

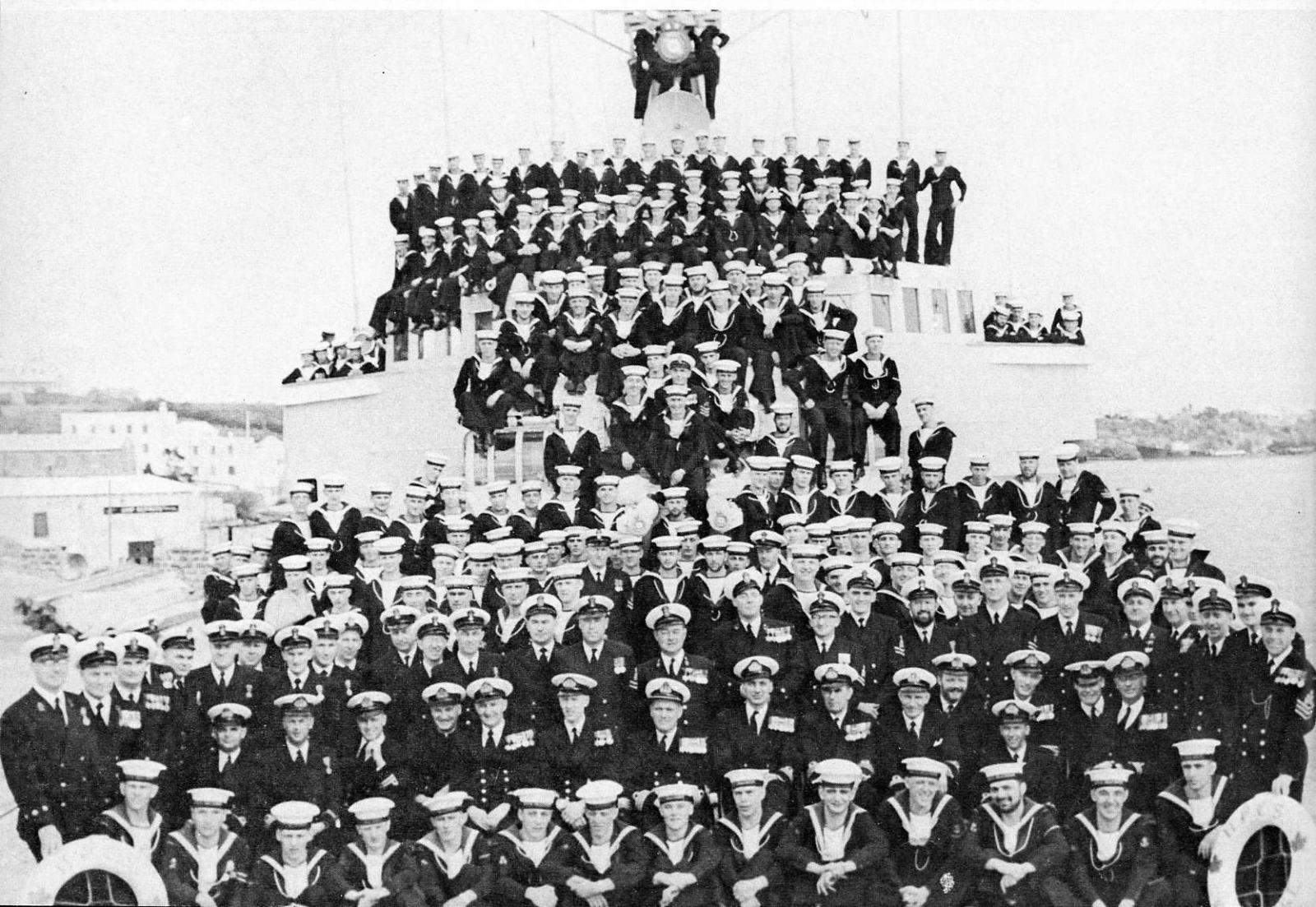
# *The* CROWSNEST

A large black and white photograph showing the side of a ship's hull. A high-pressure water hose is being used to clean the surface, creating a large spray of water. Two workers in a small inflatable boat are operating the hose. The ship's name 'The CROWSNEST' is visible on the hull. The water is dark and reflects the ship's structure.

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July, 1961





# The CROWSNEST

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THE ROYAL CANADIAN NAVY'S MAGAZINE

JULY 1961

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*The Cover*—Touching up the paint on the flaring bows of the *Saguenay*, Pacific Command destroyer escort, offered a couple of problems that were neatly solved by the sailors assigned to the job. A life-raft and an ultra-long-handled paint roller provided part of the answer, the ingenious use of a powerful magnet on a cord, to hold the raft in position, the rest. Ldg. Sea. Edward Kochanuk found inspiration in the sun-dappled scene for a fine photograph. (E-61515)

### FAMILY PORTRAITS

Taking a "family portrait" of a ship's company is quite a chore. The ship must be in harbour; everyone must be on board and wearing their Sunday best, and there must be a photographer somewhere in the vicinity.

These conditions were met recently by HMCS *Fort Erie*, frigate, and HMCS *Chaudiere*, destroyer escort, both of the Atlantic Command.

The pictures, in addition to showing two fine groups of healthy and handsome Canadian sailors, show the relative number of personnel required to man a frigate and the much-more-complicated destroyer escort. (CS-856; CS-874)

Negative numbers of RCN photographs reproduced in *The Crowsnest* are included with the caption for the benefit of persons wishing to obtain prints of the photos.

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## RCN NEWS REVIEW

### **Four-Year Safety Record Established**

Enviably safety records have been established by the two air squadrons of the Royal Canadian Navy (Reserve).

