

The CROWSNEST



Vol. 7, No. 2

December, 1954



Christmas Message

IT IS ALL too easy for us as members of a fighting force to regard peace as a negative state during which we simply bide our time until some great catastrophic change in world affairs calls on us to exert ourselves as fighting men.

At this season of the year, when the thoughts of mankind turn toward peace and good will, it might be well to think of the positive aspects of the Royal Canadian Navy's contribution to peace.

We are making this contribution in several ways; as part of the fighting forces of the free world, as emissaries of good will from Canada to distant nations, and by preserving in our hearts the ideals of peace and brotherhood.

Our ships this year have sailed the Seven Seas, have visited both new and ancient lands. New heights have been gained in peacetime accomplishment and growth. We do not forget that three of our men-of-war are serving as sentries of peace on the far side of the world and we are thankful that they have not been called upon in 1954 to fire a single shot in anger.

I wish them well, and to all officers, men and women of the Service, and their loved ones, to our loyal civilian personnel and to all friends of the Royal Canadian Navy, I offer my sincere hope that they may share in all the blessings of this festive season.



Vice-Admiral, RCN,
Chief of the Naval Staff

The CROWSNEST

Vol. 7 No. 2

THE ROYAL CANADIAN NAVY'S MAGAZINE

DECEMBER, 1954

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**The Crownsnest
 Extends
 to Its Readers
 All Best Wishes
 for
 Christmas
 and
 the New Year**

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The Cover—The simplest way to get a Christmas tree (as those who have gone searching in the December hills well know) is to buy it at one of the tree-laden corner lots. Canadian warships at times find themselves far from such adjuncts of civilization. On such occasions, a whaler, Yuletide enthusiasm and dubious axemanship can provide the essential greenery for the foremast and the ship's messes.

RCN News Review

Navy to Rescue. In Hurricane Area

More than 70 volunteers from York, others on leave from Cornwallis and Sea Cadets joined in rescue operations in the Toronto area during the October floods caused by Hurricane Hazel. The Toronto "Globe and Mail" said in a story that the citizens of Woodbridge would never forget the men of the Royal Canadian Navy.

Reeve Fred Armstrong, of Woodbridge, praised the naval rescuers, six of whom were overcome with exhaustion and required medical treatment, and one, AB Charles Puckwell, who broke an arm.

The story goes on to state that a total of 175 persons were rescued by naval personnel.

"Expectant mothers, women and children and even 10-week-old pups were among those rescued by Navy crews.

When Hurricane "Edna" tore its angry way through the lovely Annapolis Valley, it left a wave of destruction in its wake. Personnel from the Navy, Army and Air Force volunteered to help the stricken orchard owners in picking the apples from the ground in an attempt to salvage something. Here, left to right are: LAC Ron Johnston, Sutton West, Ont.; Ord. Sea. Herbert Dawkins, Winnipeg; LAC Allen Pearson, Truro, N.S., and Ord. Sea. John Robertson, Kimberley, B.C. (DB-4580)



1,000 Ditty Bags For Distant Sailors

More than a thousand Christmas gift ditty bags have been packed and shipped by the Navy League of Canada to seamen in ships in Korean waters and to RCN personnel serving in isolated Canadian Arctic regions.

"Exhausted, a man dropped from a tree outside his house. A lifebelt was thrown him by a sailor. He was hauled to a waiting whaler".

Others included three aged members of one family, a young mother and her two small children who had spent the night on the roof of their home; an expectant mother and a 95-year-old woman, both of whom were removed from their homes on improvised stretchers.

"Time and again navy men, assisted by local residents and police, fell under

the onrushing water, only to be pulled to a lifeline by a helping hand.

"Toronto police constable Robert Bimlett plunged into the water several times to help the Navy men pull whalers loaded with homeless people toward waiting ambulances and trucks."

There was grim humour too. One woman insisted that the Navy take out her T/V set. Another wanted a stove removed, and one elderly man, who told Navy rescuers he would go down with his house, was forcibly removed to a waiting whaler by three sailors.

Navy Over Top In Bond Drive

Sale of Ninth Series, Canada Savings Bonds in the Royal Canadian Navy totalled \$2,242,950, final tabulations indicated.

Six of the seven categories into which the Navy was divided for the sale of the bonds exceeded the quotas allocated, the average subscription being 110 per cent of the quota.

Following is a list of the categories, the total amount of bonds sold and the percentage of the quotas subscribed:

Atlantic Command, \$1,268,900, (109 per cent); Pacific Command, \$535,850, (122 per cent); COND, \$194,500, (121 per cent); Bytown (Naval Headquarters), 149,900, (97 per cent); Radio Stations, \$51,550, (136 per cent); HMCS Niobe, \$26,400, (110 per cent) and HMCS Niagara, \$15,850, (132 per cent).

Rear-Admiral's Rank for VCNS

The promotion of Commodore Horatio Nelson Lay to the rank of Rear-Admiral was announced in early November by Defence Minister Ralph Campney.

Rear-Admiral Lay assumed the duties of Vice-Chief of the Naval Staff on the retirement in August of Rear-Admiral W. B. Creery.

A graduate of the Royal Naval College of Canada, Admiral Lay's service in the RCN spans 36 years. During the war he commanded the destroyer *Restigouche* in the Atlantic and became the

first Canadian naval officer to command an aircraft carrier when he was named captain of HMS *Nabob*, a Royal Navy carrier manned by Canadian officers and men.

In August 1944, while taking part in air strikes on the German battleship *Tirpitz* at Altenford, the *Nabob* was hit by a torpedo. Although heavily damaged the ship was sailed 1,100 miles to the naval base at Scapa Flow.

Never Was So Much Missed by So Few

No Canadian sailor in the Far East has missed more than the *Iroquois'* AB Eugene Watson.

Within the space of a few weeks he missed his ship, his cap, his birthday, and, but for a neat bit of sleuthing by his divisional officer, he'd have missed his birthday cake too.

Watson's adventure began in August as the *Iroquois* headed westward across the Pacific on her way to the Far East. He became ill during the passage and was left behind at Pearl Harbour.

He was picked up by the *Huron* on her way to Hong Kong. Three days out of Pearl Harbour, on the evening of Friday, September 10, the *Huron* crossed the International Date Line. Watson went to bed on Friday night and woke up Sunday morning, with no more than the usual amount of sleep. There just wasn't any Saturday, September 11.

Poor Watson, who for 21 years had celebrated his birthday on September 11, missed out on his 22nd anniversary.

On the 12th, all hands assembled for Sunday divisions; all, that is, except Watson. He was missing.

The engineer officer hastily organized a dragnet, and they dug Watson out of hiding. He had mislaid his cap, and unable to attend divisions out of the rig of the day, had hidden himself in the engine room, attired in dungarees.

Away on the double went Watson to his mess; someone loaned him a cap, and within a few minutes he emerged, properly dressed, and fell in for divisions.

Following divisions, the ship's company was ordered to assemble on the fore'sle for an address by the captain. The subject of his address was Watson, and how he had missed his 22nd birthday.

Watson was then called upon to present himself before the captain, who held in his hands the finest cake that Ldg. Sea. Lorne Pace, the *Huron's* culinary expert, had ever decorated. Inscribed on the cake were the words "Happy birthday, for one missed".

The cake was taken to the engineering mechanics' mess, and with due ceremony, was cut by the much-consolated Watson. He served his mess-mates, then chose a fine morsel for the ship's executive officer, Lieut.-Cdr. E. D. Robbins, who had organized the party.

Watson had been missed, but not forgotten.



Among the distinguished visitors to Ottawa in November was Admiral of the Fleet, Sir Roderick R. McGrigor, GCB, DSO, LLD, First Sea Lord and Chief of Naval Staff, Royal Navy. He is seen here being greeted at the main entrance to the Department of National Defence buildings by Vice-Admiral E. R. Mainguy, Chief of Naval Staff. (O-7404)

Admiral Lay also has held shore appointments in London, England, Washington, D.C., and at Naval Headquarters, Ottawa.

For his services in the *Restigouche* Admiral Lay was awarded the Order of the British Empire, and was mentioned in despatches for his service in the *Nabob*.

Reserve Squadron Being Formed

Formation of the Second Canadian Reserve Squadron at Esquimalt late this year has been announced. The squadron, comprising HMC Ships *Digby*, *Brockville* and *Cordova*, will come under the administrative and operational control of the Flag Officer Pacific Coast.

Ships of the new squadron will be manned by a nucleus of RCN personnel and will be employed entirely in providing training afloat for officers and men of the RCN(R). During the summer months the squadron will engage in exercises and training cruises to various ports on the West Coast.

Players Help Army Project

A rehabilitation project, sponsored by members of the Canadian Army in Korea, has received an assist from the Royal Canadian Navy.

The Drama Society of *Cornwallis* has forwarded the sum of \$65.71, to be used in a campaign to rebuild two war-devastated Korean towns in the Canadian sector, near the 38th parallel.

The money was raised by a benefit show and was sent to Lieut.-Col. W. M. Sinclair, chairman of the "Build the Villages" campaign fund.

Col. Sinclair is well-known in *Cornwallis*, having been senior dental officer there before going to Korea.

Although two villages in the Canadian sector are receiving the benefit of the generosity of Canadian soldiers, one of these, Chinmochung, has been adopted by the Army's 25th Infantry Brigade, and most of the effort has been directed towards the rehabilitation of this small farming community.

Athabaskan Enters New Commission

HMCS *Athabaskan* re-commissioned at Esquimalt on October 25, following an extensive refit and armament modernization. Rear-Admiral J. C. Hibbard, Flag Officer Pacific Coast, attended the commissioning ceremony with other senior naval officers of the Pacific Command.

The *Athabaskan*, a veteran of three tours of duty in Korea, will be based at Esquimalt for RCN training duties. The destroyer escort is under the command of Lieut.-Cdr. C. E. Richardson.

How to Build a Ship

by R. B.

SOMEONE asked me to write an article on "How to build a ship", and then showed his ignorance by saying "from the time she is a Staff requirement until she is off to sea." So perhaps the article is worth writing. It is suggested from time to time that there is a puzzle in the question "which comes first, the chicken or the egg"? Of course, there is no puzzle, for it is clearly explained in Genesis.

So the chicken comes before the egg and the ship comes before the Staff requirement. The Staff can only state a requirement in known terms and this means that the Staff requirements for a new ship must refer either explicitly or implicitly to some existing ship. I agree therefore that while the shipbuilder or designer depends on the Staff to say the sort of ship they want, the Staff, whether they realize it or not, depend on the shipbuilder and designer to indicate what sort of ship is possible.

Now although fundamentally there is no limit to the ship or to what the ship can do, by which I mean the ship can be as large or larger than you can imagine and can perform everything from floating and sinking to flying or rock climbing, in practice there are very real limits. These real limits lie in the invention of the Staff, in the capacity of the designer, and in the resources of Industry. The Navy has very little direct control over the resources of industry and very often it will be this factor more than any other which will limit what can be done. Industry in this context does not mean the Ship-Building Industry alone, but the whole industrial state of the nation. So first of all to build a ship you must have an industry.

Shipbuilding itself, especially to-day, is largely an assembly industry, that is to say the shipbuilder takes the finished products of other industries and assembles them to form a ship. This has advantages and disadvantages. The advantage is that a very large effort can be expended at one time. For example, one firm makes a gun at the same time that another makes an anchor while the shipbuilder proper lays the keel. When a ship is complete workers all over the country can and should share in the satisfaction if any, or in the doubts (most likely). The disadvantage is that the shipbuilder and designer have to know

something about so many things; there are so many pitfalls, so many reasons for delay.

Of course, if you have no industry you can create one and to some degree this has been necessary in the present RCN program. To creatures of limited powers, however, creating an industry is a formidable task and you cannot even begin unless you know what it is that you want to make. This problem of beginning has had to be solved for the production of many items of armament and electronics, and the first step in each of these instances has been to decide what British or American item was re-



to build a ship you must have an industry

quired and then set up to make it. Probably this method was inevitable, but it has its difficulties, for as a rule you can only set up to produce an item that is already in being, that is to say an item that was conceived some years ago. Then even when creating a new industry some regard must be paid to existing organizations and to existing techniques. This means that the copy will not be an exact copy and so the designer of the ship, and subsequently the shipbuilder, cannot plan ship details until Canadian model equipments have been considerably progressed. This is a very fruitful cause of delay in actual ship construction.

The method also has the disadvantage that a brand new ship may well be fitted with rather obsolescent weapons. The fact is that no nation can be com-

An expert outlines a number of woes . . . including his own and almost concludes, like Einstein, next time he'll be a plumber.

petitive in the armaments business today unless the whole of a project is national, and Canada has not yet reached this standard.

If you can create an armaments industry, equally you could create a shipbuilding industry, but this argument can be pressed too far and you end up like the Creator, creating everything. This is not, however, humanly possible, and we are forced back to my original point—that to build a ship you must have an Industry.

THE SECOND POINT is that to build a ship you must have a designer. Just as the shipbuilder must know what his ancillary suppliers are capable of doing so the designer has to know what he can get. This is, if you like, general knowledge, but further to this, in his specialized field, the designer has to know what he himself can do.

In other words, he must have the knowledge of the factors which govern the ability of the ship to float, when damaged or not, the ability of the ship to move through the water, the ability of the ship to withstand strains and stresses, and the capacity of the ship to contain all the items required.

Beyond this the designer must, to some degree, be an artist—for if the ship, either as visualized in the plans or as finished, does not look right, it cannot be right, and this is quite irrespective of whether it meets the Staff requirements or not.

Again the designer must ensure that the relative arrangement of the various compartments is suitable. This in itself is not an easy task, for two reasons. Everyone has a different idea and there are so many ways of doing the job. Perhaps you will not believe this, but if you can imagine a very simple ship with only six compartments, say a Mess, Galley, Store, Magazine, Engine Room, and Fuel Tank, then within the limits of the ship itself, with just these six spaces, there are 720 different arrangements possible. If there were only eight compartments, this number would come to over 40,000. Imagine, if you can, the possible arrangements in a ship with one hundred compartments.

THE THIRD FACTOR is that to build a ship someone must require a ship. This is where the Staff requirements come in. In brief, these explain what the ship is required to do. What is it that the Staff have to know? Well, clearly, as the first requirement of a Warship is to fight, they must know something about fighting. In my experience, this is a quality which the Naval Staffs all over the world possess to an altogether remarkable degree, for they are fighters. On occasion they fight the enemy, but if there is no enemy they make one. They have mock battles in battle training centres; they have mock battles in the colleges; they have mock battles at sea. They fight our allies. In their spare time they fight each other and every day, to some degree, fight the Technical Services.

Secondly, the Staff must have a sound knowledge of ships, of the sea and of weapons. They must know what the likely enemy will do, and appreciate the significance of counter measures of all kinds, of strategy.

The third factor is not so well understood but is very important. The Staff has to understand what men can do and what materials can do, not only in the narrow sense in the ship as completed, but in the broad sense of including everything that goes into making the ship, including its cost.

Now Staff officers may be supermen, but they are not super-human, and the overall requirements for a Staff officer as outlined above far exceed the capabilities of any one human being. In order to carry out their function properly then Staff must have one further quality, judgment, the power of seeking advice, deciding on its quality and maintaining a decision once made. In the matter of Staff requirements for ships, Staff must get specialist advice not only on the type of ship but on very many of the armament, machinery and equipment items.

Staff requirements come after the Industry and after the designer, because they are meaningless except against an industrial background. But they are all important as regards the ship, for if, for example, the Staff asks for a minesweeper, they will get a minesweeper, and it will be too late to say afterwards—"we really intended a submarine"—for it would be just as easy to convert a camel into an ostrich as a minesweeper into a submarine. Of course, mistakes sometimes occur and war changes quicker than ships. There is always a tendency to alter things so as to improve them and it is doubtful whether such changes are ever really worth while.

If then, Staff requirements can be prepared, this means that you have a designer and an industry and from this basis designing a ship and shipbuilding can begin. What are the procedures? Who carries them out? Whom do they affect? First of all what is the form of Staff requirements? Remember that although the ship, when completed, cannot be a total success, she can very well be a total failure for, as in a chain of one hundred links, for perfection all must be perfect, yet for failure of the whole only one link need be defective.

