherham*, *Napier* and *Arunta*. He was awarded the Distinguished Service Cross in 1946. When he graduated from the Naval College in 1935 he was awarded the King's Medal for having displayed the most gentleman-like bearing and good influence among his fellow cadets during his four years of training.

After he had been appointed to the command of the Battle class destroyer *Anzac* in 1954 she participated in two major maritime exercises in south-east Asian Waters.

The *Voyager* is the first of three Daring Class ships to be completed for the R.A.N. She was launched at Cockatoo Island Dockyard on March 1, 1952, and will be commissioned on February 12 next.

The other two ships are the *Vendetta*, launched at the Naval Dockyard at Williamstown on May 3, 1954, which will be finished in 1958; and the *Vampire*, launched at Cockatoo Island on October 27.

Each ship will have a full load displacement of 3,500 tons and carry six 4.5 inch guns, six 40-millimetre anti-aircraft guns and 10 21 inch torpedo tubes.

Captain Forrest

Captain G. C. Forrest, R.D., Commodore of the P. & O. fleet and commander of the liner *Arcadia*, retired on October 14.

He served with the Royal Navy during both World Wars and has commanded various P. & O. vessels since 1946.

Captain Forrest is well known to many Australian travellers.

Captain E. R. Bodley, D.S.O., has succeeded Catain Forrest as Commodore of the P. & O. fleet.

The Duke of Edinburgh leaps to the ground from the cabin of a helicopter at Government House, Sydney, during his recent visit to Australia.

NAVAL DIPLOMACY

By Admiral Sir Gerald Dickens, K.C.V.O., C.B., C.M.G.

IT was in 1905 that the Entente Cordiale, that guarded and loosely defined defensive arrangement between the United Kingdom and France, was brought into existence. I do not think that it aroused much enthusiasm on our side of the Channel; it certainly did not in France. The French looked on it as a formula which would probably never bind us. Anglo-French relations had been bad for a long time and the Fashoda affair which had aroused a storm of execration in France was recent history. In fact, we were still *Perfide Albion* and not to be trusted.

However, the official *entente* was to be followed by a visit of the French Fleet to Spithead in August. It soon became evident that a great effort was to be made to show France that we desired to win her friendship and that we set great value on the new understanding. So the word was passed to the Navy that there was to be no sign of that *flegme britannique* of which Frenchmen, mistaking our natural reserve for coldness towards them, accused us, but that all was to be hearty cordiality. This note was sounded high up on Mount Olympus, in fact by Admiral Sir John Fisher ("Jacky" to the Navy) the First Sea Lord. He, realising that the balance of sea power would be completely upset by the fast growing German Navy with, behind it, the Chauvinism of the Kaiser, Wilhelm II, was determined to do all in his power to get France and her ally, Russia, on our side of the fence. He saw that if ever the Navy had played its part in peaceful diplomacy (as, indeed, it so often had) it must, on this occasion, break all records. He went into every detail of the week's programme. Nothing escaped his eye and where any obstacle was raised to some imaginative but rather unorthodox suggestion he kicked it out of the way.

Publicity on a grand scale was the keynote and it had to be such that its main effect was to be felt in France. The French *people* had to be told. So the Press machinery was got going. This was not difficult in the case of our Press for Fleet Street liked Jacky. He had always kept his journalistic friends well informed on naval matters even, sometimes, questions which My Lords considered highly confidential. Many senior officers shuddered at such goings on! But he knew that without the Press his schemes for strengthening the Fleet would never get the necessary backing of the public and the Government. Unfortunately, it has been rare that Boards of Admiralty have understood how to handle publicity and, however great the need, they just haven't liked getting mixed up in it. More is the pity when the safety of the country becomes involved.

TO come back to our story. I had been appointed, for the occasion, additional Flag Lieutenant and Interpreter to the Commander-in-Chief, Portsmouth, and so was well placed to see all the fun. Jacky summoned a meeting of the large number of offi-

REVIEWS

Blue Water Vagabond, by Dennis Puleston; published by Rupert Hart-Davis (U.K.).

It was the fashion in other days for gilded youth to go on what was called the Grand Tour of Europe. To-day such a man as Mr. Dennis Puleston goes in a small boat to all kinds of more or less remote islands, which, by the way, have less than justice done to them in the end paper map.

Conrad says that journeying in search of romance is much like trying to catch the horizon; it appears that the inhabitants of Anegada in the British Virgin Islands make their living, says the *Pilot Book*, by fishing and wrecking, and when a lighthouse was recently placed on Sombrero Island as a guide to shipping in the vicinity of Anegada, some of the islanders protested bitterly and even demanded compensation from the British Givernment for having ruined their chief source of income!

Another protest, alas too late, came from Emil, the versatile Danish cook, etc., who sailed for a while with the author. A certain disaster, he said, would not have happened if one had refrained from the fatal practice of whistling before breakfast, which, he said, one should never do at sea.

A shipmate of another sort was Tehate, a Marquesan, who as a boy had run away from home and after many years was returning, very apprehensive of his father's wrath.

His father, however, had died and Tehate — of whom an aged compatriot said, "I t'ink he dead along shark belly long time. Now he stop here alla time"— preferred to abandon his inheritance of 1,000 acres of fat lands and continue sailing with out author. And we who read this fascinating book can well understand the spell that Mr. Puleston cast over him.—H.B.

— *In the London "Navy."*

Salt in Their Blood, by Francis Vere; published by Cassell (U.K.).

"The officers and men under your command have demonstrated that the Royal Netherlands Navy is manned by seamen as brave and as expert as those we learned to admire in former days."

This tribute to the brilliant work and heroism of the Dutch Navy during World War II was paid to the Commander-in-Chief in a letter from the then First Lord and First Sea Lord and now, in his book *Salt in Their Blood*, Francis Vere tells the story of those "former days." It is the tale of a company of great sailors who, as he rightly suggests, should be better known to Englishmen.

For upwards of 80 years from 1569, when their Navy was born with the commissioning by William, Prince of Orange, of 18 privateers, the Dutch fought the Spaniards until their independence was secured in 1648.

Marten Tromp had, in fact, made this result inevitable when he finally smashed Spanish seapower at the Battle of the Downs nine years before. Tromp was to be killed soon afterwards at the battle off Scheveningen in the first Anglo-Dutch war. But under him great leaders were being trained — de Witt, the Evertsens, Bankart, de Ruyter and many others — who were to prove in the later Anglo-Dutch wars that their determination, resource and superb skill and courage were second to none.

De Ruyter is perhaps best remembered by Englishmen as the Admiral who sailed his fleet into the mouth of the Thames in 1667 and inflicted on England her worst naval disaster. This, however, was not a battle but a walk-over and an example of what happens to a seafaring people when they lay up their fleet.