FAILURE is most likely in at least four ways. The Staff requirement can be wrong; this would invalidate the whole thing. The design could fail to meet the staff requirements. The construction could fail to meet the design requirement, or what is most common,



there can be some irritating little thing such as the paint peeling off which spoils everything. The form of the Staff requirement cannot, of course, guard against total failure of the Staff but factors are introduced which give some protection against the other failures mentioned. These safeguards take the form of requiring Staff approval for all the main proposals made to meet Staff requirements and, in particular, the general arrangement of a proposed design. This Staff approval is part of a re-checking process which is common and essential to every phase of shipbuilding. So we have the requirement stater, the checker, the designer, the checker, the industry, the checker.

The Staff requirement appears finally in the form of a co-ordinated group of

statements indicating the features required under the several main headings, e.g.:—

Type of ship
Dimensions (approximate)
Speed and endurance
Armament
Communications
Habitability
Protection

This document can be regarded as an instruction to design a ship, and it is from the receipt of this document that design begins. It may be that the armament and equipment, called for to meet the requirements, are of existing types. Investigation of the propulsion may show that some existing machinery design will be suitable. Under these circumstances the designer's concern will be to estimate the dimensions and shape of a suitable ship, to check its Hydrodynamic, Hydrostatic and Structural qualities and produce a layout that will be acceptable.

THE DESIGNER is the sole authority regarding dimensions, Hydrodynamics, Hydrostatics and Structure, but the shape or appearance, and layout will, of course, be checked by Staff. If new types of weapons or any item of equipment are to be included, or if the propulsion study indicates that the machinery has to be specially designed then all these items will themselves need design, development and production before the ship can be built, but generally speaking, the ship designer will take a chance and guess the effects of such items on the overall ship. This means that the designer has to accept a responsibility for parts of the ship that, according to terms of reference, are nothing to do with him and that essentially the design procedure is the same whether all the components are known and tried or not.

What is the procedure? First of all you guess the approximate dimensions. Now of course your guess would not be as good as mine, but mine is still a guess. Suppose the ship is to be a minesweeper, someone will always say that such a type should be as small as possible—well, the shortest ship that can really be expected to make an ocean passage under power (as distinct from sail) is 150 feet long, the largest minesweeper ever built about 265 feet long. This formula gives a first shot at the length.

Now experience shows that if you start with a ship too big, the ship will stay that way so that the next step would be to take a length of 150 feet and draw in the spaces that are essential. The draught of the ship will probably be limited by Staff so that after

this first check as to the room in the ship, beam and length will need adjustment to provide space and stability. With these approximate dimensions the flotation and propulsion, and strength of the proposed ship is checked, and when this is done the provisional dimensions settled. The drawing of the arrangement is submitted to Staff, together with a report as to how the Staff requirements have been met and the type and power of machinery and the electrical installation proposed.

IF THE ARRANGEMENT is approved, the design is then completed by finally fixing the dimensions overall and of the various parts, the form, power, etc. Drawings and a statement descriptive of the principal characteristics of the proposed ship are then approved as a design. Before this last step can be taken, however, the design has to get the approval of all the branches concerned to the space provisions and relative location of all compartments with which each division is concerned. Now earlier I have explained that with only eight compartments in the ship there would be over 40,000 possible arrangements; in such a simple ship with eight divisions there will be another 40,000 possible differences of opinion. This is probably where the real skill of the designer comes in (of course, he has to be a fully qualified Naval Architect), he must be able to convince the eight divisions that the proposed arrangements give each of them a better deal than is given to anyone else. Clearly, in this context the 40,000 alternative arrangements must be mentioned only with silence. Once anyone is allowed to explore the "alternatives" the process of design could go on forever. That is not the way to build a ship.

After the design is settled specifications are prepared. These specifications lay down first of all, in broad terms, what is required in and for the ship. Subsequently, in detail, they explain how every part of the ship, its machinery, electrical installation and services are to be made. They define, for example, the thickness of the hull steel required, the thickness of insulation and how it is secured, the power of the main machinery and how to secure electrical cables.

At this stage Headquarters' planning is over and you are ready for Industry. What is the first thing for Industry to do? Well, they do not start work on the ship, they start on the drawing board, for although the design and specifications define what it is that the Navy requires, they do not define how the workmen are actually to proceed with the

work. This is an industrial function. The shipbuilder's drawing office has to plan its operation to suit the shipyard plan for construction. This means that they will start detailing the structure first, when a drawing is prepared it is submitted usually to Headquarters for checking that the intention of the specification has been met. Very often more than one ship of a class is built, then drawings are made by one agency for the class, and after approval, prints are sent to all the shipyards concerned.

The same general scheme is followed throughout the hull drawing office, going from structure to outfit items in a regular sequence. However, the ship has to be fitted with armament, with machinery, and an electrical and elec-



...such as the paint peeling off, which spoils everything

tronic installation, and the structural drawing for supporting the main engines, for example, cannot be made (or approved) until details of the main engines themselves are available. This principle of mutual interdependence goes right through the ship, for the mast cannot be designed until the radar scanners can be defined, and until the mast is designed circuit drawings for mast-head lights cannot be drawn and nor can the structure supporting the mast be developed.

AFTER DRAWINGS are prepared and approved there is yet another stage before actual physical work can

be started, namely, materials have to be ordered, and again a sequence has to be followed as it would not be sensible to have delivered to the yard, the mast-head flashing lantern, before the steel for the keel.

No doubt everybody associated with building the ship falls into the way of thinking that his particular activity (or lack of it) is the most important, but this cannot be true for everyone. It is a fact, however, that the drawing office services, briefly outlined above, are of vital concern. Under all circumstances the shipyard drawing office will have the benefit of advice and guidance from Headquarters and the overseeing staff. Under the most favourable circumstances all the armament, machinery, electrical, electronic and equipment items will be of known patterns. This will not reduce the number of working drawings that have to be prepared for ship-building, but it will greatly facilitate their production because a large body of absolutely reliable information will be available. Unfortunately, when a new ship is being designed there will often be very good reasons why new equipments should be fitted, for example, the main machinery may require to be of a different power than that used before. This will mean that the machinery itself will have to be designed before the shipbuilder's working drawings can be started. Similarly with guns and other items. Even when every difficulty is met in shipbuilding, it still takes longer to develop and produce high power machinery or a main armament gun, than it does to build a ship, so these items have to be started not only before the keel is laid, but often before any shipyard drawing work can be undertaken. It is most important that standard items should be used wherever possible, so that in a given case development effort can be applied when it is most needed. This is why items like kit lockers and light fittings are the same in aircraft carriers as in minesweepers; it does not mean that the pattern need never change, but rather that development of specific items should proceed independently of shipbuilding or ship design.

THE ORDERING of material is done off the drawings, and of course the larger the number of standard items the simpler and quicker the ordering procedure. There are undoubtedly items which, in use, need not be standardized and a supplier of door knobs, for example, can claim that his product is as good as anyone else's, but if the knob is changed, the door changes and, if you are not careful, the doorway, and the

cabin—and a situation can arise in which whole bundles of drawings cannot be worked to because some small change has been allowed.

The draughtsman in fact is just like you, what he has done before, and thinks he knows about, he will do easily and well, what he does not know about will be put on one side until tomorrow, and there is thus a great tendency to give the least attention to the items that need it most, whilst all the time everyone is very busy. Even in an entirely new design then old equipments must be used. To take a specific case, and a simple one, a Mess: The Headquarters drawing will indicate that 24 men are to be accommodated, the draughtsman knows straight away that eight sets of three-tier bunks, twenty-four kit lockers, eight chairs, two tables, two mirrors, will be required. If all these are standard items, not only can he draw them in, but he can also order them by reference to pattern numbers—whereas, if only one of the items is non-standard, the drawing is held up and all ordering delayed until this errant item can be clearly defined.

From the point of view of producing ships in numbers the ideal would be to have not only all equipments, but the whole ship "the same as last time" and, of course, in emergency the greatest possible number of ships are ordered from a current design so as to facilitate quantity production. It is most important from this aspect to have not only a Designer, an Industry, and a Naval Staff "in being", but to have ship construction in being at all times also. This will ensure that at all times there is a fairly modern vessel being built, for which the design and all drawings and specifications are available so that numbers ordered will be as nearly up to date as possible.

WHEN MATERIALS and equipments have been ordered off the drawings, the contribution of the Drawing Office is nearly complete. The next step will be the first actual shipbuilding effort. Where will it take place? In the mountains of Minnesota or Ungava, for that is where the manufacture of steel ship plate begins. During the months following, similar action will begin in the hills of Guiana. Steel plates and sections will be rolled in Hamilton, aluminum ones in Kingston, steel castings perhaps in Trenton, and the finished products of these industries will be delivered not only to the shipyard, but to the workshops of all kinds of industries all over the Dominion. Of course, the basic raw material of steel ships is steel and steel is the first material delivered to the shipyard; the steel-

worker, in conjunction with the loftsmen, the first actual shipyard worker to be engaged. He is, on the whole, the least time consuming of all and the steel hull of a ship is, therefore, often dismissed by the engineers as a shell to float his machinery. This is, of course, an admission that the machinery won't float by itself. The ordnance branch are inclined to dismiss the hull as merely a platform for holding up their guns. This is, of course, an admission that the guns won't hold up by themselves.

Actually it is a very grave error to dismiss any part of anything as relatively unimportant—it is certainly foolish to minimize the importance of the steel hull because generally it is so trouble free, or generally so little to the fore when delays are being considered. If the hull is poor, the whole thing fails. Following this line of relative importance leads all too often to the attitude that "x" is the most important because he gives the most trouble,



whereas the proper way of assessing a constant trouble-maker is to cut him off. However, except to the expert, the fabrication and erection of a ship hull is not of great interest because it is a relatively straightforward process and, even when complete, the product bears little obvious relation to a finished ship.

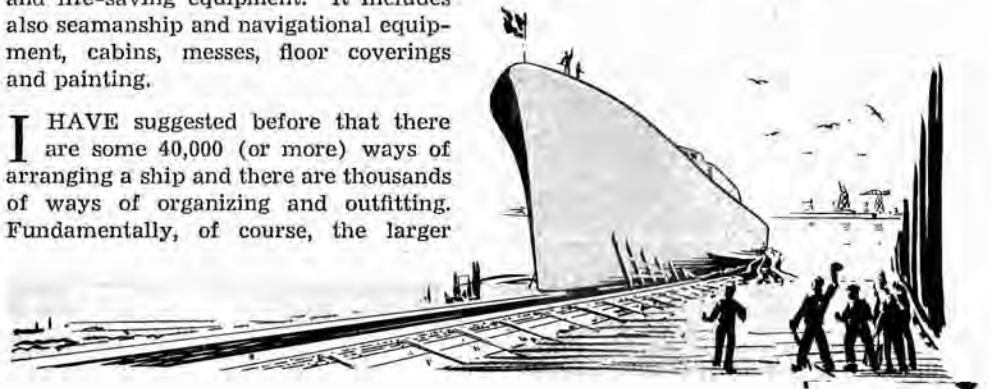
After the main hull structure is complete, other workmen begin the outfitting. This includes operations undertaken by every shipyard trade and involves the fitting in the ship of every item of main and auxiliary machinery, of every piping system, of subdivisions for convenience, of insulation, ventilation, heating, electrical and electronic systems, of guns and torpedoes, boats and life-saving equipment. It includes also seamanship and navigational equipment, cabins, messes, floor coverings and painting.

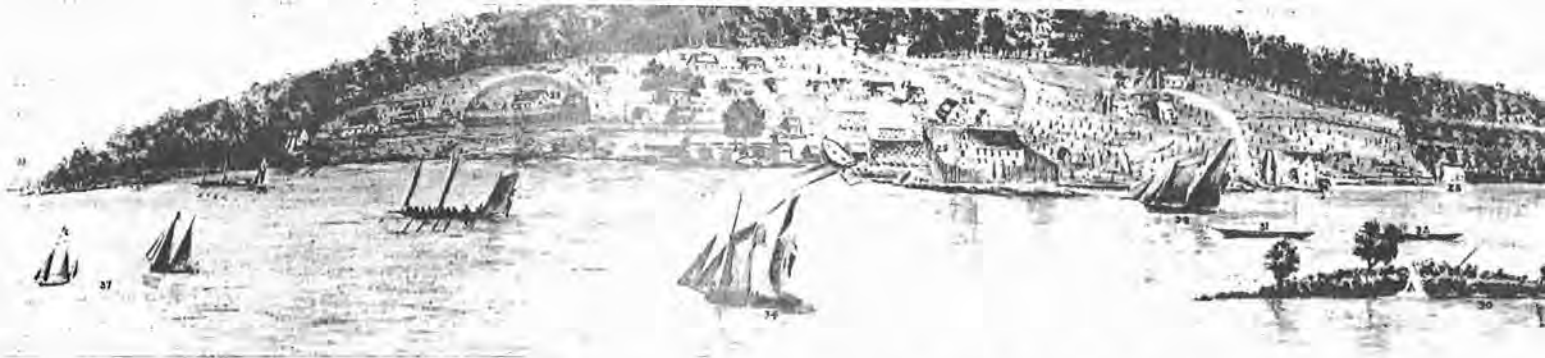
I HAVE suggested before that there are some 40,000 (or more) ways of arranging a ship and there are thousands of ways of organizing and outfitting. Fundamentally, of course, the larger

time consuming operations should be started first, and similarly, equipment to be installed low down in the ship should be fitted first or you will find that you have to remove the bridge in order to install the boilers. The necessity for leaving loose work in order to allow for the installation of large items acts as a powerful lever toward getting an early start on such items. Equally, of course, a dipole aerial cannot be fitted before the mast.

You will see, therefore, that there is a broad pattern which is inescapable, and this broad pattern puts the completion of some electronic items last, except for cleaning and painting. Within the broad pattern, however, there is room for very many different practices. These practices originate in, and are the responsibility of the shipyard concerned and while I have strong objections to fitting the mess deck furniture so that the men installing the fire main can stand on it, the shipbuilder always has the last word. I feel, therefore, that with this introduction to outfitting this article should properly end, and that if the fan mail is sufficient, perhaps the Editor should get a Shipyard Manager to write a separate article on the Planning of Shipbuilding Operations.

Irrespective of fan mail, the one thing above all which distinguishes the Naval Service from the others is not the pattern of uniforms worn nor the amount or quality of the refreshments consumed, nor anything else but just this, only the Navy has ships of war. These ships are yours, they are your homes, they carry your weapons, they are part and parcel of your service life. Of them you may have thought that, like Topsy, they just growed. If this article convinces you on the one hand, that like Topsy they are difficult to alter, and on the other, like Topsy, they are surely conceived, it will have been worthwhile. Here, of course, the parallel with Topsy must end, for in the long run, although ships may just grow, the Navy can have the sort of ship it wants if you think enough about them and love them enough.





HM Schooners *Confiance* and *Surprise*, formerly the U.S. Schooners *Scorpion* and *Tigress*, beating into Michilimackinac after their capture by Lieut. Miller Worsley, RN, and his men, September, 1814. (From the drawing by C. H. J. Snider, courtesy of the John Ross Robertson collection, Toronto Public Libraries.)

The Navy on Lake Huron = 1814

IN JULY of this year, "frog men" of the Royal Canadian Navy made a survey of a Canadian-built naval vessel lying 15 feet under the surface of the Bay of Penetanguishene.

Believed to be the remains of HMS *Newash*, the vessel, over 70 feet in length, was found to be lying on her starboard side, broadside to the shore, just south of the stone jetty that still survives from the days of the old naval dockyard. The ship's stem and sternpost were found to be reasonably intact and much of her ceiling and planking is remarkably well preserved. In fact, generally, *Newash* is in better condition than the ship raised a year ago and tentatively identified as HMS *Tecumseth*.

The RCN underwater crew also visited the scene of last year's salvage operations and recovered a portion of *Tecumseth's* side, broken off when being raised. Across the bay in Colborne Basin, the remains of USS *Scorpion*

were also examined. Where did all these ships come from and how did they come to be at Penetang?

A tour of the Georgian Bay towns will provide part of the answer. The charred hulk of the gallant HMS *Nancy* is to be seen near the mouth of the Nottawasaga. In the officers' quarters at Penetang will be found round-shot and boarding-pikes. Just outside on the parade will be seen the keel and frames of USS *Tigress*. All this comes down to us from the War of 1812. In that conflict British and Canadian seamen fought desperately through defeat to victory to save Canada from conquest.

Concerning the War of 1812, the frigate actions in the Atlantic, the land campaigns on the United States-Canadian border, and the naval operations on Lakes Ontario, Erie and Champlain are comparatively well known. The overall American strategy was to counter the overwhelming strength of the Royal Navy on the high seas by attack-

ing the Empire's weak spot, Canada. However, not so well known is the fact that naval and military operations were conducted on the Upper Lakes that were of far greater importance than the size of the operations seemed to indicate at the time.

The Upper Great Lakes and adjacent waterways formed the routes of the fur-trade. The vast territory west and north of the British post at Detroit to the Rockies and sub-Arctic was, therefore, of vital importance not only to the British fur interests but also to the future westward expansion of Canada.

After the Battle of Lake Erie, September 10, 1813, where the whole British squadron was annihilated (including the capture of HM Ships *Queen Charlotte*, *Hunter*, and *Lady Prevost*), the Canadian position west of Niagara was in a grave state. In the following spring (1814), the Americans planned to seize the opportunity to wipe out the British-Canadian garrisons and establishments on Lakes Huron and Superior.

A force was organized by Captain A. Sinclair, USN, consisting of U.S. Ships *Niagara*, *Lawrence*, *Scorpion*, *Tigress*, and the captured British vessels *Caledonia* and *Hunter*, having 500 seamen and marines, and 1,000 soldiers, embarked.

Clearing from Detroit, course was shaped for the main Canadian base at Michilimackinac at the entrance to Lake Michigan. En route, the Northwest Company's only supply schooner, *Mink*, was captured. Proceeding up the river

The word "ceiling", as used in this article does not mean "deckhead". It refers rather to the lining of the hull. "Ceiling", as used on shore, derived from the verb "to ceil", which meant "to line a roof", and is still used in the merchant service to designate the lining of the ship's hull which keeps the cargo from coming into contact with the side plating, which is often moist with condensation.—Ed.

View of starboard side of schooner tentatively identified as HMS *Tecumseth*, raised from Penetanguishene Bay, August 1953. (O-6141)



at the Soo, the Americans planned to capture the only available vessel above the rapids, the schooner *Perserverance*, and to sail and attack the fur-trading depot at the head of Lake Superior. However in the attack by *Scorpion's* crew, the *Perserverance* was wrecked and the two-million-dollar store of furs at the lake-head was saved. In the storming of Michilimackinac that soon followed, the men of the Royal Newfoundland Regiment stoutly forced the invaders back to their ships.

With a view to starving out the garrison during the coming winter, the American squadron now undertook to eliminate the only remaining British vessel above Niagara, HM Schooner *Nancy* (Lieutenant Miller Worsley, RN). The *Nancy* had been engaged in supplying stores to the garrison at Mackinac, ammunition, food and clothing brought overland from York (Toronto) to the mouth of the Nottawasaga River.

Unaware of the enemy squadron's approach through Georgian Bay, the *Nancy* was trapped at her berth just up the river beyond the sandspit that forms one bank at the mouth. In the course of the attack, the *Nancy* was hit by a barrage of shot fired over the sandspit by the enemy ships outside. She blew up, burned and sank; Lieutenant Worsley and his seamen took to the woods and escaped. (The remains of HMS *Nancy* are today preserved where she was lost.)

Captain Sinclair now sailed for home leaving USS *Scorpion* and USS *Tigress* to make certain that the Mackinac garrison was not supplied by bateaux or canoes and so force its withdrawal over the winter ice. However, before the autumn gales set in, Lieutenant Worsley and his seamen reinforced by soldiers and Indians in open boats actually captured both U.S. vessels in two of the most daring boarding operations of the war. Records of the Board of Inquiry, held on board USS *Independence* at Boston, give this version of the affair:

"The court find, that after Lieut. Turner (in USS Scorpion) had proceeded to cruise off French river, on the night of the 3rd of September last, the Tygress was attacked by the enemy in five large boats, (one of them mounting a 6-pounder, and the others a 3-pounder each) and by 19 canoes, carrying about 300 sailors, soldiers, and Indians, under the command of an English naval officer: that owing to the extreme darkness of the night, the enemy were not perceived until they were close on board; nor were they then discovered but by the sound of their oars.



Rear-Admiral H. F. Pullen and Lieut.-Cdr. K. D. McAlpine examining the head of a pike pole, one of the relics brought up from the wreck of HMS *Newwash* by an RCN underwater crew. (O-7088)

"After they were discovered, every exertion was made by Lieut. Champlin, his officers and men, to defend his schooner, that bravery and skill could suggest; and not until all the officers were cut down, did the overwhelming numbers of the enemy prevail. The enemy, having thus captured the Tygress, and having mounted on her their 6- and 3-pounders, and placed on board a complement of from 70 to 100 picked men, remained at St. Joseph's until the 5th of September. On the evening of that day the court find, that the Scorpion returned from cruising off French river, and to anchor within five miles of the Tygress, without any information having been received, or suspicion entertained by Lieut. Turner, of her capture. At the dawn of the next day it appears that the gunner having charge of the watch, passed word to the sailing master, that the Tygress was bearing down under American colours. In a few minutes after, she ran along side of the Scorpion, fired, boarded, and carried her."

At a stroke, the Royal Navy again exercised command of Lake Huron in HMS *Confiance* (ex-USS *Scorpion*) and HMS *Surprise* (ex-USS *Tigress*). A document recently uncovered in London and dated at Michilimackinac 12 September, 1814, valued the two schooners at almost £16,000, an assessment

considered to be "fair and just . . . at so remote a post". Indeed, it must have been an arduous and expensive proposition to haul guns, shot, and anchors from the fleet at Quebec to the forest-shrouded shores of Lake Huron!

With an enemy squadron on Lake Erie refitting to take the offensive after the spring break-up, the Canadian situation on the Upper Lakes was not bright, but at least the western posts were safe for the winter and the Admiralty had taken early steps to improve the situation. At the Naval Yard, Streets Farm, at Chippawa on the Niagara, HM Schooners *Tecumseth* and *Newwash* were laid down in the spring of 1815. Over 70 feet in length, they were designed to mount two 24-pdr. guns and two 32-pdr. carronades. As it happened, neither ship fired a shot in anger for the war ended just after the new year opened. But in the uneasy truce that lasted until 1817, both vessels served well until they were finally dismantled at the newly established naval dockyard on Penetanguishene Bay.

HM Dockyard at Penetang was built after the War of 1812 and consisted of a magazine on Magazine Island, a stone jetty (still to be seen), a naval stores depot of stone, a saw-pit for ripping timbers (now reconstructed), a barrack block and officers' quarters. During the post war years, HM Ships *Bullfrog*, *Bee*,

Wasp, *Mosquito*, and *Firefly*, were built on the ways at the Penetang dockyard.

Penetang, today, is a town of about 5,000 population and the inhabitants are very much aware of the history of the place and of the Bay of Penetanguishene. Headed by a most energetic Chamber of Commerce, the townspeople have acquired the sites of the naval dockyard and of the military establishment situated out towards the entrance to the harbour. With the assistance of Professor Wilfred Jury and students of the University of Western Ontario, much work has been done to restore the historic sites. Foundations of dockyard buildings have been excavated and the saw-pit reconstructed. A most interesting museum collection of relics are now housed in the beautifully preserved army officers' quarters which date from 1830.

The vessel raised last year, reputed to be HMS *Tecumseth*, was shaken out of the mud by means of a clam dredge. Unfortunately, large portions of her topsides were broken off, and the scarf of her keelson amidships sprung. Even at that, however, the remains are in remarkably sound condition. Of oak, these consist of keel, deadwoods, hog, and keelson, stem and stern-post, a considerable number of frames, planking, and ceiling. No evidence of rot or decay was found and the iron fastenings, gudgeons and chain-plates have been remarkably well preserved by the mud.

Just over 70 feet in length, *Tecumseth* lay on her starboard side, that side being more complete than the port. Her oak planking originally three inches thick has been ground by the sand and ice to about two inches except where it is preserved by the iron fastenings. Where the garboard strake was torn

off in the raising, the rabbit in the oak keel is as clean-cut as the day it was chiseled nearly a century and a half ago. The scarfs of the keel and keelson assemblies match almost perfectly with those shown in the original Admiralty plan. Between the ceiling and planking alongside the keelson were found several round-shot, some bearing the "broad arrow", a medal, and an RN officer's coat button.

Much of the work of identifying these ships has been done by three marine experts from Toronto: C. H. J. Snider, the well-known Great Lakes marine historian; Rowley Murphy, the war-time naval artist; and John Stevens, the expert on wooden men-of-war. Final identification of the ship raised last year (*Tecumseth*) must await the raising of the one (*Newash*) last summer examined by the RCN underwater crew.

While both were built to a common plan, Mr. Snider has uncovered evidence that the *Newash* was converted from schooner rig to that of a brigantine. The plan for both vessels shows groups of three chain-plates to take the deadeyes and lanyards of the shrouds, and such is the case with *Tecumseth*. If the *Newash* was rigged as a brigantine, she probably had a foremast in three parts (lower, top, and topgallantmast) and therefore required four or even five chain-plates to secure the foremast shrouds.

Perhaps, when she is raised, absolute identification of this vessel as HMS *Newash*, a ship built for the defence of Canada, may be made. At any rate, bit by bit, the townspeople of Penetang are not only rediscovering their own storied past, but are bringing to light new pages of Canadian naval history—a most commendable project.—E.C.R.

The Voyage of the Cayuga Maru

(On August 23 HMCS *Cayuga* steamed into the Inland Sea through the Shimono-seki Straits to pay a visit to Beppu. Beppu is a Japanese resort city on the southern coast of the Inland Sea. About ten miles from the inner end of Shimono-seki, the whaler was slipped with Lieut. J. R. Young, Lieut. (L) S. G. Snider, Ldg. Sea. Donald Cathcart, Ldg. Sea. Barry Norrington, Ldg. Sea. Harry Voth and AB John Lundy.)

THE SUN had been set for about fifteen minutes and there was but a light ripple on the surface of the Inland Sea. At buoy No. 5, the *Cayuga*

lowered the "*Cayuga Maru*" into the water. The commanding officer, Commander W. P. Hayes, asked if all was well and, with an affirmative reply, the *Cayuga* left her *Maru* and its six occupants to the wonders of the Inland Sea, and disappeared into the dusk.

In the whaler, sail was set and course shaped for Hiroshima Channel, this would take us away from the main shipping route. The wind was light, though by dawn the *Cayuga Maru* was 12 miles closer to Beppu. The total voyage by straight line was to be 58 miles.

On board Ldg. Sea. Harry Voth of Chilliwack, B.C. had an FR 12, a trans-

receiver by means of which it was hoped contact with the *Cayuga* would be made every four hours. The *Cayuga* was loud and clear. However, the boatsmen were never able to contact the ship from the whaler, though long attempts were made at each schedule. When the whaler was slipped there was some concern about the progress of a tropical storm 80 miles west of Okinawa, which could have easily approached Kyushu.

The night was warm. Everyone slept at odd intervals on the thwarts or on the bottom boards. The only sounds were the gentle chugging of Japanese fishing boats and the lapping of the waves as the whaler moved slowly along.

At dawn, the *Cayugans* passed through a fishing fleet. With little wind, manoeuvrability was limited. Hence, odd remarks from the fisher folks were heard, though not understood.

CPO William Adie, of Victoria, and PO William Appleton, of Saskatoon, had looked after the supply of food for the estimated two-day voyage—including roughly two loaves of bread, — two pounds of butter, four cans of salmon, a few cans of fruit juice and beans, beans and more beans, in cans.

At 0645 on August 24, a strong breeze came up from the east, which was our projected course. As a result, the next 13 hours were spent beating through the Hiroshima Channel and around Ohima Hana.

At 1130, we came to anchor near the town of Kumage, mainly for a swim, which was enjoyed by all. It was a very hot day ashore. However, the wind kept the temperature slightly lower on the water. In fact, everyone had had enough sun by 1000. The shadow of the mainsail was a popular spot.

At 1210 we received the weather from the *Cayuga*, with special reference to the tropical storm which appeared to be weakening and heading for China. At 1220, we weighed and proceeded, having completed lunch on salmon sandwiches. By 1830, it had become rough and wet, with heavy seas and ground swell.

During the next three hours the whaler made good six knots, arriving in Beppu Wan (Bay), about six miles from the *Cayuga* at 2230. By 0030 the wind dropped to nothing.

At 0510, with about two miles to go, the ship flashed a ten-inch and at 0645 the motor cutter (on a return trip from shore with libertymen) towed us the last half mile.

After 36 hours a sunburned crew climbed aboard, having covered some 85 miles of water and consumed far too many beans. All were eager for a repeat performance as soon as possible.—J.R.Y.

Clearance Diving

- - A New Career

BEFORE seriously considering entry into the new Clearance Diving Branch, a candidate must ask himself a number of soul-searching questions:—

Am I prepared to enter and master an entirely new world where new dangers lurk, which in most cases must be faced alone and often in murky blackness?

Having faced and learned to avoid the dangers of "bends", oxygen and nitrogen narcosis, air-embolism, asphyxiation, "squeeze" and a dozen others, am I capable of mastering all the many skills required of a clearance diver?

Am I prepared to apply these newly acquired skills in the performance of clearance diving duties, whether in connection with underwater inspection, maintenance, repairs and salvage, or demolitions, countermining, render-safe and disposal of explosive devices of either "friendly" or enemy origin?

The RCN Clearance Diving Branch embraces the functions of the standard divers, the "port party" divers of the Second World War, who were used to clear "unsweepable" mines and sabotage devices from harbours vacated by the enemy, and the bomb and mine disposal squads who dealt with unexploded bombs, projectiles, parachute mines, etc., ashore.

After a moment's consideration of the hazards and skills involved, it is not difficult to understand why the clearance diver stands second on the list of those eligible for Trade Group Four.

However, the new rate of clearance diver was not simply "created" and vested with these new responsibilities, but is the result of five years of planting, growth, pruning, grafting and even cross pollination. In fact, behind the recent decision by Naval Board to establish a Clearance Diving Branch lies a story of discouragements, delays and frustrations which threatened to destroy the seed entirely.

It all began in March 1949 when the need for a Mine Disposal Organization was recognized. At first it was considered that this requirement could be met by a few officers trained in self-contained diving and the mine render-safe techniques used in the Second World War.

Lt.-Cdr. (P) H. J. G. Bird and Warrant Engineer (now Ord. Lieut.) E. D. Thompson, were the first to volunteer

and were sent to qualify with the Royal Navy as instructors. On their return an Underwater Training Unit was established in HMCS *Stadacona* and the first RCN(R) Officers and UNTD Cadets were accepted for training.

With the clear definition of naval responsibilities for bomb and mine disposal, however, the concept of the organization broadened to embrace mine searching and surface weapon disposal techniques and it became apparent that training should be extended to include men. This requirement was first met by the armourers as the Ordnance Branch had accepted the responsibility for sponsoring and co-ordinating the organization.

Several Reserve officers with wartime experience in diving, bomb and mine disposal, DEMS, combined operations and even X-craft were attracted into the organization on short service appointments. Of these, some have since transferred to the regular force and most are still serving.

Until more comprehensive training could be undertaken in the RCN, officers and men were trained as instructors in the United States Navy. Meanwhile, all manner of instructional aids in the form of mines, bombs, rockets, projectiles and torpedoes were ordered as well as the most advanced types of self-contained diving equipment. The Dominion Rubber Company started development of a Canadian prototype underwater swim suit embodying the best features of the British, French and American suits which had been used to date. Approval was granted to build suitable vessels for clearance diving training and operations, and a second underwater training unit was established in HMCS *Naden*.

This unit matured rapidly under the guidance of Ord. Lt.-Cdr. E. L. Borraide, who was later involved in a fatal accident while dealing with a Japanese mine washed ashore on the West Coast.

From this time on, delays and disappointments became numberless, and strikes, manufacturing difficulties and procurement red tape seemed endless.

During this difficult period when stocks of diving equipment were rapidly becoming unserviceable a "dry" dive became the exception to the rule and it soon reached the point where a dry diver was openly suspected of nursing his dive and was regarded as slightly soft (though secretly envied).