His great reputation — the claim that he was the Nelson of the Netherlands — lies in his brilliant tactics, notably in the long drawn out four days' battle against Monck in 1666 and in his decisive and far-reaching victory over the combined Anglo-French Fleet off the Texel in 1673.

This book is in no sense a treatise on naval strategy and tactics. It has many first-rate photographs and is written in non-technical language, to be read and enjoyed by all.—G.P.T.

— *In the London "Navy."*

The World's Warships, by R. V. B. Blackman; published by Macdonald (U.K.).

The revival of *The World's Warships*, formerly a well-known naval pocket book, is well laid out and reasonably priced, and should be of considerable interest to those for whom *Jane's Fighting Ships* is too expensive inasmuch as it contains a considerable amount of information on the modern major warships of the world's navies and a short history of the major types of warships over recent years.

Although written by the editor of *Jane*, a successful effort has been made to make a somewhat more informal approach to the reader in style, layout and comment.

The old rigid classification by country has been abandoned and ships are now grouped by type.

NAVAL DIPLOMACY

Continued from page 20.

cers appointed for liaison duties with the French. He told us that if we failed to meet even quite unreasonable demands by Press reporters (French one in particular) our homes would be made desolate — a favourite expression of his. Jacky was on a particularly good wicket being a personal friend of the King, who indeed had used his great influence in Paris to get the Entente Cordiale accepted by the politicians.

On the appointed day the French Fleet, under the command of Admiral Caillard, arrived for its week's visit. And what a week it was! Event followed event all day and most of the night—dinners, dances, illuminations. Money was spent like water. A perfect dance floor was laid in the Naval Barracks gymnasium. There were garden parties in the Isle of Wight and boating parties on the Thames but, of course, the main attraction was London. Special trains came and went; meals and every sort of wine laid on. Relays of landaus met the trains at Waterloo, rooms were reserved at the best hotels, seats booked at theatres. London played up well and enthusiasm mounted quickly. The French officers and sailors were cheered wherever they went. There was a banquet at Westminster Hall at which Mr. Balfour spoke. Here was oratory indeed and even we younsters knew at once that his words were directed to a world audience making it known that Britain and France now stood side by side.

All this was highly satisfactory; but there was one thing more to come, something which was to transcend all our efforts to show our sincerity towards France. *Finis coronat opus.* On the last night of the French Fleet's visit, a reception to be honoured by the King and Queen Alexandra, was held on board the French flagship. The quarter-deck was packed with British and French officers. There was a tenseness in the air as we awaited the arrival of Their Majesties, for this visit by the British monarchy to a French warship had, in those days, something of very special significance. At the appointed moment the royal barge drew alongside. (Here, let the commentator whisper a final descriptive detail: the French had built a double-width gangway for the occasion so that the King and Queen could gain the quarter-deck arm-in-arm—a thoughtful and a quite unusual provision.) As Their Majesties appeared tenseness dissolved in an electric thrill—Edward VII, debonair, smiling and friendly, but so naturally and absolutely regal; the Queen, irresistibly charming, royally gracious and, indeed, quite lovely. Here was the Empire's crowning glory made evident. The effect on the French Navy was immediate. I heard a French officer near me exclaim: "*l'Entente Cordiale ca y est!*" And so it was.

THE Portsmouth festivities were repeated on a smaller scale on some foreign stations. In return for a visit by the French China Squadron to Hong Kong, H.M.S. *King Alfred*, flagship of our China Squadron and to which I now belonged, proceeded, at the invitation of the French Government, to Saigon. Arrived up the river the *King Alfred* was berthed alongside in the heart of the town. A series of high officials paid the usual calls and delegates from hospitality committees came on board to discuss the various fixtures arranged in our honour. We were obviously going to have a full time of it. A few of us had gathered in the Ward Room Smoking Casemate for a gin and a talk about who should go to which of the many parties arranged for us, when somebody said: "I see there is to be a Battle of Flowers and a procession of decorated carriages this very afternoon — what about our entering for it?"

All agreed that this was a brilliant idea if we could acquire an equipage and the necessary flowers. A glance at the busy streets showed us that the local fiacre was a sort of small victoria drawn by a pair of small ponies—good goers. Summoning the Ward Room Boy we instructed him to hire one of these outfits for the day and, also, "Catchee plenty flowers, chop chop."

THE carriage soon appeared and we lost no time in getting to work. A number of sailors, volunteers, were detailed for their "part of the ship." The Quarterdeckmen mounted a Maxim gun aft and set up an ensign staff, the Maintopmen rigged a mainmast and lashed *King Alfred's* smart lifebuoys on the carriage wheels, while the Foretopmen fitted a foremast, bow

Continued on page 24

BOOK REVIEWS

Continued from page 21

This should be a help to those trying to use the book to identify vessels seen at sea or in harbours. Illustrations are in the main good, though the absence of plans and drawings makes it desirable that a future edition should concentrate on more broadside views than are given.

Recognition points in the text cannot always be appreciated when the photograph accompanying them is a bow or quarter view. Some inkling of the date of the photograph would also be interesting, for there is a suspicion that some of the illustrations are not as modern as may appear.

All in all a welcome return to the very small collection of reasonably priced naval handbooks. — A.H.

— In the London "Navy."

MARITIME NEWS OF THE WORLD

From our Correspondents in LONDON and NEW YORK

By AIR MAIL

Huge tanker now being built

The world's largest seagoing ship is taking shape at the former dockyard at Kure having been launched in August.

She is American designed and will be of about 83,000 tons deadweigh or 100,000 tons displacement, being built for Universe Tank Ships, a Liberian flag line subsidiary of National Bulk Carriers of New York.

A sister is also on the stocks, and two of 87,000 tons deadweight are under design. They are to be dual purpose vessels to carry either oil or ore. It is this type of tanker which could make the "round Africa" voyage without loss and probably with greater advantage than through the Canal.

Work for years ahead for U.K. shipyards

Recent large orders placed with U.K. shipyards bring the total up to a level which guarantees full-time work for nearly 5 years ahead for the ship-building industry.

Eighty ships, totalling 514,000 gross tons, were ordered from July to September, making the total for the first nine months of this year 222 ships of 1,266,000 gross tons.

More than 30 per cent. of the new tonnage ordered is for export.

Orders for the whole of 1956 are likely to reach at least 1½ million gross tons.

Telephone cables span the Atlantic ocean

A new era for cable communications opened when the trans-Atlantic telephone cables linking Britain to Canada and the United States came into operation on September 25.