In spite of the many shortcomings of the equipment, many highly successful operations were carried out including the salvage of several crashed aircraft. Both officers and men were keen and were learning quickly, although the physical conditioning required for underwater swimming was not easily achieved. There is, in fact, a case on record of a swimmer who, after a half hour's strenuous work on the bottom, surfaced, climbed the ladder half way and paused for a much needed rest. His "tender"—a particularly conscientious type—sensing distress, unsheathed his sharp knife, slashed at the harness of the breathing set and then at the "frogman" suit in his efforts to free the diver. The latter recovered quickly from his diving exertions but required two stitches in his back as a result of the over zealous attentions of his tender.

By 1952 it became obvious that duplication existed between the Underwater training units and the standard diving schools and, as a result of a survey of all diving requirements in the Navy, it was decided in August of that year to establish a Diving and Explosive Disposal School and Training Centre which would be responsible for all training and peacetime operations in these fields.

Bringing the two organizations together effected economies in equipment, facilities, time and instructional personnel. It also emphasized the similarity and weaknesses of both. Chief among these weaknesses was the inability of either to offer its men the firm foundation of a rank structure with career prospects comparable to other trades in the Navy. At this point, moreover, it became difficult to reconcile the technical with the operational aspects.

Finally, after two years in which countless proposals and counter-proposals were sifted and considered, the best solution appeared to be further amalgamation of the two functions of standard diving and explosive disposal into one branch for men, and, because it seemed desirable to integrate this with other aspects of mine counter-measures, the organization was transferred to the Executive Branch.

And so in February, 1954, the Clearance Diving Branch was born. Following this new birth will surely come the usual teething troubles, the childhood and adolescent growing-pains leading to maturity. However, the foundation has been laid for a workable organization and the status of diver has been raised from a secondary to a primary qualification.

Standard divers who elect to transfer to this new branch will only be required to undergo conversion courses in explosive disposal techniques to fully qualify. These men have already proven their aptitude and physical fitness for diving and their psychological fitness to deal with explosives. However, the new candidates, who will come largely from HMCS *Cornwallis* must undergo a thorough screening.

First must come a recommendation from their commanding officer vouching for their reliability, intelligence and common sense. Then a special medical examination, followed by a "dry dive" in the re-compression chamber to a simulated depth of 100 feet of water.

In the chamber the candidate is taught to equalize pressure on the eardrums by clearing the eustachian tubes, to relax and breath deeply—so necessary in diving. He is carefully watched for symptoms of nervousness, excitability and claustrophobia. The greatest number of failures show up in this test—most through inability to "clear" their ears, some through claustrophobia, etc.

Not all those who successfully pass the pressure test will become clearance divers, however, for next comes a screening to determine a candidate's psychological suitability to meet the exacting and hazardous tasks ahead. In this the candidate is subjected to a series of questions to obtain his reactions to certain conditions and his ability to think his way out of difficult situations.

Most of the questions asked are of a serious nature. Occasionally, however, Lt.-Cdr. J. C. Ruse, officer-in-charge of the Diving and Explosive Disposal School, will strike a lighter vein by telling the time-honoured procedure for divers to adopt when confronted by an octopus. It goes something like this:

"When a diver is interfered with by an octopus in the course of his diving duties, he shall immediately tuck his bare hands under his armpits to prevent the octopus from seeing or feeling bare flesh. If it attacks, the diver shall remain motionless until completely embraced by the tentacles. He shall then endeavour to free one hand sufficiently to tickle the octopus under an armpit, which has the desired effect of throwing it into convulsions allowing the diver to escape."

Any candidate who can take a detached and coldly realistic view of this and asks—"Sir, how can you be sure it is an armpit and not a legpit?" is assured of a passing mark.

After passing all the above tests, the "candidate" becomes a "trainee" and commences actual diving. Failures occur at this stage, too, for initial training is in reality a further screening. Men who show no signs of claustrophobia in the chamber occasionally revolt at being sealed into a diving suit. Others can't stand the feeling of being on the end of a rope so far from home and completely dependent on the attendant on the surface (as is the case of the fully-weighted diver). Still others do not possess the mechanical aptitude necessary to work with divers' tools,

while some show nervousness when dealing with explosives. Occasionally a man will show the symptoms of low oxygen tolerance, which means that it is unsafe for him to use oxygen either in a breathing apparatus or during decompression in a deep-sea suit.

The method employed to determine a diver's tolerance to oxygen in the early days of the Second World War, when little was known of the subject, was to lower him on a lifeline while breathing oxygen from a self-contained breathing set, and increase the depth until a jerking on the line indicated that the subject has gone into oxygen convulsions. This method gave the desired information with no ill effects to the diver other than the loss of dignity. However, it was never looked forward to as an exhilarating experience and was later superseded by other more scientific methods. Today an encephalograph will tell the story with no loss of dignity.

Little by little, confidence will grow as ability increases. The ever-present risks and responsibilities are shared equally by diver and attendant, for, just as carelessness on the part of the attendant can endanger the life of the diver, so can the diver endanger those above him by an incautious move when dealing with explosives. For this reason divers' attendants—or "tenders" as they are called—are always qualified divers themselves.

Soon the clearance diver will learn that he is a member of a highly trained team, each dependent on the efficiency and co-operation of the other members for his life. From this sense of responsibility and inter-dependence, and the knowledge that one is of the half who made the grade, comes that priceless asset in any team—esprit de corps.

The clearance diving organization will be established as a small peacetime nucleus geared to expand efficiently in time of emergency. Its versatility and mobility will permit employment with minimum delay in any or all of the fields for which it is responsible.

Should war *never* come, the clearance diver will be fully employed in carrying out the diving duties relative to salvage, inspection, maintenance and repairs to ships' hulls, jetties and sea walls, and the laying of moorings, etc. He will also deal with the mines or other explosive weapons which are washed ashore. He will undertake the necessary underwater demolition jobs. He will occasionally be called on to recover a practice mine or a depth charge.

Surely such an organization can be likened to an insurance policy which, throughout its life, pays its own premiums!—G.C.

About the Author

A yacht designer at Lakefield, Ont., Lt.-Cdr. George Douglas Cook, 41, joined the RCNVR in 1940 as an acting lieutenant and spent the next five years with the Royal Navy on bomb and mine disposal work.

He was awarded the George Medal in 1941 for a five-day ordeal in dismantling a German parachute mine at Suez single-handed. Early in 1942 he earned the Bar to the GM for similar work on a highly-sensitive "G" mine at Haifa. He had to clear the area of 14,000 people, sandbag the mine site and work in a tent for three and a half hours, much of it in total darkness.

Confirmed in the rank of Lieutenant-commander in 1945, he was mentioned in despatches later that year for "outstanding service and devotion to duty".

Demobilized at York in January, 1946, he returned to Lakefield until April 1951 when he embarked on a short service appointment, to serve on the staff of the Director-General of Naval Ordnance, broken by a course with the U.S. Navy.

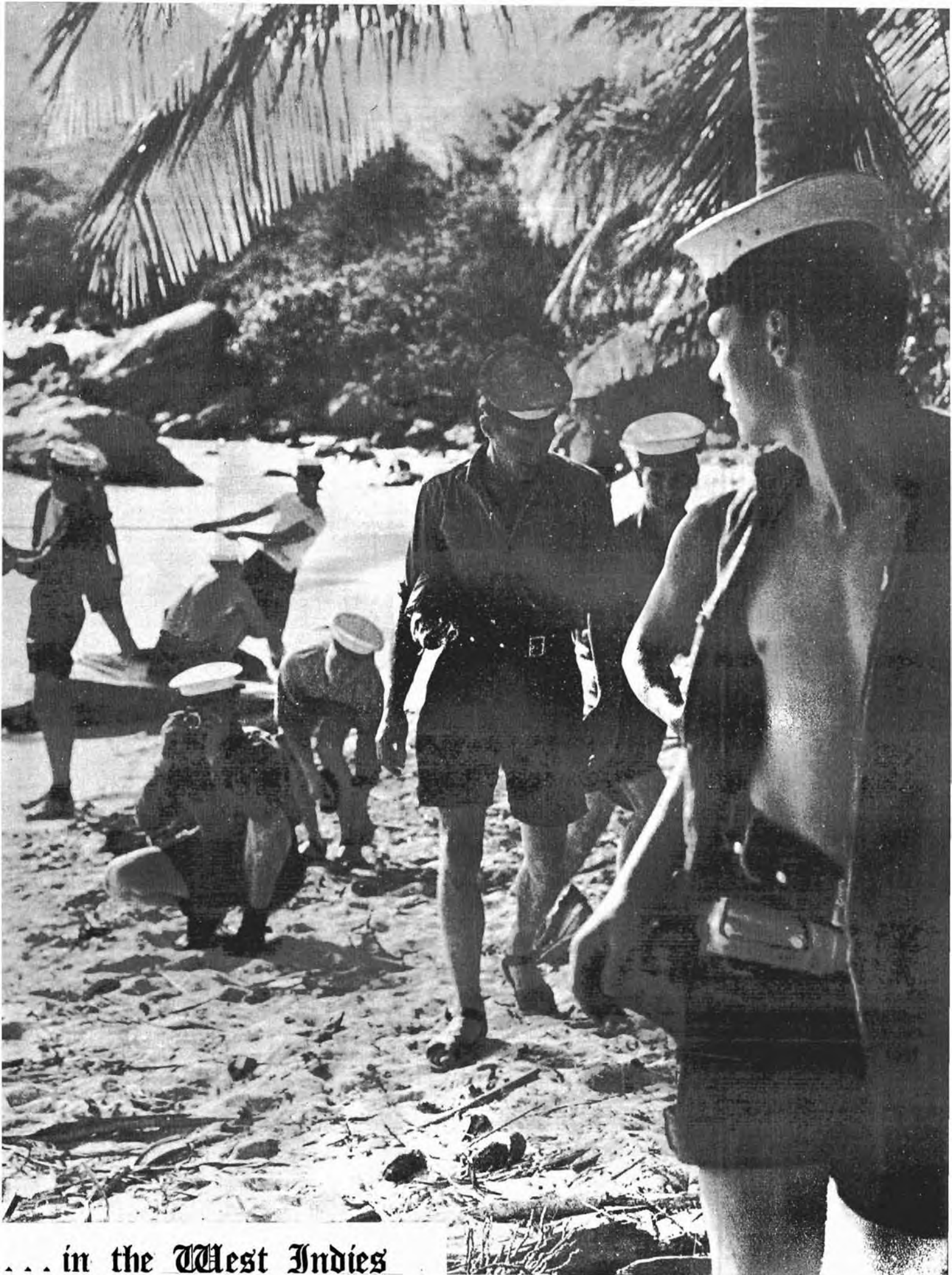
He transferred to the Ordnance Branch in February, 1952, but early this year reverted to executive rank as have all clearance divers and was attached to the directorate of TAS and Mine Warfare. He was also granted a permanent commission. In May Lt.-Cdr. Cook began a Junior Officers' Technical and Leadership Course at *Stadacona*.



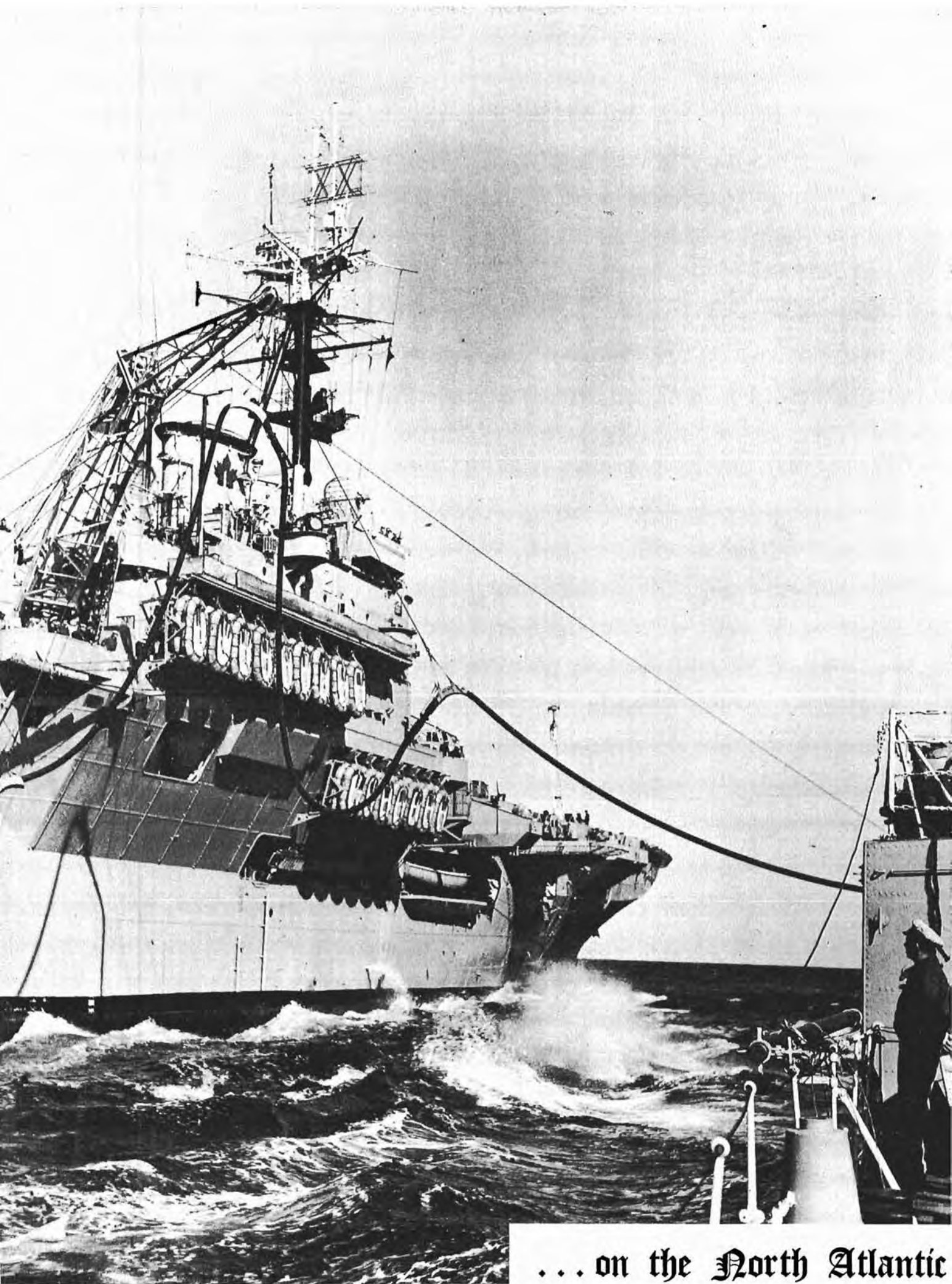
A Christmas Album

Visual reminders of the far-away places in which officers,
men and women of the RCN served during an eventful year

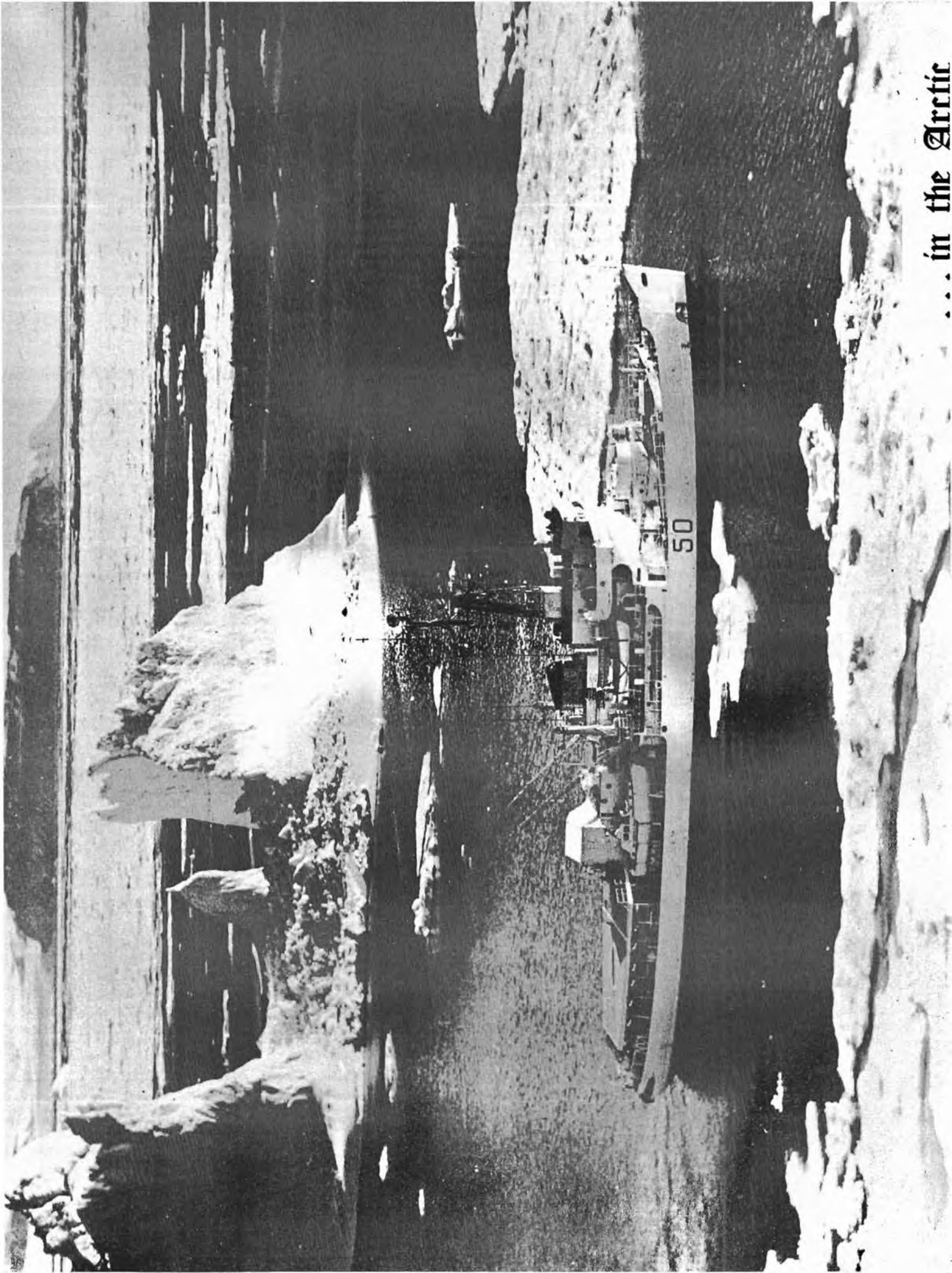
... at Churchill



... in the West Indies



... on the North Atlantic



... in the Arctic



A Christmas Greeting From the Old Land

SIR WINSTON CHURCHILL, Lord Alexander and others of the famous often relax from their arduous tasks by painting. Not that they have no other alternatives to self-expression, but, it is a complete change from their ordered lives. Some Canadians in the political and service fields of endeavour like painting, too.

This year's Christmas card from the Canadian Joint Staff, London, has a colourful reproduction of an oil painting by Cdr. (E) John Osborn, RCN, of Vancouver. It depicts symbolically the river Thames, a riverside scene, with St. Paul's Cathedral in the background. It effuses the story of London, the legendary fame of the Thames; its connection with the seaways of the world and the religious ideals of the British Commonwealth as represented by St. Paul's.

Canadians in the Navy, Army, Air Force and Defence Research, who serve their country in the United Kingdom, like their Christmas greeting to spell the story of their location. Last year it was a charming portrait of Queen Elizabeth, the original of which hangs in the board room of the Canadian headquarters in London.

This year Major-General J. D. B. Smith, former chairman of the Canadian Joint Staff, London, a keen amateur

painter, suggested that Cdr. Osborn produce some ideas for a Christmas card. The commander did so and the committee handling the matter, gladly accepted his work to be incorporated in the greeting.

The original painting is 20 by 24 inches—sketched from a point on the south bank of the Thames beyond Waterloo Bridge near Southwark Bridge. It grasps the Thames-side scene with all its lustre and blends into the majesty of St. Paul's. Southwark Bridge is seen at the right of the picture but, as the artist points out, he has used a bit of licence to bring it into perspective.

It is called "St. Paul's and the River".

Cdr. Osborn was once visiting his wife's relatives at Alberni on Vancouver Island. As the weather was bad, he picked up a box of paints to amuse himself and so began an interesting hobby. He had always been keen on draughting so it came easily to his artistic nature. Having commenced his apprenticeship as a marine draughtsman in Port Chalmers, New Zealand, he later served at sea with the Canadian-Australian Royal Mail Line and then migrated to Canada in 1929.

He had some tuition from Henri Masson in Ottawa and kept on with his new interest while at sea with the Royal

Navy and the Royal Canadian Navy in many parts of the world. While serving as Commander (E) in HMCS *Ontario* he interested many of the lads of the lower deck in copper embossing for, while it kept them busy in the off hours, it also improved their skill of hand in things mechanical.

During his London posting, Cdr. Osborn had had some tuition from Miss Sonya Mervyn, ARCA, and Marcel Godfrey, a well-known Canadian painter now resident in London. He has had two paintings exhibited with the Chelsea Arts Society—one Canadian winter scene done in Weybridge and another—autumn scene—done in Algonquin Park.

During a party held at CJS London, the commander discussed painting with Lord Alexander, then Governor-General of Canada, and the famous soldier told him one of his happiest relaxations in Canada was painting the fascinating kaleidoscope of colour of the Canadian countryside.

Cdr. Osborn, in his 40s, is a commendable example of the older service man who not only has done well in his chosen work but who is setting a pace for the younger servicemen in using their spare time usefully. He was a merchant service officer before joining the Royal Canadian Navy and knows most of the highways and byways of the Seven Seas. He also knows what it is like to sit on a raft in turbulent water and hope that someone will come along—soon.—J.H.G.

New Broom II Brings Praise

Congratulations and a well done on the execution of the NATO exercise New Broom II were received by the commander and air commander of the Canadian Sub-Area from the Commander-in-Chief Western Atlantic.

Rear-Admiral R. E. S. Bidwell, Commander Canadian Atlantic Sub-Area, and Air Commodore Martin Costello, Air Commander Canadian Atlantic Sub-Area, who conducted Exercise New Broom II, received a message from Admiral Jerauld Wright, USN, Commander-in-Chief Western Atlantic, reading:

"Congratulations on a keenly executed operation which most certainly has contributed greatly to improving the ability of our NATO team to work together with precision and success.

"The aspects of high winds and rough seas introduced into the operation by Hurricane Edna may have made the exercises more realistic than planned, but the demonstration of forces readily adapting to the situation was a fine indication of the progress we are making. Please extend a hearty well done to all concerned."



A Dog's Life

"GOING to sea is a dog's life." For centuries this wise warning has been uttered in every language of mankind by every manner of seafarer since the first cave man paddled home from a trial ride on a pointed log. And for just as many centuries young men have ignored the warning and sailed off in search of new worlds beyond the horizon. *Why?*

First of all, because the veteran seaman usually weakened his argument by staying at sea himself. Whatever he said about life at sea, he made it pretty obvious that he regarded seamen as a much superior breed to the pale tradesmen of the towns who went meekly home to their wives every night at five o'clock.

And, secondly, the old salt, whether he was a Carthaginian trader, an Elizabethan pirate, or a Lunenburg fisherman, was a totally different animal from the landsman—as local magistrates have always known. His beefy complexion, lusty laughter and holiday mood set him clearly apart from the plodding wage-slaves of the city's pavements. Older citizens might view him with disapproval, but to the younger generations the world-traveller brought a refreshing echo of far lands and high adventure, spiced with suggestions of a more pagan code of conduct than that enforced at home. He rolled off strange, rich-sounding names like Zanzibar, Valparaiso, Timor and Tahiti. Nothing can be more disturbing to a young man faced with a dreary future in tedious commerce or industry, half a century to be spent between a grim factory and dreary suburb.

And what happens when the youngster goes to sea?

As always, the young man of today gets disillusioned. For centuries the ship, which seemed so lovely in the offing with her towering white canvas and sweeping lines, turned out to be a verminous prison with stinking bilges and unspeakable food. Today's ships, for all their comforts, can become steel prisons filled with endless noise and frustrations, particularly to the new seaman. Most of us would not be surprised to learn that Hell is equipped with long lurching alley-ways, high coamings, watertight doors and steep ladders, all lit by ruby night-lights and scented with the aroma of stale bedding and fresh mal-de-mer. And assuredly Hell must be fitted, by now, with raucous loud-speakers through which His Satanic Majesty makes piercing pipes every few minutes . . . "Souls under punishment to muster in No. 756 Boiler Room . . ."

And this is but another attraction of the sea. It is an ordeal. Not everyone can endure it. It leaves its mark on men's souls. And men prize these scars later as badges of honour which distinguish them from lesser mortals and



A sea-going officer takes a second look at the things which make up a naval career.

make them comrades in a secret and unspoken brotherhood. Going to sea is to some extent a male ritual, like serving seven years in the French Foreign Legion, or climbing Mount Everest or sailing alone across the Atlantic. In some primitive and forgotten way, it gives each man a new prestige among his fellows, so that the millionaire industrialist will listen respectfully to the modest tales of a penniless vagrant who has rounded Cape Horn under sail, and perhaps wonder at the end just which of them has really attained "success" in life.

It is a significant fact that the far places of our planet today—the lonely seas, the highest peaks, the deepest jungles—are visited only by poor adventurers or by millionaire sportsmen. The latter, if they have the good fortune to win their leisure at a youthful age, soon turn their backs on the easy middle-class comforts of the magazine advertisements, and look for genuine male satisfactions—big game hunting in Africa or the Rockies, sport fishing among the most dangerous of fish, defying entire oceans in puny yachts under painful hardships, or journeying by some other uncomfortable means to the hidden valleys of Tibet or South America.

WHY DO MEN punish themselves in these ways? The psychologists talk glibly of the "death wish", a force opposite and almost equal at times to the survival instinct. Whether we accept such theories or not, it cannot be denied that it is always possible to get volunteers for the most desperate missions. New York's Hayden Planetarium has many thousands of "reserva-



tions" already for the first space-ship which departs for the moon. And who has not been stirred by invitations to serve at Padloping Island, or in submarines, or as a paratrooper or a "frog-man"?

In a small way, service at sea fulfils this urge. Seamen are generally dreamers and romantics. Watch their faces as they steam into the channel of some new, or even familiar port. And a few days later, as they steam gratefully away from the same harbour, and feel the ocean swell lifting the deck beneath them, their faces wear the same cheerful, hopeful expression of men headed at last for the ultimate Paradise. Just over the horizon there awaits that best-of-possible ports, no matter how disappointing the others have been.

Just as Eve spoiled Eden, however, her daughters repeatedly cast their blight over the seaman's existence. I hasten to add that not all Navy wives do this with malice aforethought, although plenty have tried. In order to screen out these latter saboteurs (or saboteuses?) from the Navy's realm, I am suggesting that our Chaplains should make some slight additions to our marriage vows. Something along these lines:

"Will you, Mabel Blotz, solemnly swear in the presence of this congregation that you are not plotting secretly to reform the character of this honest seaman, Joseph Blow, and that you will not develop a nervous condition or other ailment in order to have him request an inland draft or try to persuade him to leave Her Majesty's service in order to go into the rug-cleaning business with your old man?"

The fault is not always Mabel's, of course. Often she marries her gallant tar under the illusion that they will spend the remainder of their days until pension in a rose-covered cottage in a

pleasant suburb of Hamilton or Winnipeg. So to keep the accounts straight let's ask for a further statement by the groom:

"Will you, Joseph Blow, solemnly swear that you haven't spun any dips to this woman, Mabel Blotz, about having a chum in drafting Depot who is going to stop-draft you in barracks for the rest of your five, or that you intend to stop drawing your tot forever, and are going to have all your tattoos removed?"

NAVY WIVES are, generally speaking, the cream of the crop. But not every pretty young thing can make the grade. It is only fair to warn all candidates that sailors are not rational humans, that they spend a large part of their days on the far side of the world, that they are not good husbands—or even good letter-writers — by *Ladies' Home Journal* standards, and that no girl in her right mind should ever dream of marrying one.

Any girl that is still agreeable to marriage on such a basis is clearly crazy, too, and should make an excellent Navy wife. Seriously, the sailor and his wife have an excellent chance of a happy marriage. Long ago the prophet Mohammed advised bridegrooms: "Let there be spaces in your togetherness", an Islamic variation on "Absence makes the heart grow fonder". Boredom is considered by some experts to be a major cause of divorce in America. It is rarely a problem in Navy families. Like Mohammed, Naval Headquarters believes in "spaces" in our family lives, and provides them quite generously at times.

"To part is to die a little," says a French proverb.

But the pain of parting is better than the taste of love grown stale. And few

landsmen ever know the holiday spirit in a home when the sailor returns with gifts from strange lands for everybody. Each person sees the other for a moment plainly as for the first time, with all their special flaws and charms. Most men stop appreciating their wives after they leave the altar, and never think about them again until the funeral. The seaman gets a fresh awareness of his wife's worth with every home-coming.

And what about the seaman's life in the ship? Is it really as painful as the Ancient Mariners would have us think? Frankly, it is never easy. At its best it might be compared with living interminably in an immigrant train (upper berth) which is travelling too fast over a bumpy road-bed in Northern Saskatchewan. The scenery is generally nil. There is no comfort, no silence, no end to the movement and the interruptions. And it certainly is cosy, living with all your possessions in a few cubic feet. There is no escape at five o'clock or even at the weekend. The world shrinks into a few metal yards of deck between the hard pitching bunk and the cramped cell or windy corner that means duty. For the watchkeepers there is no real day or night but only intervals of feeding and dozing between duties.

In my ship, seamen work twelve and a half hours out of each day, and many seamen in smaller ships work far longer than that. And on a long cruise the food becomes interminably dull, no matter how well refrigerated or prepared. A middle-aged egg or head of lettuce can never compete with the youthful article.

Any seaman who suddenly began to visibly enjoy sea duty would be watched with concern. Let him leap from his bunk some morning with a joyous shout, smile at his messmates across the lurching breakfast table, sing a gay song while shaving, and laugh happily to himself while chipping paint all morning, and he would promptly find himself lashed in a bamboo jumper and headed for RCNH, probably by helicopter.

A GREAT DEAL has been talked about "happy ships". But who ever heard of a "happy boiler factory" or a "happy coal mine"? Ships, like industrial plants, are not intended to generate happiness, but to produce a business-like job in the most economical manner. If the workers happen to feel a dizzy sensation of bliss during the process, they would be wise to keep working quietly until the feeling passes.

The hidden dividends of seafaring come in rare and unsuspected ways. Sometimes in the midst of the worst Atlantic storm your ship suddenly comes warmly alive and wins your affection for the way she frees her decks so gal-

lantly from the assaulting seas and rides over the most terrifying crests unscathed. You see the same grin of pleasure beneath your shipmate's sou'westers in these moments, and you know you are playing on the winning team in a major league game against an opponent who is powerful but short-tempered. But usually the sea's rewards are accompanied by finer weather.

There is that first hour of soft darkness after a sudden tropic sunset, when cigarettes glow in a row in the shadow of the awnings and an unseen accordion yearns for the western plains, or thumps out a gay melody to the girls of old Quebec. Another reward is the land-fall at dawn, before the lighthouses have ceased their blinking, and while the smell of night jungles rolls seaward in welcome across the creaming reefs.

New islands glistening green in the morning sun, with clouds pluming their volcanic peaks where the Trade Wind surges through . . . and old Spanish ports whose brown battlements have echoed to Drake's broadsides, and whose ancient alleys are still cobbled with Cadiz ballast stones, left by the ancient treasure galleons.

SHORE LEAVE is, of course, the supreme reward for any sailor. Nothing can match that first hour ashore, away from the roaring metal surfaces of the ship, and invading the new life of a foreign land. The sidewalk tables and the grateful shade of palms . . . the glare of the market place where merchants invite you to bargain for baskets or jade or coral souvenirs. The bright clothing and dark eyes and the unfamiliar tongues make every hour an experience. And later the distant white beaches and windy slopes wait to be explored.

If you are one of the growing army of "skin-divers" among RCN libertymen, you will probably obtain a snorkel mask and flippers and discover an endless new world of colour and wonder along the coral reefs of such islands. Or you can merely doze in the shade, beyond the call of any boatswain's pipe, and watch the white sails of the flying fishermen creep out towards the blue horizon beyond the reef.

It is not easy to love a modern ship. You can admire them, the way you admire a powerful locomotive or a giant bulldozer. But seen too closely and for too long, any ships blurs into a jungle of unfinished jobs, defective equipment and invading rust.