These are the first long-distance telephone cables in the world and have been made possible through the development by U.K., U.S. and Canadian engineers of the submergeable repeaters, or amplifiers, that are built into them about every 40 miles.

They provide 29 telephone circuits to New York and six to Montreal that will be quite free from the uncertainties and fade-outs that affect radio-telephone circuits. In addition there are six new telegraph channels to Canada to be used to improve communications with Australasia.

The cable to Canada is the latest addition to the Commonwealth Telecommunications System, which comprises over 150,000 miles of submarine cables, many thousands of miles of land-lines and some 200,000 miles of radio circuits.

The whole system is now run by public authorities of the Commonwealth countries working within the terms of an inter-governmental agreement.

It is the largest cable network in operation. In Australia the network functions through the Overseas Telecommunications Commission.

A million Britons now sail dinghies

Yacht club secretaries around the coast of the United Kingdom — from the River Clyde in Scotland to the River Crouch in S.E. England — report that more men, women and children sailed this year than in any season before, despite one of the windiest and rainiest summers on record.

The total number owning or helping to sail small boats is about one million. What was once a minority sport and an expensive one between the two World Wars has become a people's pastime mainly because of the mass-produced sailing dinghy.

Despite the winter, some hardy enthusiasts in Britain plan week-end racing on inland waterways and lakes. Others will be building new boats in backyards and garages. All will draw on the experience and experiments of great designers like Uffa Fox, personal friend of the Duke of Edin-

burgh, who has done more than any man to bring sailing within the reach of the man in the street.

Two Australian Ships said to Hong Kong

Two Australian coastal ships left Sydney on November 27 after being bought by a Chinese company.

The ships were the *Caledon*, a freighter, and the *Elsanna*, which carried passengers between Brisbane and Thursday Island.

The Chiap Hua Manufacturing Company, of Hong Kong, bought the ships.

Shipping warned of volcano danger

Last last month ships near Manus Island were warned to steer clear of an erupting submarine volcano, which was reported to be throwing smoke and steam 2,000 feet into the air.

Known as Tuluman, the volcano is about 15 miles south of Manus Island.

Other reports said it was believed that the volcano was forming a new island.

Hill cut in half for Mombasa harbour

Kipevu Hill, near the site of the newly planned deep-water quays extension of Mombasa harbour, Kenya, is literally being chopped in half to form a cutaway as part of the scheme.

When the project is finished over two and a half million tons of earth and rock will have been removed, much of which will provide a filling for a valley to landward of the scheme and the remainder used for the new quays and other projects.

Bird-eating fish found in Africa

One is used to the idea of birds eating fish — there are plenty of examples from pelicans and cormorants to seagulls and kingfishers. But the existence of fish which eat birds has been established in Uganda.

Not only do they eat fledglings which fall out of nests into the water, but they have been seen to snap at birds swooping low over the water of the River Nile.

According to the Fisheries Officer of Uganda, Mr. D. H. Rhodes, the mud fish is omnivorous.

It is known to crawl or wriggle overland for short distances and during these excursions it feeds.

Mud fish have been opened and found full of millet seed.

NAVAL DIPLOMACY

Continued from page 20.

and steaming lights and an anchor each side "ready for letting go."

But it was the fo'c'slemen who, in their opinion and in that of the greater part of the *King Alfred's* ship's company (who had now apparently abandoned all other work for the rest of the day), had the most important job of all, i.e., to get the ponies properly dolled up for the show. To an Eastern cabhorse used to sketchy grooming the treatment these animals now received must have come as a severe shock — washed and scrubbed, anointed with gunnery vaseline, massaged and finished off with brilliantine generously supplied by the Lower Deck; mains and tails plaited with coloured ribbons and, finally, hooves painted a most particularly shiny black enamel. Meanwhile we officers covered in every non-working part of the carriage with hessian to which banks of flowers were attached.

All was at last completed and amidst the plaudits of the *King Alfred's* ship's company we trotted off to the racecourse. Arrived there we found that the preliminary procession was just over. So much the better. We had the track to ourselves. Off we went at a hand-gallop. The pace increased as the ponies, sensing freedom after their morning's strenuous naval discipline, took the bits between their teeth. There was now no holding them. Round we went, the British and French ensigns straining at the mastheads. Past the grandstand where, as we flashed by I got a glimpse of our Commander - in - Chief looking somewhat surprised—he had not been apprised of his flagship's entry—and, what was somewhat ominous, giving the fleeting impression that he did not entirely approve.

And now the officer at the ribbons began to feel that the ship was carrying ever increasing port wheel and more and more were we bearing down on the front row of the dense crowd of spectators. A serious accident looked all too likely but, luckily, our near forewheel was brought up sharply against a post. No one was hurt. We found that one of the reins had become detached from the bit. (So much for naval harnessing.) However, all this fitted in with the next part of our programme. We had arranged that after the preliminary drive round the course the *King Alfred's* midshipmen would, at an appointed spot, dash out, unharness the horses, hook on 12 pdr. field gun drag ropes, and in true Royal Tournament style, double past the saluting base. This was done, the situation retrieved and for the moment at least we were the highlight of the show—all, French and natives (and even the C.-in-C.—thank God), were delighted. Our entertainment was at least something new; at best we showed our desire to enjoy and take a hand in the festivities so enthusiastically arranged by our French friends to do honour to the Entente Cordiale.

—From the London "Navy."

NEW FIGHTER TO FLY AT 1800 M.P.H.

HAWKER Aircraft, of Britain, are building a new fast fighter unofficially stated to be capable of flying at 1,800 miles an hour within 18 months.

THE Hawker Siddeley representative in Australia, Mr. C. J. Wood, in Melbourne last month, confirmed that the company was "proceeding with a fighter of advanced design," but said he was unable yet to release any information about its speed or other performance details.

However, he added: "The company is building the plane as a private venture, in the same way as it developed the Hawker Hurricane before World War II. No public money has been spent on it.

"The new aircraft may easily prove to be as important in the future as the Hurricane was during the war."

British comment has included:

The Daily Mail London: "Sir Sydney Camm, the designer who gave the R.A.F. its Hurricanes and Hunters, has gambled his reputation on a 1,800 m.p.h. fighter. It is being built at the Hawker factory at Kingston-on-Thames, Surrey. After a further 18 months work it should be flying.

"An interceptor of advanced design, it was offered to the Ministry of Supply which orders aicraft for the Air Ministry. But there was no official requirement for such a fighter. It was turned down. But Sir Sydney, chief designer at Hawkers, and his directors were convinced they were on a winner so they decided to go ahead without Government support or finance.

"Contracts to build R.A.F. Hunters are beginning to run down and so far as has been officially announced Hawker company has been given no work for constructing aircraft. So it looks like making a success of the unwanted fighter."

The Financial Times, London,: "No further details of the new fighter could be obtained yesterday but in view of the current state of fighter development in this country it is certain to be capable of supersonic speed in level flight.

"Britain's most advanced fighter, the English Electric P.1, is supersonic in level flight but is not yet in squadron service, while the Fairey Delta 2 supersonic research aircraft holds the world air speed record of 1,132 m.p.h.

"Britain's fighter development, as a whole, however, is lagging behind that of America and, it is thought, behind Russia also. And in view of this the Hawker Group may have decided to circumvent the existing slow official specification and procurement procedure by building private venture fighter capable of matching the latest U.S. types, such as the Lockheed F.104A Star fighter, said to be capable of twice the speed of sound.

"The Hawker Siddeley Group represents the biggest concentration of military aircraft builders in this country. Before the war it laid down a production line of a substantial number of Hawker Hurricane fighters at its own expense."

Sir Sydney Camm, 63-year-old Hawker chief designer, who is responsible for the new fighter, has been designing fighters for Hawkers since 1925. Among a long list of top fighter planes have been the Hawker Hart, Fury, Osprey and Nimrod, Hanley, Hurricane, Typhoon, Tempest and Sea Fury, Sea Hawk and Hunter.

THE CHINA RIVER GUNBOATS

Continued from page 17

terranean Inshore Squadron to support the 8th Army in the Western Desert. The *Cricket* was bombed to destruction at Mersa Matruh in June, 1941, the *Ladybird* at *Tobruk* in May, and the *Gnat* was torpedoed by a U-boat off Bardia in October of the same year. The *Aphis* and *Scarab* lent the weight of their 6-inch guns to the Allied landings in Sicily and southern France in 1943 and 1944. The *Tarantula* joined the Eastern Fleet. The *Seamew's* war story remains to be told.

With peace came the end of the gallant, hard-fighting "Insects." The *Tarantula's* hulk was taken out and sunk off Ceylon in 1946; the *Aphis* and *Cockchafer* were sold in Singapore in 1947 and 1949, and the *Scarab* scrapped there in 1948. The *Bee*, flagship of them all, after making headline news by her rescue of the crew of the American gunboat *Panay*, bombed and sunk by Japanese aircraft in December, 1937, in a grim foreshadowing of events to come, was sold as scrap a few months before her sisters moved to their war stations in 1939.

—From the London "Navy."

Britain will build 60,000-ton tankers

A number of 60,000 ton tankers will be built in the United Kingdom.

The tankers will be the biggest ever built in Britain.

The announcement was made recently by Mr. B. R. Jackson, chairman of the British Petroleum Company. He was speaking at the launching of a 32,000-ton tanker on the Clyde.

PORTRAITS OF LORD NELSON

By *OLIVER WARNER — in London*

FOR some years I have been trying to find out all I can about the various portraits of Nelson which were made in his lifetime. It is a rewarding pursuit, and I am already certain of some 30 separate paintings,, drawings and sculptures of the admiral which derive either from actual sittings, or from what I suppose must have been quick sketches. This is a large number for a man who spent much of his life at sea, and one who died at the early age of 47.

The truth is that Nelson liked being painted. He once told his wife that the next best thing to doing great deeds was to write a glorious account of them. This is very much what Sir Winston Churchill seems to think too, and Nelson had a shrewed idea that the artists who drew him were working for posterity. He enjoyed being a hero, and was not at all averse to dressing up. He liked to look the national figure he became.

My first discovery was that the earliest reliable picture, by J. F. Rigaud, R.A., which was started in 1777 when Nelson was a lieutenant, and finished later, was commemorative in a way which few had suspected. As a very young captain, Nelson served ashore in Nicaragua in an expedition against the Spaniards, and he helped to attack the fort of San Juan, on the river of that name. When he came home, he asked Rigaud to put the fort into the background of the portrait, with the British flag flying above that of the enemy. He wanted people to remember his share in a campaign which had had very little publicity.

The next three portraits are of a more private nature. Nelson's friend Collingwood, who was, years later, his second in command at Trafalgar, drew him in silhouette in the West Indies. Nelson was wearing a wig— he had his head shaved during a bout of fever, and the effect is amusing. Then, in 1795, a Leghorn miniaturist painted a study for his wife. It was the last picture done in which Nelson still possessed all his limbs, although he had already lost the sight of his right eye in action in Corsica. The eye damage is not apparent in the Leghorn miniature, or, indeed, in any other except one by a German, which shows very clearly which was the brighter. The first drawings showing the loss of his right arm, was by Henry Edridge, another miniaturist, who drew Nelson at full-length. Eldridge was, I think, the only painter who drew him twice from life, once in 1797 and again in 1802, though Nelson seems to have given a succession of sittings to Lawrence Gahagan, a sculptor.

It was Lemuel Abbott, a man not otherwise much known, who first showed Nelson as a popular hero. He sketched him at Greenwich in the winter of 1797, after the battle of St. Vincent, and made an industry of Nelson portraits for the rest of his life. There is nothing comparable in dignity to Abbott's rendering until John Hoppner, R.A., and Sir William Beechey came to do their full-scale canvasses, one for the Royal collection and the other for the City of Norwich. These were finished after the victory of Copenhagen had set the seal on Nelson's earlier exploits.

When Nelson was in Italy, between the autumn of 1798 and the summer of 1800, he was painted by one or two Italian artists, the most persistent of them being Leonardo Guzzardi, a Neapolitan. Guzzardi's versions are very bizarre and very Italianate, though they pleased his friends, Sir William and Lady Hamilton. Nelson and the Hamiltons returned to England across the Continent, and in Vienna both Nelson and Emma Hamilton were portrayed in pastel by Johann Schmidt. The result, I am sure, is almost perfect verisimilitude. It is a study in blue, gold and white which shows clearer than any other version, Nelson's forehead wound from the Nile, his blind eye, his boyishness, and his charm. It is at the National Maritime Museum at Greenwich, and I wish I knew the technique by which Schmidt produced such a wonderfully good facsimile a year later.

Of all his portraits, Nelson himself preferred a profile done by a Dutch artist, Simon de Koster. It seems a curious choice, for a man must needs be a poor judge of his own profile. Nevertheless, it is probably a good likeness, and it is remarkably similar to the last portrait ever made from life, a pastel by John Whichelo. This was done at Merton, Nelson's home in Surrey, just before he set sail for his last campaign.