-And then one day you see your ship as you did the first time, across a mile of water. And a miracle occurs. Gone are the rust patches, the weedy boot

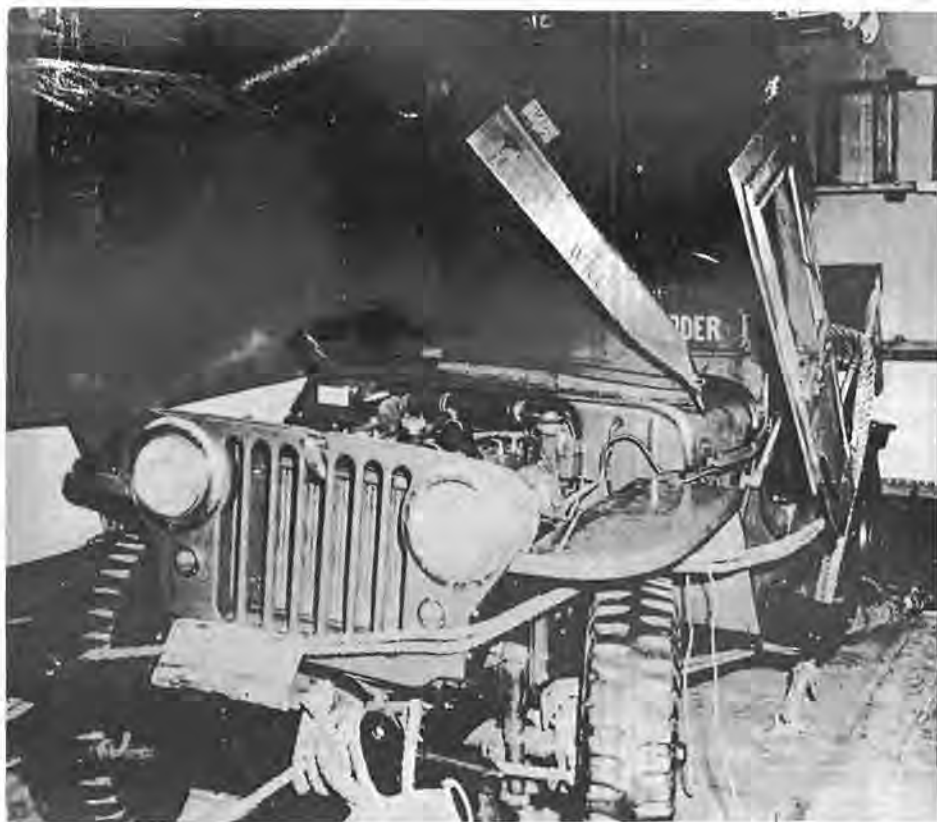


topping, the slack awning pendant. Instead you see again the swift rake of the stem, the slanted funnel, the whitened cable, the scarlet maple leaf, and the twinkle of brass. It becomes the finest sight in the blue bay. This is one of the brief, sweet moments that rewards the seafarer. I doubt that any other profession can match it.

Approaching home after a good cruise, "channel fever" is always mixed with a

concealed note of sadness. Soon the draft notes will pour aboard to dissolve this newly-formed brotherhood that has grown so slowly. And grimy workmen will soil and burn the ship's hard-won beauty. Only the youngest seamen pack their souvenirs merrily in their bags without a thought that one of life's good things is drawing to a close. Older men temper their impatience with thoughts of the unpaid bills, unswept basements and unspanked children that lie in wait for them ashore like serpents in Eden.

One of the Biblical prophets has guaranteed of Heaven that "there shall be no more sea". This is just as well, since it is probably the only "inland draft" most seafarers will see. It would be pleasant to imagine Paradise with a coast like the windward shore of Barbados, with dazzling sand beyond the palms, and warm green lagoons spreading out to the distant reefs. But beyond the reefs would be that wider horizon, and no seaman could look at it for long without wondering if it did not conceal somewhere an even lovelier land.—
Contrib.



A book about the Bikini A-bomb tests was entitled "No Place to Hide". This should be required reading for Navy jeeps, which ordinarily shouldn't have to worry about colliding with anything more formidable than a 10-ton truck. Lashed securely to the deck of the Crusader, the ship's jeep was blissfully dreaming of exciting shore duty in Hong Kong when nemesis, in the shape of a "green one", struck in the Formosa Strait. The results are shown. (CU-2004)

The Challenge of Oceanography

This article was written to determine the extent of interest in oceanography and shallow diving. The nucleus of a club to promote these interests is in being at Stadacona and the author suggests that inquiries and proposals regarding the organization's future activities be addressed to:

The Oceanographic Club,
c/o Diving and Explosive Disposal
School,
HMCS Stadacona,
HALIFAX, Nova Scotia.

"Topside."

"Topside, aye."

"Pass me a square mark."

"Coming down."

To some of us this dialogue may make little sense, but by others it will be immediately recognized as a conversation between a diver and his tender. The diver is merely asking for a line to secure to some object he has discovered.

At some time or other, I think we have all been fascinated by stories of divers who operate in this strange media that covers nearly two-thirds of the earth's surface. Recent stories and beautiful colour photography have intrigued many with the awesome beauty of this untouched frontier. Here nature guards well her hidden secrets, some clothed in settings of unbelievable beauty, contrasted with scenes so grotesque as to be fascinating in their ugliness.

A lot is heard today of a mass invasion of the sea by amateur as well as

professional divers. Swim fins, schnorkels, slick rubber suits, breathing apparatus, and a variety of gear too numerous to mention can be purchased in a large number of sporting goods and departmental stores. The diving school is besieged with "Can you give me a dip, chum?"

What is this all about—another fad like miniature golf?

Man has accepted another of nature's challenges. By the time he has seen some of its fabulous rewards and the beauty of its environment, he's hooked.

So much interest was shown by servicemen that application was made to Naval Headquarters for permission to form an oceanographic club. This was immediately approved. J. R. Longard, scientific advisor on the staff of Canflagant, Dr. A. W. H. Needler, of the Fisheries Research Board, and Dr. C. O'D. Islen, chief oceanographer of the Oceanographic Institute, Wood's Hole, Massachusetts—all scientists who have spent many years studying the sea and its phenomena—were enthusiastic in their support of the idea, and suggested many fascinating projects which the amateur, under scientific guidance, could undertake to the broadening of man's knowledge. Who is more deserving of this privilege than the sailors who make the sea, and the protection of the sea lanes, their lives?

It is unfortunate that the plan failed to reach full fruition because of pressure of other work, but the spark has not

completely died. The central purpose of this article is to solicit ideas from the fleet on how to set up the club, decide what it can do and face the problems.

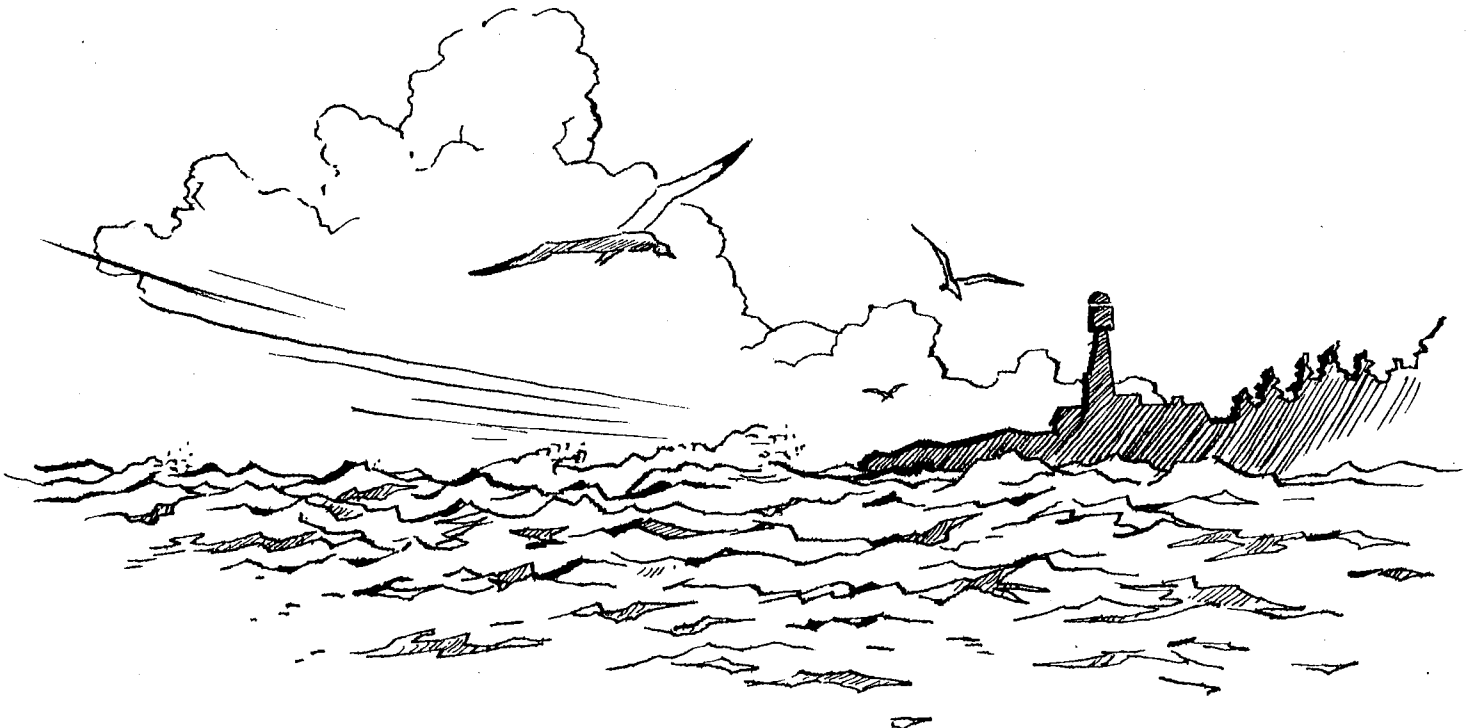
Aside from the scientific aspect, here is real sport, sound physical recreation, excitement, interest, and competition. A pair of swim fins, trunks, mask, breather, spear or camera, and a chum to accompany you will give many an adventure, and relaxing evening chats over the day's events.

For years men have discussed the better mouse trap, you and your sons may discuss the better lobster pot. The average person thinks the lobster pot just happened but is it the best design? Watch a lobster get into a pot sometime and let us hear your theory. Fishermen will be most interested. So will our government which is carrying on extensive research to reduce the thousands of dollars lost annually when the fragile lobster pots are destroyed.

Do you like your problems a little more abstract? Perhaps it is possible to predict the weather in Halifax by the shifting of the sand at MacNab's Island.

These ideas merely hint at the stimulating value of the hobby.

But there are problems. What should be the criteria for membership? Obviously sound physical condition in accordance with the medical requirements for divers will be one and a genuine interest in the aims and purposes of the club will be another. Then came problems of procurement of equipment,



maintenance of the gear, charging of cylinders, the provision of space, etc. . . . It's no game for hangers-on, and yet the problems are far simpler, and less expensive, than those of a well-run sailing club. Members must be trained and a strict code of safety regulations set. There must be supervisors to keep an eye on learners and the varying qualifying tests for deep "tickets". There are few problems here that couldn't be solved by the Navy's career divers. Their aid can be enlisted by organized enthusiasm on the part of our prospective "amateur" divers.

Here is an experience I had not too long ago: I was given the opportunity of trying out an underwater craft that is being produced in Southern California for civilian purchase. The craft has a slick, streamlined, Sabre-jet-like appearance. The operator sits in it wet with his breathing apparatus, thus requiring no pressure hull like a conventional submarine. The power plant is a pedal arrangement like that of a bicycle. After being buttoned in by the chief underwater test pilot of the manufacturers, I managed a smile before shoving off at all of four knots (the similarity to the Sabre jet is not evident throughout the full performance of this craft). Making like a fighter pilot, I tried a roll, that is, I accidentally happened to put the controls in this position. The most wonderful thing happened. The craft responded beautifully and the sensation was terrific. I have previously had the pleasure of doing some aerobatics with our fly boys and came to the conclusion that they are to impress the people on terra firma. Not so with

aquabatics. They are slow, graceful manoeuvres. If you roll and loop out and find you have misjudged the bottom, you merely pedal backwards, stop, and try again.

In trespassing into any of Mother Nature's domains there are certain rules to be followed which demand strict observance. Your Navy is proud of its diving safety record and will not permit men unnecessarily to hazard themselves.

The ordinary air we breathe is composed of roughly 80 per cent nitrogen and 20 per cent oxygen. It is difficult to believe that this innocent life sustaining mixture can become a ruthless killer. The aspirant making for a deep sea "diving" record is lulled into a sense of well being by the narcotic effect of the nitrogen. This has been popularized as "the raptures of the deep". At 320 feet old Oxygen Pete bares his fangs and completes the job.

This is not meant to frighten people away, but rather to discourage someone who is keen to start before he is properly checked out. There is swarming sea life to be investigated to forty feet, but even in these depths there are rules of conduct, which, if disregarded, bring rough penalties from nature.

If the idea of this club appeals to you, and you feel like joining this friendly invasion of another world, drop us a line and give your ideas.

Right now or the next time you are intrigued by underwater swimmers, check and see what's being done. There may be a professional or amateur plan, under which those exciting adventures you read about could happen to you.—J.C.R.

Pioneer Naval Officer Honoured at Orillia

An outstanding Ontario pioneer and former Royal Navy officer was honoured at Orillia on July 7, when a monument to the memory of Captain Elmes Steele was unveiled. A second monument to Captain Steele and his family was also unveiled the same day at nearby Purbrook on the original estate.

Captain Steele came to Canada in 1832 after 27 years' service in the Royal Navy. He entered the RN in 1798, saw wide service in the Mediterranean, the East Indies, the North Sea and off the coast of North America. He served for a time under Lord Nelson.

Just one year after Captain Steele joined the navy, he figured prominently in an action involving the greatest sum

of money ever captured by the British navy in one fight. As midshipman of the watch he was quick to notice and report a sudden and unexpected alteration of course by the Spanish fleet and his alertness enabled the British to close and defeat the enemy.

Captain Steele brought this same sterling character to Canada upon retirement from the Royal Navy. Even on the way to his new home he distinguished himself. He was aboard the ship *Blanche* when she was caught in the ice and the master of the vessel lost his head. Captain Steele took command, saved the ship and was presented with an address by the grateful passengers.



Commander J. S. Davis, on the staff of COND, who represented the RCN at the unveiling of two monuments in Simcoe County to Captain Elmes Yelverton Steele, RN, and his family, is seen here examining the dress sword worn by Captain Steele when he was presented to Queen Victoria during his naval career. (Photo Courtesy the Barrie Examiner)

After settling in Orillia, Captain Steele became one of the district's most energetic pioneers. As a magistrate he assisted in the administration of the area. He was instrumental in the construction of the road from Orillia to Toronto along Lake Simcoe, and also for the Narrows traffic bridge near Orillia. He was elected the first member of parliament for Simcoe District in 1841.

The ceremony honouring Captain Steele, and also his son, Major General Sir Samuel B. Steele (one of the first officers in the RCMP), took place on the old Steele homestead. Premier Leslie Frost of Ontario attended together with civic officials and members of the RCMP, the Army and the Navy. Cdr. James S. Davis, from the staff of the Commanding Officer Naval Divisions, represented the RCN.

Crusader Thanked For Korean Service

On returning homeward following her second tour of duty in the Far East, the *Crusader* received the following message from Rear-Admiral B. Hall Hanlon, operational commander of the UN naval forces with which the *Crusader* served in the Far East.

"During your period of operation under the United Nations Command you have always shown a readiness and ability that has been a great credit to your country and your Navy. Good-bye and good luck."

The Cruise of the Oriole

By L. G. S.

I SHALL always remember the glorious morning we sailed from sunny Halifax and plunged into a fog bank that would have made the darkness of Egypt a blinding light by comparison.

We had no fear, however, for we were well equipped to deal with navigational hazards, to wit, a DF set, a radio and an oversized hand-bellows fog horn.

There would have been less confidence had we known that the radio would give its last gasp as we passed McNab Island and that the DF set would give forth nothing but sparks off the treacherous shoals of Bermuda.

Four ships tried to run us down in the fog bank, but we eluded their clumsy efforts and straightway set course southward.