After the hero's state burial at St. Paul's, the authorities at Westminster Abbey wanted to present the public with a rival attraction. They hit on the idea of an effigy, dressed in Nelson's own uniform. This may still be seen in the Norman Undercroft, and it is in splendid condition. It must really rank as a portrait from life, for although the modeller, Miss Catherine Andras, based her study on Hoppner's full-length canvas now at St. Jame's Palace, she did, in fact, have sittings from Nelson in his lifetime, and showed a small wax at the Royal Academy in 1801. Emma Hamilton and others who knew Nelson well, thought it a "speaking likeness," and indeed it is astonishingly vivid, like most of the effigies in the Abbey collection.

One of the great difficulties with Nelson portraits is to date them accurately. Years ago, I remember my father telling me that in the City they spoke of the sum of £1 1s. 1d. as a "Nelson"— one eye, one arm, one love! The student of Nelson portraiture needs to remember another homely term, "four stars," as an aid to chronology. Between 1797 and 1802, Nelson was awarded four stars of chivalry by various governments, besides two official gold medals. It is largely by means of these decorations, whether present or absent, that dates may be determined. There is no absolute certainty in the matter, which is perhaps, one of the reasons why the pursuit is so fascinating. Moreover, at any moment, something hitherto unrecorded may turn up. As a matter of fact, at least four drawings, not generally known, have come to light since I first began my own study. I hope they will not be the last. I would like most of all to trace a small drawing, probably made in 1797 or the following year, by Orme. It used to be in private possession. Perhaps it still is — but if so, whose?

Lord St. Vincent once said to a friend, "that foolish little fellow Nelson has sat to every painter in London." I wish he had! I wish most of all that he had sat to Gainsborough as a young man, and to Lawrence in his maturity. But there is a great deal for which to be thankful. In Rigaud there is promise. In Schmidt there is faithful likeness: in Abbott and Beechey there is grandeur, in Hoppner, almost feminine sadness. There is also what is perhaps the strangest picture of all. It is called *Nelson Wounded at the Nile* and it shows the hero in his shirt, with a bloody head, but still wearing round his neck the King's gold medal for St. Vincent, of which he was so proud. Nelson gave this startling picture, which is by an unknown artist, to Lady Parker, wife of an admiral who first set his career on its upward progress by making him a post-captain at the astonishing age of 20.

Never was an act of faith more fully justified. Seldom has gratitude been more graphically shown. I do not know any other instance of a man having himself represented not in the actual clash of battle, but as it were, in the sick-bay towards its close. But Nelson never did things without a reason, and I suspect that he meant to show Lady Parker that, had he not been temporarily blinded, not a single French ship would have escaped from the scene of action on 1st August, 1798. He was a consistent publicist, and I for one am glad of it, for the reticent hero, though he may be very worthy, is, more often than not, rather dull. Nelson, on the other hand, was never anything but vivid, human, colourful, and the most individual Admiral who ever lived. The artists who recorded his features for our benefit and pleasure certainly shared this opinion.

—From the London "Navy."

SEA CADET NOTES FROM TASMANIA

TWO platoons of Hobart Sea Cadets (pictured above) marched through the streets of Hobart on 19th October as part of the Trafalgar Day celebrations.

T.S. *Derwent* held an open day for parents on Dec. 1 at the Naval Depot H.M.S. *Huon*. A Whaler race resulted in a win for the Port Watch. The President of the Navy League, Mr. C. H. Hand, then presented prizes awarded to Cadets during the past training year.

The Ulverstone unit T.S. *Leven* is about to take possession of the new headquarters, the old Rowing Club shed. Prominent citizens donated timber, frames, etc. The cadets themselves provided the labour. A cadet crew sailing the 14 ft. dinghy regularly take part in the Ulverstone Yacht Club Saturday races.

The cadets of T.S. *Tamar* (Launceston) have formed a very efficient Hornpipe Party. The Ex-Naval Men of Launceston have been most helpful with labour and materials for rigging and refitting T.S. *Tamar*, the depot ship.

RE-BIRTH OF THE GERMAN NAVY

By a Special Correspondent

WHILE the training of naval personnel is well under way and its strength scheduled to reach 10,000 men by the end of this year the build-up of the fleet is of necessity a slow process.

Seven vessels have been commissioned: four former German mine sweepers, stationed at the North Sea port of Bremerhaven and three high speed patrol boats for the Baltic Sea.

The latter were recently commissioned at Kiel. With a crew of 17 men each they have up-to-date radar and navigation equipment and newly developed hydro-electric steering devices.

Three diesel engines generating 3,000 h.p. each give the vessels a speed of 40 knots. With a draught of only 5.5 feet, the vessels are particularly suited to operate in the shallow waters of the Baltic Sea.

The three patrol boats will form the core of the first training squadron of the German Navy. So far, the ships carry on armament, although they are fitted with the necessary emplacements for mounting rapid fire guns.

In commissioning the vessels, Vice Admiral Ruge recalled that this was the fifth time within the past 100 years that a German Navy was called into being. Twice the Germans suffered defeat because Germany underestimated the naval forces of its opponents. The new German Navy, however, had the big naval powers as its friends and as a result of this situation its task is to concentrate on the defence of the home waters.

The Admiral told the crews lined up on deck of the patrol vessels that they were "citizens in uniform" who had no special privileges but many duties. He said: "Always remember that the will of our people to live in freedom in the West must also find expression in your squadron."

The four mine sweepers were recently turned over to the German Federal Navy at Bremerhaven by Rear Admiral W. G. Schindler of the U.S. Navy. They will form the core of the German Navy's first mine sweeper squadron.

After Germany's surrender, these vessels as well as other German mine sweepers were taken over by the Allies. First under British command and later under the American flag, but with German crews, these mine sweepers cleared the main sea lanes in the Baltic Sea and the North Sea.

It was an arduous and dengerous task taking years to complete and cost the lives of quite a number of seamen and involved the loss of some vessels engaged in the task.

To-day, the danger from mines has been eliminated to a large extent. However, ship masters are still enjoined to keep strictly to the lanes mapped out for them as having been cleared of mines.

Theoretically, the danger from floating mines will come to an end next year, since experts estimate the average life of this type of mine is twelve years.

While the German Navy expects to be reinforced in the near future by a further batch of former German mine sweepers, the Naval Academy at Kiel is being built up. At present, 40 naval staff officers are undergoing a refresher course at Kiel, during which they will be shown a number of industrial plants and have the opportunity to inspect the port facilities at Hamburg, Bremen and Wilhemshaven.

West Germany's Minister of Defence recently stated that the economy of the German Federal Republic would be able to absorb without difficulty the additional burdens of armament production. Much of the necessary military equipment would be ordered abroad, while German industry would manufacture mainly the clothing, housing equipment, vehicles, ships, light weapons and smaller aeroplanes of the German defence force.

DOCTOR IN THE HOUSE—NEW STYLE

Medical staff at St. Thomas's Hospital, London, are carrying in their pockets receivers no bigger than fountain pens. If a doctor is wanted on the telephone his receiver makes a gentle "peep peep."

This is the new communications system now being used at this famous teaching hospital. An inconspicuous loop of wire encloses the hospital. A transmitter is attached to the loop and powered from the mains.

No wires are attached to the receivers and there are no physical links at all between them and the rest of the apparatus. The receivers are, in fact, operated by magnetic induction from audio frequency currents passing along the wire.

In the simplest form of the system up to 56 receivers can be used, each responding to only one of 56 frequencies, and if more receivers are needed several persons can share a frequency.

"PORTABLE" REACTORS FOR EXPORT

By a Special Correspondent

LONDON, November 5: The Hawker Siddeley Group is now at work on advanced types of nuclear reactor systems.

Work has begun on a study of the liquid metal fuel type of reactor which the Atomic Energy Authority has declared to be one of Britain's most advanced projects and, it is hoped, will make more efficient use of the uranium.

This was disclosed to-day by Sir Frank Spriggs, managing director of the Hawker Siddeley Group, who has just returned from a survey of the Group's interests in Canada.

Sir Frank said that the work is being undertaken by the Hawker Siddeley Nuclear Power Company, formed at the beginning of the year, at its establishment at Langley (Bucks).

The first stage of a large experimental programme, the formation of a well-equipped metallurgical laboratory, is nearing completion and a first-class design team is in being. One of the company's major activities, for the immediate future, is devoted to the development of advanced reactors for electricity generation.

Sir Frank said: "We are interested in this field because it seems to us to open up vast export possibilities for British design genius by providing easily transportable, small reactors to countries which will not be able to build their own for a long time to come. The lead which we are gaining in the development of nuclear power means that Britain is right in the forefront of the new industrial revolution, as she was in the first one, and will once again play a major role in raising living standards all over the world."

Mr. E. P. Hawthorne, 36-year-old chief executive of the new company, said: "Metallurgy is the starting point for any development towards higher temperatures in nuclear reactors and we are actively engaged in an ever-increasing metallurgical programme.

"Although our membership of the Hawker Siddeley Group naturally implies an interest in the application of nuclear power to aircraft, this is certainly not our only objective. We foresee the applications of the line of research we are now undertaking in the generation of electricity, including plants for remote areas such as may be required in the mining industry, for marine propulsion and for the production of process heat.

PROGRESS IN R.N. AIR ARM

By "L'Aigion"—In London

DESPITE the tiny crescendo of disapproval from Lord Beaverbrook's newspapers the Fleet Air Arm has made satisfactory progress in the last 12 months. The full extent of the Defence cuts has yet to make itself felt and will probably affect production orders of future aircraft rather than existing squadrons. More cheering news on the financial side has, of course, been the pay increase and in particular the substantial increase in flying pay. Only one rather inexplicable anomaly is noticeable. Whereas a General Duties Wing Commander sitting behind a desk in Air Ministry will get 22s. a day flying pay, a Commander (fully operational jet pilot) sitting behind a similar desk in Admiralty is only entitled to 10s. a day flying pay because he is not occupying a flying appointment. Is there a valid reason for this? If so I would like to hear it.

Most important event of the year has undoubtedly been the very successful trials in H.M.S. *Ark Royal* of the De Havilland 110 and the Supermarine 113. The former, the Navy's future all-weather interceptor, carried out deck landings and also launchings from both steam catapults. Although not officially realised it is understood that the deck landing speed of the D.H. 110 is agreeably low; low enough, in fact, for the aircraft not to need supercirculation (the device whereby high-pressure air is blown over the wing flaps to preserve the smoothness of airflow and thus lower the stalling speed). Recent pictures of the 110 show a new pointed radome and under-wing racks for guided missiles. It is also understood that little extra effort is required to make the requisite sonic bangs. Naval pilots who flew the 110 on board the *Ark Royal* are full of praise for its aerodynamic qualities. The only pity would seem to be that we shall not presumably be seeing squadrons of these aircraft for some time yet.

The Supermarine 113, also powered by twin Rolls-Royce Avons, had equally successful trials although, not having previously been cleared for launching from the catapults, it was restricted to landings and free take-offs up the deck. Although not fitted to this aircraft it is understood that future versions will have supercirculation to lower the approach speed which is somewhat higher than that of the D.H. 110. On the other hand, the audio warning aid *was* fitted and this allowed the pilot to keep his eyes out of the cockpit during those few and vital seconds which nowadays constitute the last part of a deck landing. All in all, the pilots were most impressed both at Boscombe and on the deck with the 113 as a formidable aircraft in both fighter and strike roles.

Rumours of other future aircraft sound hopeful. We know officially of the order for a strike aircraft of high performance. Unofficially we hear of a rather revolutionary day interceptor, but the Silent Service have so far kept to their traditional role about this aircraft.

Front Line squadron strength remains approximately the same in number and, as far as can be gathered, is about 20. This is excluding some 11 R.N.V.R. Squadrons which will be considered later on.

Of the 20 squadrons it would appear that seven are equipped with Sea Hawks, five with Gannets, two with Wyverns, three with Sea Venoms, two with Whirlwind helicopters and one with A.E.W. Skyraiders (in four flights).

Most important cruise of the last 12 months has been that of H.M.S. *Albion* and H.M.S. *Centaur* to the Far East. Squadrons of Sea Hawks, Gannets and one of Sea Venoms (with a flight of Skyraiders) were embarked and a considerable amount of flying was carried out en route as well as in Exercises in the Far East. This cruise, together with *Ark* Royal's recent commission in the Mediterranean, gave the Navy its first sight of Sea Venom Squadrons in operational use at sea. All accounts show that it is a fine aircraft within its sub-sonic limitations. One particular virtue (long admired in American Naval aircraft) is the Sea Venom's sturdy undercarriage and its ability to sit down firmly on the deck.

Gannets have been operating at sea continuously and proved themselves to be first-class in the A/S role and as reliable aircraft whose maintenance problems are few in relation to the complexity of engines and electronics.

The Sea Hawk continues to remain one of the most versatile and viceless aircraft that the Navy has even had. But from time to time a wistful look appears in the eyes of Hawk pilots: it usually means that they are wishing that a swept-wing version of the Hawk could have been produced (one was built *and* deck landed, but never got any further for reasons that are now purely of historical interest).