Seven days later we sighted the first ship of any size, the SS *Scheidijk*. She was good enough to stop for a chat, and promised to send our regards to Halifax along with a few belated noon positions. We sighted some female passengers on her cabin decks and our boys developed eye-strain from overuse of our double-vision binoculars. AB Ronald Duffy said he had never seen so many beautiful twins on board one ship at the same time.

A couple of days later the heavens let loose. We were under "main" and "jumbo" and doing about eight knots when suddenly we saw what appeared to be a black brick wall bearing down upon us. I just had time to warn the captain when the squall struck, and flattened us over on our beam. The *Oriole* just stood still and quivered for a moment; she refused to answer the helm, and I thought the "main" was going to fly off. We managed to crawl forward and check away the "main", pay off the helm and as she gained steerage, we came back on course.

Then we were off to the races. The wind and rain beat down unmercifully upon the old lady, and she creaked and moaned in every joint. I wanted to crawl aft to read the log, but didn't dare as there is no stern rail on the *Oriole*—and I didn't want to walk to Bermuda. The captain conducted operations from the main hatch. He said later he had been assured that all was well by the fervent sincerity with which we belated out the old standby "For Those in Peril on the Sea".



Seasoned sailors of the *Oriole IV* "show the ropes" to Venture cadets who will train in the 90-foot Bermuda-rigged ketch which arrived in Victoria on October 3. Left to right are Cadet G. S. Armstrong, Willowdale, Ont.; Cadet W. J. Andrews, Ralston, Alta.; AB W. H. Blakeston, Manitou, Man.; AB R. W. Duffy, Toronto, Ont.; Cadet L. R. Burroughs, Sunnybrook, Alta.; and Cadet W. R. Davidson, Metcalfe, Ont. (Victoria Times photo by Bill Halkett)

Later, our watch was convinced it could see the lights of Bermuda, but when the cold grey dawn broke, there was no sign of the islands, and our watch was blamed most harshly for losing it.

Ldg. Sea. John Newton, our professional Jonah, spent most of the next day filling our minds with the horror of being lost at sea and, when we were sufficiently terrorized, he climbed the mast and sighted land.

When we were safely secured alongside at St. Georges (no small feat for the navigator, as he found to his dismay that the only harbour charts we had for Bermuda were of Hamilton), we all fell on our knees; the cook waved his meat chopper and Ldg. Sea. Kenneth Jones cried, "I name you Berma-do".

While in Bermuda we acquired a new governor for the diesel. We really didn't need one, but Ldg. Sea. Elmer Lorentz felt that the piece of string holding the old one might break. Also, we purchased a new radio. It had dials and buttons that spun automatically like a roulette wheel. We would place our money on the table, Ldg. Sea. James Burchell would make a few magic passes, and suddenly all the buttons would spin. When they stopped, Burchell would take the money from the table and shout "next".

The radio could pick up Hong Kong and the racing results from Sydney, the

boxing matches from New York and symphony concerts from London—in fact just about everything except naval transmissions.

It was on the run from Bermuda to Cuba that the White Watch earned the named "Elephant Watch". It happened on the night we were trying to find Turk Island Passage. The rest of the ship's company was trying to sleep when suddenly a scream shattered the peaceful night, followed by a great bellow "Thar's the light!". The prophet in the crossrees had sighted the light and "Leather Lungs" O'Brien (PO Joseph O'Brien) at the foot was passing the information aft. It seemed they were hard of hearing on deck although we had no trouble hearing down below, and they set up a howling and hollering that would awaken the dead. Then they stampeded across the deck and brought the ship about with a shaking and banging of canvas. We below were just arising from our cots to avenge the murder of sleep when a voice quavered out of the blackness of the forward mess. "Ah, Sahib, the elephants have mustered" and dissolved our rage in laughter.

In Cristobal, Canal Zone, we met our old friend the RCMP ship *St. Roch*, which had left Halifax and Bermuda a day before us. She was tied up for repairs and the noble police were busy making a detailed survey of Panamanian night life.

In Balboa we secured alongside the CNAV *Porte de La Reine* which had arrived the day before from Esquimalt. We were very glad to see her, as showers, hot water, and storage space are very nice things to have even though we had managed for over a month without them. She appeared as a palace of luxury and was a constant source of envy. Her decks didn't leak, everyone had a bunk, water didn't slosh around the messdeck on rough days or get in the porridge. They had dry clothes, fresh food, and an enclosed bridge with radar and a normal radio that was content to reach Esquimalt instead of Singapore. At the time she was our only visible proof that life could be beautiful.

The East Coast weather continued all the way to Acapulco. The winds were mostly contrary but the seas proved moderate and we did long, uneventful tacks across the stern of the *Porte de la Reine* which was laying down the base course. We fuelled and provisioned at sea on a calm morning.

The pleasure cruise ended at Acapulco. After that we had the "wonderful West Coast weather" all the way and it proved to be a harrowing experience. It took 12 days to get from Acapulco to San Diego and we spent two of them hiding in the lee of Cedros Island.

When we finally got clear of Cedros Island we found that the gale had not abated at all and had only been waiting for us as a cat waits for a mouse. We steamed right into it and were buffeted all the way to San Diego. By the time we got there we were low on everything, food, morale, and strength.

Our stay there proved uneventful. We cleaned, dried, painted and stored ship. PO Jack King and AB Joseph Woods did most of the sail repairs, especially on the jib and flying jib that had taken quite a beating. Ldg. Sea. John Newton and I made canvas coverings for the forward hatch, galley, and forward cabin to see if they would slow down the water intake, as it used to come in like a waterfall through the cracks whenever a large wave broke over the deck.

The weather did not improve on the way to 'Frisco and in Santa Cruz passage I had my first and only real qualm about the whole effort. We were trying to go through around 2000. The *St. Roch* and *Porte de la Reine* were ahead of us. They couldn't slow down any more and we couldn't go any faster. It wasn't that each wave breaking clean over the ship filled my sea-boots full of icy water, or that the spray was so thick that I just couldn't bear looking into the wind that gave me the chills, but the ship had slowed down to a dead

crawl and every gust of wind or larger wave stopped her dead in her tracks and she would immediately pay off 30 to 40 degrees on either side before she would pick up enough way to get her head back into it again.

I must say I was rather relieved when the Captain decided that we had better turn and run for shelter behind the island. The ship was as level as a pool table once we got her around and running before the gale. Within two hours we hove to in Valley Anchorage.

We spent the weekend in 'Frisco where everyone seemed to have an especially virtuous time. I even went to the Opera. It may have been the proximity of Alcatraz and San Quentin

Teacher Serves Aboard Oriole

Lieut. Leif G. Stolee, RCN(R), author of "The Cruise of the *Oriole*" is a graduate of the University of Alberta with a Bachelor of Education degree. He was born on the island of Madagascar, the son of missionary parents.

Attached to the naval division in Edmonton, he volunteered to help take the *Oriole* around to Esquimalt before looking for a job school teaching.

His sense of fun and gift of storytelling undoubtedly helped shorten the 73-day voyage from Halifax to Esquimalt for the three other officers and 20 men who also had volunteered for the undertaking.

Following the yacht's arrival at the West Coast dockyard the associate editor of *The Crow's Nest* approached several crew members with the view of having one of them write an account of their trip. The answer in every case was the same:—"Lieut Stolee is the one to tell the story".

Finally the author was found on board the minesweeper *Comox* where he had been temporarily appointed after hearing that the high school in Edmonton had hired another teacher because of his prolonged absence at sea.

that had such a salutary effect on the lads. Anyway it was a well-kept weekend.

On Monday we sailed in a slight drizzle and a low overcast of cloud. We got out beyond the light vessel and started on the last lap hoping the weather would stay moderate. But the next morning around ten o'clock just south of Cape Mendicino we had to turn and run back 90 miles to Drake Bay. The wind wasn't too bad, but the weather report was most unfavourable and all small craft were advised to seek shelter.

The most annoying thing that morning was the sea, the largest we had met. It kept lifting us to heaven and tossing us backwards. It is really the most peculiar sensation to be standing on the

deck of a ship that is trying its best to go full ahead, then suddenly rise to the skies and proceed backwards for fifty feet or so. You keep wondering if you are going to broach to and how you can avoid it.

We were also leaking badly through the shaft as one of the studs on the packing case had broken. The temporary repairs carried out in Drake Bay did not improve the situation and for the last two days we had the bilge pump going most of the time. The engine well use to fill up in ten or twelve minutes and we had to keep a man watching it. So we didn't stop off in Astoria as planned, for we had our doubts about the leak and thought we had better keep the thing going as long as possible.

They gave us a very warm reception in Esquimalt on October 3 and we gave the ship to *Venture*. They were glad to get her and we were glad to give her. The last thing one of the petty officers said to me was "For heaven's sake, don't tell my wife I volunteered!"

Dramatis Personae

During her 73 days on passage from Halifax to Esquimalt, HMCS *Oriole* IV sailed 7,798 miles and called at the following ports: St. George's, Bermuda; Guantanamo Bay, Cuba; Cristobal and Balboa, Canal Zone; Acapulco, Mexico; San Diego and San Francisco, California. She left Halifax on July 19 and arrived at Esquimalt on October 3.

The following officers and men made the journey:

Lieut.-Cdr. E. T. Coggins, RCN, of Weymouth, N.S., commanding officer; Cdr. M. E. Smith, RCN(R), Montreal (executive officer of HMCS *Donnacona*, Montreal naval division); Lieut. E. J. Lattimer, RCN(R), of Montreal, and Lieut. Leif G. Stolee, RCN(R), of Edmonton.

Petty Officers Joseph Threlfall, Victoria; William Greenwood, Halifax and Toronto; Jack W. King, Victoria; Donald Cole, Victoria and Winnipeg; Joseph O'Brien, Victoria, and Norman Howe, Saskatoon.

Leading Seamen Kenneth Jones, Portage La Prairie; John Newton, Victoria; Earle Weagle, Halifax; Elmer Lorentz, Saskatoon, and James Burchell, Dawson Creek.

Able Seamen David Woolgar, Vancouver; Rolland Goyette, Montreal; Joseph Wood, Victoria; Ronald Duffy, Toronto; Michael Woods, Duncan, B.C.; Albert Foster, Badger, Nfld.; Lee Ellis, Assiniboia, Sask., and Harold Collins, Victoria, and Ord. Sea. William Blakeston, Victoria.



The Pacific Naval Laboratory, westernmost research establishment of the Defence Research Board, which was opened officially October 8 at Esquimalt by Vice-Admiral E. R. Mainguy, Chief of Naval Staff. (E-27870)

The Sciences of the Sea Enter a New Home

The necessity for close co-operation between scientists and the Royal Canadian Navy was emphasized October 8 by Vice-Admiral E. Mainguy, Chief of Naval Staff, at the official opening of the Pacific Naval Laboratory (PNL), Esquimalt, the Defence Research Board's westernmost research establishment.

Dr. Omond M. Solandt, chairman of the Defence Research Board, welcomed Admiral Mainguy to the new research centre.

Admiral Mainguy cited several instances where the Navy would have benefited had DRB staff members been consulted and he urged naval officers to maintain closer relationships with the scientists. "Perhaps the best place for the officers and scientists to mingle is within the wardrooms and messes," he added.

One of two DRB establishments devoted to the scientific investigation of problems of special interest to the Royal Canadian Navy, PNL is a handsome three-storey building of grey and green concrete and masonry and is one of Canada's most up-to-date research centres.

Established in 1948, the laboratory is one of the Board's "younger" establishments. Several were created by the Services during the Second World War

and were taken over by DRB on its inception in 1947. Others, like PNL, were established by the Board well after the war.

The scientists strive constantly for a better understanding of the physical sciences associated with the sea. The application of the resulting basic research to the development of new technique for the RCN also plays an important role in PNL activities.

Initial reason for establishing the laboratory on the West Coast was to take advantage of the deep inlets and sheltered waters of the British Columbia coast. These afford a wide range of oceanographic conditions and permit the performance of full-scale tests and experiments throughout the year.

The provision of a scientific service for Canada's West Coast fleet and Canadian participation in the solution of problems affecting naval operations in the Pacific are additional objectives.

For sea operations, the RCN has placed at the disposal of the scientists HMCS *Cedarwood*, a ship that has been especially fitted for naval research. In this vessel are carried out the initial phases of the main research program. In addition, CNAV *Ehkoli*, a small motor ship, is available also for marine investigations by arrangement with the

Pacific Oceanographic Group, of Vancouver.

To develop the mechanical and electronic gear necessary for the laboratory's scientific functions, service groups have been set up within the establishment. These groups undertake as well the development of special or experimental gear directly for the Navy.

Through the superintendent, J. S. Johnson, the scientists act in an advisory capacity to the Flag Officer, Pacific Coast.—C.A.P.

Vice-Admiral E. R. Mainguy, Chief of Naval Staff, officially opens the Defence Research Board's Pacific Naval Laboratory at Esquimalt. (E-27872)



THE BIGGEST EVER

Nearly 800 Reservists
Trained on Great
Lakes

ABOUT 800 members of the Royal Canadian Navy (Reserve) from all parts of Canada were able to get a minimum of two weeks actual sea training during the summer of 1954 without going within a thousand miles of the ocean!

This seeming paradox was made possible by the Great Lakes Training Centre at Hamilton, whose training program during June, July and August was carried out on board the eight ships attached to the centre. This fleet, probably the largest number of Canadian warships assembled on the Great Lakes since the end of the Second World War and certainly the largest group of Canadian warships ever to sail there, was manned almost entirely by Reserve personnel, under command of Lieut.-Cdr. F. H. (Eric) Pinfold of Winnipeg, Reserve Training Commander.

The training flotilla consisted of three Bangor-class coastal patrol vessels, HMC Ships *Kentville*, *Digby* and *Brockville*; and five Fairmiles from divisions in the Great Lakes area, the *Reindeer* from York, the *Beaver* from Star, the *Racoon* from Prevost, the *Moose* from Griffon, and the *Cougar* from Cataragui.

These ships took part singly or in groups in a total of 15 cruises during the summer, visiting Great Lakes ports such as Port Arthur, Sault Ste. Marie, Eriau, Leamington, Port Stanley, Port Colborne, Port Dalhousie, Toronto, Kingston, Rochester, Buffalo, Oswego, N.Y., Sackett's Harbor, N.Y., Oshawa and Cobourg.

Highlight of the summer was a two-week cruise by all ships from Hamilton, through the Welland Canal, across Lake Erie, through the Detroit River, across Lake Huron, through the Soo Canal and across Lake Superior to Port Arthur and Fort William. The ships carried out exercises and manoeuvres both on the way to and from the head of the Lakes.

Experience in all phases of ship-board life was gained by the trainees, of whom more than 300 were new entries who had never been aboard a ship before, and no time was wasted letting them get their sea legs.

The trainees usually arrived at GLTC on a Sunday. They were immediately drafted to one of the ships and spent the night aboard. After a one-day familiarization period to get acclimatized to their new surroundings, the ship proceeded to sea and the remainder of the two-week period was spent in lectures, exercises and evolutions set out in the training program. During this period two hours per day were spent in helping the skeleton crews of the ships carry out their duties but even during these hours the trainees performed their work in the department of the ship in which they were particularly interested.

Evolutions included boat pulling, preparing tows, sailing, gunnery, streaming fog buoys, and other exercises in company with other ships, such as simulated submarine attacks and both day and night shoots.

Original plans called for the trainees to be accommodated only in the three Bangor-class escort vessels. However, the program was hardly more than three weeks old when, in late June, some of the Fairmiles based at Great Lakes naval divisions were pressed into service to handle the unprecedented numbers. During one weekend in early July, more than 100 young reserve sailors arrived at the training centre, and the entire Fairmile fleet of the "Great Lakes Navy" was busy as the youngsters got their sea legs.

The facts and figures department of the reserve training commander's staff came up with some interesting information. A total of 792 officers, men and Wrens had attended the GLTC as of August 23, with another 30 expected. This figure is considerably above the total of 260 members of the naval reserve who attended the Great Lakes Training Centre in 1953.

Most of these attending the centre this year were new-entry reservists, who had joined the RCN(R) within the last ten months. One young lad from Hamilton had been attested into the RCN(R) on Monday and on Tuesday he was at sea on board HMCS *Digby*. He admitted that he was a little confused and overwhelmed by it all, but within a few days he had learned to give his cap that "lived in" look.