Continued on page 32

HISTORY OF SWORDS IN THE NAVY

By "Telford"

SOON after the last war Captain Bosanquet was invited by the late Sir Geoffrey Callender, then Director of the National Maritime Museum at Greenwich, to undertake the task of tracing the history of every sword and dirk in the Museum collection, and of proving the authenticity of those weapons believed to have belonged to particular individuals. His years of patient work and research, in which he has had the advice and assistance of many authorities, are worthily commemorated in *The Naval Officer's Sword.**

Let it be said at once that this well-produced book of 240 pages is something quite apart from a normal museum catalogue interesting only to the expert. In describing the swords at Greenwich, some of them dating back to the 18th century, the author takes us behind the scenes and explains how their history can often be traced and their original ownership confirmed or denied by a process of elimination.

Much is to be learned from the names of the original vendors or manufacturers often found on the blades or scabbards; still more from the standard patterns of swords for Naval Officers first introduced by the Admiralty in 1805, and altered in 1825 and later.

Family tradition is frequently unreliable, and a sword that has been treasured for generations as a relic of some illustrious ancestor is sometimes proved to have been manufactured after his death. Indeed, on expert examination, some of the swords at Greenwich were found to be wrongly described.

There are many pitfalls for the unwary, and Captain Bosanquet cites cases where swords exhibited in two London Service clubs, and labelled as having been worn by distinguished officers at the Battle of Waterloo in 1815, were in fact regulation weapons not introduced until the middle of the 19th century. The exposed blade of one clearly showed the Royal Cypher of Queen Victoria!

He mentions, also, two swords of very doubtful authenticity associated with the Battle of Trafalgar. Bought at a private sale for £90, they fetched £2,000 at a later public auction with foreign competitors present. There was, and still is, a regular trade in relics associated with Nelson and Trafalgar. Many of them are spurious.

Though he concentrates mainly on the swords in the Greenwich Museum, among them weapons once genuinely belonging to Nelson, Duncan, Hood, Hardy and many others, Captain Bosanquet sketches the history of swords from the time they were first used at sea — the cutting and thrusting swords; the fighting, dress and presentation swords; and the now defunct dirks once worn by midshipmen.

These latter were being worn unofficially by about 1790, an example in the Museum being the dirk of Frederick Marryat, the novelist, who was a midshipman from 1806 to 1813. In 1825 the mids' dirks were replaced by "swords of such proportionate lengths" as the "Young Gentlemen" might consider proper. These in turn were abolished when dirks were made uniform for midshipmen in 1856. They remained until they vanished for ever only the other day.

Among modern dirks in the collection is that of Admiral of the Fleet Viscount Cunningham of Hyndhope as a midshipman in 1898-1901.

The book contains a full list of sword-smiths and sword-cutlers, not to mention naval tailors, past and present. Of particular interest, to me at any rate, is the reproduction of an invoice for £21 12s. sent to Lord Nelson by Messrs. Barett, Corney and Corney, Lacemen and Embroiderers, of "No. 479 opposite Craven Street, London." It is for four sets of the embroidered stars of the four Orders of the Bath, the Crescent, St. Ferdinand and St. Joachim supplied to the Admiral between 1803 and 1805, and sewn on his uniform coats.

These embroidered replicas, which cost between £1 and £1 5s. apiece, are now to be seen on Lord Nelson's coats preserved at the National Maritime Museum.

Incidentally, the interesting story of how the uniform coat and waistcoat worn by Nelson when he was mortally wounded at Trafalgar came into the possession of the Royal Hospital at Greenwich in 1844, and is now at the National Maritime Museum, is related by Captain Bosanquet on page 82.

This erudite and absorbing volume, though nominally dealing with swords, throws many interesting sidelights on the history of the Royal Navy for a century and a half.

It is clear and precise; never dull. Swords may now be outdated except for ceremonial purposes, but Captain Bosanquet is warmly to be congratulated on a book of lasting value and interest.

— *From the London "Navy."*

* "The Naval Officer's Sword." By Captain Henry Bosanquet, C.V.O., R.N., F.S.A. (Published for the National Maritime Museum by Her Majesty's Stationery Office at 21s.)

Continued from page 30

Apropos of aircraft design, an interesting occasion occurred in H.M.S. *Eagle* at the end of last year when some 45 visitors from the Ministry of Supply and the aircraft industry were invited on board to watch a day's operations. This consisted of strikes on targets by Sea Hawks and Wyverns, and depth charge attacks by Gannets. Eighty-one sorties were launched in about 2½ hours. The visitors were embarked and disembarked by Naval helicopters and it is hoped that their day's experience will perhaps add something to future Naval aircraft.

Two S.55 (Whirlwind) helicopter squadrons remain in their previous roles: one in Malaya operating against the Communist terrorists, and one at present at Eglinton working out anti-submarine tactics. Although information about the latter squadron is scarce it is not difficult to notice the emphatic swing towards helicopters in the A/S role. The day of a conventional fixed wing A/S aircraft such as the Gannet may well be limited to a few more years.

An interesting but little publicised Naval helicopter operation in the last year has been the Antarctic patrol of H.M.S. *Protector* equipped with two Whirlwinds. Primarily as a guard ship for the Falkland Islands she has steamed extensively about the South Pacific and South Atlantic oceans. This included a rendezvous with the M.V. *Theron* which had just broken out of the pack ice.

The Navy now has five fully operational carriers which are kept in commission on the Carrier Cycle: approximately eight months with squadrons embarked and five months alongside. The latest and most important addition to this fleet, H.M.S. *Ark Royal*, completed her first commission in the late spring. She became the first operational carrier in the world with steam catapults. This revolutionary device enabled her to launch her aircraft whilst moored to a buoy in harbour, a performance with considerable military advantages.

H.M.S. *Warrior*, a light fleet carrier of slightly older vintage, has now been fitted with an angled deck and will be added to the operational fleet for various tasks, possibly culminating in the hydrogen bomb trials.

Lastly, the R.N.V.R. squadrons. At present some 11 squadrons exist, equipped mainly with Sea Hawks, Attackers, Gannets and Avengers. Deck landing of the jets has successfully been carried out by the fighter squadrons during their annual training. But the future size is rather uncertain. Defence cuts may well reduce their commitment.

All of which leads to the major problem at the moment: what exactly is the role envisaged for the Fleet Air Arm during, say, the next 15 years? By the time this article appears Government policy may have been stated. Never before has the role of the Navy been as debatable as it is to-day. One can only hope that the politicians will not be as myopic as to cheesepare with the Fleet Air Arm. Air power is the dominant factor in world strategy; it is not less effective because it operates from sea-borne bases — in fact, could be more. In an atomic age it is particularly worth remembering the basic fact that sea constitutes more than two-thirds of the earth's surface.

—*From the London "Navy."*

RENOVATIONS TO H.M.S. "VICTORY"

THE trustees of the "Save the *Victory* Fund" (the Society for Nautical Research) have given £10,000 to wards the purchase of teak for use in the renovations of the main timbers of H.M.S. *Victory*, at present being carried out at H.M. Dockyard, Portsmouth.

The object of the fund was to restore the ship to her Trafalgar condition, any surplus being devoted towards the building of a *Victory* Museum with a Panorama Annex alongside.

All these projects were completed before the war.

The fund has been kept in existence, being augmented from time to time by further donations, by the proceeds of the entrance money to the Museum and the Panorama Annex, by the proceeds from collection boxes outside the ship, and by the sale of souvenirs on board.

The general maintenance of the ship, which serves as flagship for the Commander-in-Chief, Portsmouth, is undertaken by the Admiralty, the "Save the *Victory* Fund" being used for the upkeep and improvement of the *Victory* Museum, for the renovation of special features in the ship's equipment, and for the provision of special furniture and other things having a historical or sentimental interest connected with the ship or with the Trafalgar period.

NEW WATER PLANT

A Glasgow company has received its second large contract this year for sea-water evaporating and distilling plant.

The order (valued at £1 million sterling) is for a plant that will supply 4,000 tons of fresh drinking water daily to the Dutch West Indies island of Curacao, off the coast of Venezuela.

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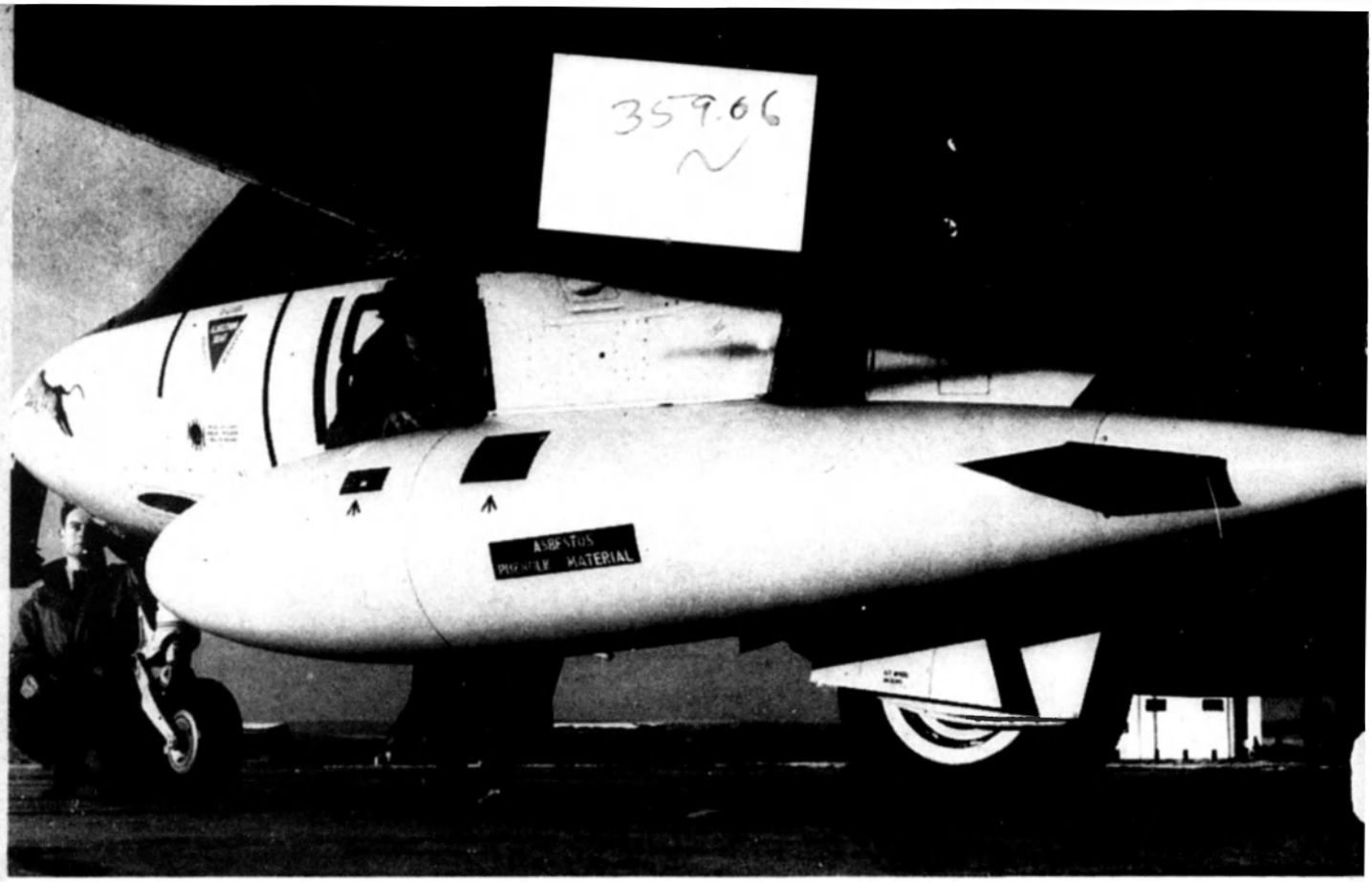
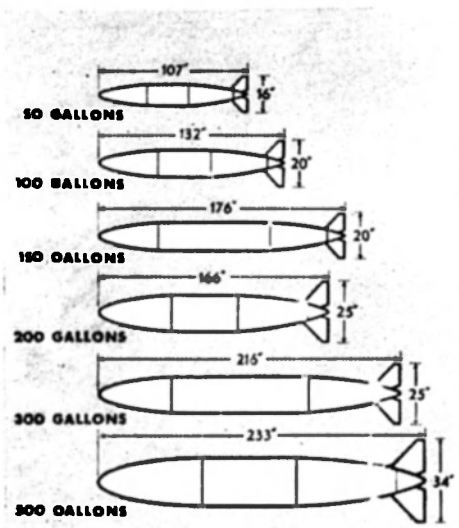


Not-so-expensive expendables

Today drop-tanks are a major expendable in the operation of military aircraft.

According to reliable reports, they constituted the largest single item of operating expenditure of the U.S.A.F. in Korea, where thousands were dropped every week. Moreover, as most current drop-tanks are of light alloy, semi-monocoque construction, they could, in time of war, compete directly with aircraft for labour, plant and strategic materials.

Bristol plastic drop-tanks were designed to get over these difficulties. They are much easier to produce than their alloy equivalents and utilise plant and skills that would not be particularly scarce in wartime. They are aero-dynamically superior to alloy tanks and can be dismantled for easier stacking. They are unaffected by extremes of temperature and humidity.



The standard range of tanks so far in production have the above capacities

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