The training program differed considerably from that in previous years as most of the training was actually taken on board ships at sea. Formerly, the trainees spent one week ashore doing parade training and receiving classroom instructions, and one week at sea. This year the emphasis was on sea training, with the trainees joining the ships on arrival and proceeding to sea for 11 days before returning to Hamilton and then boarding trains and planes for their homes across the country.

The five Fairmiles were detached from the training flotilla in mid-August and returned to their home divisions. The three Bangors continued to carry out the sea training program for the rest of the season.

Assisting Lieut.-Cdr. Pinfold in the training program was Lieut. Eric Scoates, deputy reserve training commander, Lieut. (S) John Stuart, supply officer, and a staff of 14 officers, men and Wrens.

In command of the *Brockville* was Lieut.-Cdr. Darrel Hayes, of Edmonton, while the *Digby* was commanded by Acting Lieut.-Cdr. Peter Cornell, of Fort William and Kingston, and the *Kentville* was commanded by Lieut. William G. Hunt, the only permanent force commanding officer of the ships.

All of the navy's 22 divisions sent representatives to the Great Lakes Training Centre. Most of these went to the ships but some attended the communications training centre that was operated as part of the activities. A total of 105 communicators went through their training centre and some of these went to sea in the ships for further practical training. It was the first time that communications training had been carried out at the Great Lakes Training Centre. In charge of the communications training was Cd. Officer John Parris, RCN, of Hamilton.

Following is a breakdown of the numbers sent to the training centre by each division: *Cabot* 13, *Caribou* 17, *Queen Charlotte* 8, *Scotian* 30, *Brunswick* 33, *Montcalm* 22, *Donnacona* 62, *Carleton* 52, *York* 107, *Prevost* 38, *Cataragui* 19, *Star* 98, *Hunter* 41, *Griffon* 19, *Chippawa* 61, *Queen* 12, *Unicorn* 25, *Nonsuch* 26, *Tecumseh* 9, *Discovery* 67, *Malahat* 11 and *Chatham* 8.

Ship's Biscuit on Way Out?

BECAUSE a Defence Research Board food technologist has developed a simple, speedy method of producing bread, it looks as if hardtack, for decades the bane of Canadian Service personnel, is on its way out, according to a DRB statement.

Food technologist Joseph H. Hulse and baker Joseph Galbraith, of the food research group of the Defence Research Medical Laboratories, Downsview, Ont., have created a prepared mix which combined with water and baked in an oven, produces high quality bread in just under two hours — cutting about four hours from mother's age-old method.

The scientists devised their process primarily for crews of small naval ships and isolated units of Canada's three armed services. Hulse spent nearly three weeks at sea in a variety of naval vessels investigating the problems of storing bread and keeping it fresh in confined spaces. He decided that only a prepared easy-to-bake mix was the answer.

After months of experiments, the food research group solved the problem. When water is added to the prepared mix, the resultant dough can be moulded immediately into appropriate

The only two ships in the world today to have completed the Northwest Passage are shown side by side in Esquimalt harbour. HMCS Labrador later sailed with the little RCMP vessel St. Roch on her last voyage to Vancouver, where the St. Roch is being preserved as a museum. (E-28705)



Pictured here are the members of the 30th Officers' Divisional Course held at Cornwallis from September 13, to October 25, 1954. Front row (left to right): Lieut. G. H. Selby-Smith; A/Sub-Lt. (S) K. R. Campbell; CPO D. E. Graves, Parade Instructor, Lieut. L. J. Parry, Course Officer; A/Cd. Writer Officer W. A. Wolfe; A/Cd. Communications Officer A. E. Young. Second row: A/Sub-Lt. (S) L. J. Thibault; Cd. Ordnance Officer S. M. Sellars; A/Cd. Communications Officer A. F. Howard; Midshipman L. Milhomme; A. Sub-Lt. (S) B. Cormack; A/Cd. Officer (SB) R. G. Moxam. Third row: A/Cd. Communications Officer J. M. Reid; A/Ordnance Lieut. W. A. Bulani; A/Cd. Radio Officer H. J. Bennetts; A/Cd. Gunner (TAS) D. R. Ingram; Lieut. (SB) J. C. Bonneau; A/Cd. Communications Officer G. C. Green. Rear row: A/Cd. Communications Officer G. C. Fenn; A/Sub-Lt. C. C. Dale Midshipman D. H. Chew; A/Sub-Lt. (S) J. N. Dougan; A/Cd. Gunner F. E. Rushton; A/Cd. Gunner E. E. Moore; A/Cd. Electrical Officer J. T. Cottrell; Instructor Lieut. W. B. Arnold. (DB-4726)

sizes and shapes. It is then allowed to rise and is baked. The whole process, mixing, rising and baking, involves less than two hours.

The result is a product that compares favourably with standard commercial bread according to independent judges who have carried out exhaustive tests. The pre-mix offers a variety of types of bread to suit all tastes—white and Vienna loaves, oven bottom or farmhouse bread, rolls, scones, French sticks and buns. Another similar mix contains whole wheat flour and extends an additional similar diversity in a wide range of breads and rolls.

Bread produced commercially requires a one- or two-stage fermentation process. The dough must "rest" in bulk for between three and five hours after mixing. The so-called bulk fermentation period is particularly inconvenient when space is limited and where speedy production requirements are involved. In addition, temperature and humidity fluctuations during this critical period can affect adversely the quality of the bread.

Hulse and his associates fully expect that Canadian housewives will clamour for a commercial pre-mix to fill their husband's demands for home baked bread. The scientists are confident that such a development will match in quality the bread turned out in the old-fashioned way.

LOWER DECK PROMOTIONS

Following is a further list of promotions of men on the lower deck. The list is arranged in alphabetical order, with each man's new rating, branch and trade group shown opposite his name.

ABBOTT, Richard P. PIEA4
 ALLER, William N. LSAA1
 ANDREWS, Gordon H. LSRP1
 APEL, Clifton L. LSRP1
 ASTIKA, Henry V. LSRN3

BALL, Francis G. PIER4
 BARBER, Lawrence G. LSEM1
 BARKER, Bert W. LSAA1
 BARKY, Norman A. LSLM1
 BEACH, Christian H. LSLM2
 BEDARD, Donald C. LSLR2
 BERGGREN, Waldo L. LSLR1
 BESSEY, George A. LSVS1
 BINGHAM, Edward R. LSQM1
 BONN, Russel W. LSLM2
 BOOMER, Royce B. LSLM2
 BOS, Johan. LSLM1
 BRANIFF, Ralph D. LSLM2
 BREARLEY, Neil A. PISH4
 BRUBACHER, Ralph T. LSLM2
 BRUNELLE, Guy J. LSAA1
 BURGESS, Donald R. LSLM1
 BURKE, Gerald A. LSTD1
 BURNS, Colin T. LSLR1
 BUTLER, Robert J. LSAA1

CARLYON, Henry R. P2LR2
 CARR, Ronald E. LSTD1
 CHADWICK, Edward A. PIET4
 CHAMBERLAIN, Allan H. LSLM1
 CHEETHAM, William. LSRP2
 CLOUTIER, Marcel J. LSAA1
 CONROY, Francis D. LSLM2
 COON, Gordon. LSEM1
 CORDER, Edward J. LSLM2
 COUSINS, Robert W. LSQM1

DAKIN, Frederick W. LSRN3
 DALY, John P. LSLM1
 D'ANJOU, Auguste J. LSCK1
 DAUNHAUER, Joseph A. P2SW2
 DAVIDGE, Eldon J. LSRP2
 DAWSON, Walter J. LSQR2
 DESMEULES, Roger J. LSQM2
 DOBSON, Allen G. LSLM2
 DOWNEY, Charles L. LSRC2
 DOWNEY, Kenneth A. LSCR1

EVANS, David R. C2ET4
 EVANS, William T. LSQR1

FARLEY, John J. LSQM1
 FERGUSON, Elmer A. PIET4
 FERRARA, Pierre P. LSLM1
 FORD, Ronald G. LSRP2
 FORTIN, Jean Noel. LSLM2
 FRANDLE, Robert. LSCK1
 FREEMAN, Lloyd G. LSLM1

GALBRAITH, James K. LSLM1
 GALLANT, Francis D. LSLM2
 GAUTREAU, Paul L. LSEM1
 GEDDES, Donald R. LSRC1
 GIBERSON, Graydon D. P2CS3
 GILLAN, James S. C2QR2
 GODDING, Bertram C. PIET4
 GOLDSTEIN, Arthur I. LSLM2
 GRITTEN, David H. LSMA1
 GUNVILLE, Leonard J. LSQR2
 GUTHRIE, Kenneth L. C2ET4
 GUY, Clarence G. LSQR1

HARBIDGE, Ronald V. P1BD3
 HARNETT, William N. LSEM1

HARRIS, George B. PIRT4
 HASLER, Frederick G. LSCK1
 HASTINGS, John D. LSLM2
 HENDERSON, William J. LSED3
 HENRY, Boyd F. P2EM2(NQ)
 HILL, James E. LSEM1
 HINKLE, Henry P. P1SH4
 HOFFMAN, John. P2TD2
 HOWARD, Lorne A. LSLM2
 HOWE, Norman L. P2RC2
 HUFFMAN, Paul T. LSLM2
 HUNT, Donald F. LSAA1
 HUNT, Edwin C. C2RT4
 HYNES, Kevin F. LSRC1

INNES, Gordon G. P2TD2
 INOUE, Yeiji. P2QR2
 IRVING, David C. C2RA4
 IRWIN, Garnett A. P1PT2

JACOB, Richard M. C2RA4
 JAMES, William T. LSLR1
 JARVIS, George F. C2ET4
 JESNEY, William M. LSLR1
 JOHNSON, Kenneth D. LSRP2
 JOHNSON, William C. LSLM1
 JOHNSTON, Gordon A. LSRP2
 JONES, George T. LSLR1
 JONES, Roy A. P2QR2

KELLY, Blake W. LSLM2
 KELLY, James E. LSRP1
 KELLY, Robert G. LSRC2
 KING, Aubrey J. LSAA1
 KIPROFF, Philip P. LSCK1
 KITTSOON, William J. C2ET4
 KNIGHT, John A. C2RT4
 KNOWLES, Curtis A. P2EG3
 KORMAN, Steve J. P1SH4

LABOUSKI, Alexander. LSLM2
 LAPLANTE, Guy J. LSEM1
 LARSON, Lawrence W. C2RT4
 LAWRENCE, John A. LSLR1
 LAWSON, Charles E. LSLM2
 LEBLANC, Robert J. LSQM2
 LEIGH, Charles R. LSQM1
 LEIGH, Frederick O. LSLM2
 LEWIS, Ronald E. LSLM1
 LIVSEY, Jeffrey D. LSEM1
 LONG, Murray A. P2TD3

MAGSON, Ronald E. LSLM1
 MARTIN, Alan N. LSLM2
 MATTON, Marcel H. LSLM2
 MERTGAERT, Gilbert E. P1EA4
 MERRIFIELD, John F. LSQM1
 MILLER, Edward E. P1ER4
 MITCHELL, Alden F. LSCR1
 MITCHELL, Earl C. P2RN3
 MONTGOMERY, James H. LSTD1
 MORENCY, Jean R. LSLM2
 MORRIS, Clifford G. C2RT4
 MUSTER, Edward. LSTD1
 MacARTHUR, Donald F. LSQR2
 MacEACHERN, Ernest R. LSNS1
 MacKINTOSH, Russell M. LSEM1
 MacMILLAN, Russell W. P1RP3
 MacNEIL, John A. LSRP1
 MacPHEE, Arnold J. P2QM2
 MacARTHUR, Archie. PIET4
 McCREARY, William E. LSAA1
 McCULLOCH, John B. LSQR1
 McCULLOUGH, James B. LSTD2
 McDONALD, John C. LSQM1
 McGUIGAN, Bertram J. LSRP1
 McGUIRE, Alfred J. P2AA2
 McGUIRE, Thomas A. LSPR2
 McINTYRE, Earl B. LSEM1
 McKENNA, Michael O. LSLM1
 McLAY, James E. LSNS1
 McNAIR, William T. LSLM2
 McQUEEN, John C. LSEM1

NEWHOOK, Delmer E. P2EF3
 NIPPARD, William H. LSCK1
 NORMAN, Jack S. P2RS3
 NORMANDEAU, Rene J. C2EA4
 NYMAN, Ronald C. LSRP1

O'BRIEN, Gordon C. LSRP2
 OLKOVICK, Frederick W. LSAA1

PARENT, John V. LSQM2
 PARENTEAU, Joseph G. LSRP1
 PARK, John W. P2BD2
 PARSONS, Kenneth E. LSLM2
 PATERSON, Ross A. LSBD2
 PATTERSON, Clarence J. LSQR1
 PAYNE, George E. C2ER4
 PEDERSON, Bert. LSTD1
 PENNINGTON, Jack E. LSLM2
 PERDUE, Donald A. LSCK1
 PERKINS, Elwyn J. C1RT4
 PETRUSKEWICK, Garrold. LSLM2
 PORTEOUS, John A. P1ET4
 POULIOT, Lea P. LSLM2
 PROKOPOW, Thomas K. LSRP1

RACINE, Rolland R. LSBD1
 REA, Bawne A. LSLM2
 REDING, Ronald R. LSRP1
 RICHARD, Eldie. LSTD1
 RICHEY, Robert J. P2QM2
 ROBERT, Ralph D. LSTD1
 ROLLS, Cyril. LSNS1
 ROSS, John L. LSRN3
 ROY, Marcel J. LSTD1
 RYCKMAN, Karl D. LSEM1

SANDERSON, Donald E. P2RW3
 SARGENT, Roy A. P2QM2
 SAWYER, Raymond W. P1SH4
 SHEEDY, Reginald P. LSMA2
 SHEFFIELD, Glenn A. LSTD2
 SNOW, Douglas S. P2RW3
 SOLONICK, Douglas R. LSRP1
 STERLING, Kenneth E. LSAA1
 STEWART, Gary W. LSLM2
 SUTHERLAND, Joseph C. LSLM1

TAYLOR, Donald M. P1SH4
 TERDICK, John. LSLM2
 TOTH, Michael. LSLM2
 TRATT, Ronald J. LSAA2

VIENNEAU, John F. LSRP1
 VILLENEUVE, Ralph. LSTD1

WALLACE, Peter. LSQR1
 WALSH, Frederick P. LSRP2
 WEAVER, Sidney F. LSRP1
 WHITE, Robert. LSCK1
 WHITEFIELD, Ian D. LSTD2
 WICKS, Roy H. LSRP1
 WIDNER, John G. P2BD2
 WIENS, Ralph. LSLM2
 WILCOX, Earl R. P2EM2(NQ)
 WILLIAMS, Robert J. LSTD1
 WILSON, Arthur J. LSTD2

YOUNG, Gordon A. P1ET4

When Cdr. H. W. S. Soulsby, RCN (Ret'd), of Victoria, turned his hand to preparing a "Crossing the Line" certificate for HMCS Quebec he grasped the opportunity of recognizing the training Cruiser's namesake province. On the opposite page appears the first such RCN certificate in the French language.

H.M.C.S. QUEBEC

Captain E.W. Finch-Noyes. C.D., R.C.N.

SOUTH AMERICAN CRUISE

1954



PROCLAMATION

de Sa Maritime Majesté

le ROI NEPTUNE

Considérant que le vaisseau canadien de Sa Majesté QUÉBEC est un visiteur dans Notre Royaume, et dont on a bien conservé le souvenir et la devise honorée. Nous lui exprimons des vœux de bienvenue dans ce domaine océanique, et sa capitaine notre frère fidèle et bien-aimé, et à son équipage de vieux Marsouins et de Terriens.

Soit-il entendu que

ce jour-ci a TRAVERSÉ LA LIÈNE équatoriale à bord du H.M.C.S. QUÉBEC, et qu'ayant été dûment initié, il lui est permis d'y être nommé MARSOUIN.

Il est exigé de tous Requins, Dauphins, Bêches-de-Mer, Tritons et Terriens, qu'on le traite avec tout le respect possible. En outre, ce nous fera Plaisir de le favoriser de Vents Propices, de Voyages Profitables, et de Toute Bénédiction que nous soyons en mesure de faire.

Faite à Notre Cour à bord du H.M.C.S. QUÉBEC à l'Équateur, par 86° 30' de longitude ouest le 30 octobre, 1954.

Neptunus
Rex



LB