Congratulations went out from the Commanding Officer Naval Divisions to VC 922, attached to *Malahat*, Victoria naval division, on June 5, fourth anniversary of accident-free flying by the squadron.

VC 920, attached to *York*, the Toronto naval division, was also commended for completing more than two years without a flying accident.

The two squadrons fly Expeditor aircraft.

### **Bereaved Sailor Helped by Fund**

A fire early May 9 in a narrow, two-storey tenement house near the Halifax Dockyard took the lives of the five children of PO and Mrs. John Wagerman and sent the parents to hospital for serious burns received in their vain attempts to rescue the youngsters.

PO Wagerman is an engineering technician, in HMCS *Iroquois*.

In the captain's cabin of the destroyer escort on June 8, the petty officer, now recovered, was presented with a bank book showing a balance of \$3,383.05 in the names of the Wagermans and the Command Social Worker. A day later,

the fund was swelled by \$223.13, from sympathetic personnel at Naval Headquarters. Funeral expenses were met by the RCN Benevolent Fund.

Cdr. H. W. A. Moxley, commanding officer of the *Iroquois*, read aloud the list of 58 donors and told how the fund began. On the same day that the tragedy occurred, PO Wagerman's mess-mates had started the fund and on May 11 a Halifax General message was raised advising naval and allied personnel of the port where they could send donations.

As he handed over the list of contributors, the bank and cheque books to

the petty officer, Cdr. Moxley remarked: "So you've got a lot of friends."

Present at the brief ceremony were the Command Social Worker, Miss Jessie Casey; the acting executive officer, Cd. Off. Robert Dykes; the engineer officer, Lt. John Lehman; the supply officer, Lt. R. G. Lemmex; ship's Benevolent Fund representative, PO Richard Burton, and president of the P2s' mess to which PO Wagerman belongs, PO George Faulkner.

Donations came from 58 ships, establishments, interested groups and individuals.

### **Officer Cadets On Naval Tour**

About 50 third-year cadets of Canada's three Armed Forces visited RCN ships and establishments in early May as part of the military studies program at the Royal Military College, Kingston, Ont.

The cadets arrived in Halifax on Friday, May 5. Over the week-end, they toured the surrounding area and took part in Battle of the Atlantic Sunday observances in Halifax.

Monday, they were briefed in HMCS *Stadacona*, RCN Barracks and that afternoon toured the *Bonaventure*, at the aircraft carrier's dockyard berth.

They spent Tuesday morning at *Shearwater* and toured the dockyard in the afternoon.

### **To Our Writers**

*A lot of interesting things happen during the Navy's summer training period and it is to be hoped that ships' correspondents will find time to prepare accounts of these for readers of this magazine.*

*A reminder: Please make sure that all persons mentioned in articles or picture captions are properly identified by rank, first name or two initials and accurate spelling of the last name. To paraphrase Shakespeare, "He who steals my purse steals trash, but he who botches my good name..."*



On Wednesday, May 10, they embarked in the frigates *Inch Arran* and *New Waterford* to witness exercises off the port. They left *Shearwater* by air that afternoon for a visit to the Army's Camp Gagetown, N.B.

Major W. J. McLeod, RCAC, was in command of the group.

### **RN-RCN Exchange NBCD Officers**

An exchange of lieutenant-commanders in the field of nuclear, biological and chemical defence has taken place between the NBCD Division of the Fleet School at *Stadacona* and the Royal Navy counterpart in Plymouth, England.

Lt.-Cdr. Eric S. Parker, RCN, was to become project officer in the RN school. He has been replaced as senior instructional officer by Lt.-Cdr. J. S. Tinne, RN, of London, England.

Lt.-Cdr. Tinne was a 1944 special entry cadet in the RN from Eton, serving in the Far East in the battleship *Nelson* until the end of the war. More recently he served as ABCD officer in the cruiser *Newfoundland* and on the ABCD staff associated with atomic tests on Christmas Island.

### **Six Awards Made For Suggestions**

Awards by the Suggestion Award Board of the Public Service of Canada were made in May to three naval personnel and three members of the civil service. One of the latter was an *ex gratia* award approved by His Excellency, The Governor General-in-Council.

The special award was for \$100 to Mrs. Hannah B. Finlayson on behalf of her late husband, who invented a safety brake for ammunition-handling machinery in certain ships. Mr. Finlayson died in January. When his invention was adopted for use by the RCN and several were installed in ships, recommendations were made to His Excellency through the Minister of National Defence for an *ex gratia* award to his widow.

Edmond J. Aucoin, of Halifax, and Robert McFarlane, of Armdale, both welders at HMC Dockyard, Halifax, originated an idea concerning the conversion of inert welding equipment to eliminate both the need for an outside water supply and the danger of freezing in winter weather. Their invention earned them cash awards of \$100 each. They are employed in the plate and boiler shop on the staff of the Manager Constructive Department.

AB Gordon Gogal, of HMCS *Beacon Hill*, suggested a time-saving method for disposing of waste in isolated northern



Some of the sailors' messes in the destroyer escort *Saguenay* recently acquired new television sets to the profit of the Salvation Army. Here a cheque for \$87.50, representing money from disposal of the old sets, is presented by CPO Frank Andrews (left) to Lt.-Cdr. Bruce Campbell, who co-ordinated the Red Shield drive within the Pacific Command. Looking on are AB Frank McKnight and Brigadier Harold Chapman of the Salvation Army, organizer of the campaign. The donation preceded the ship's regular contribution to the Red Shield campaign. (E-61285)

areas. A communicator, he has served in northern areas at both Churchill and Alert.

CPO J. K. Slater, of *Cornwallis*, borrowed the USN method of passing lines at sea which is faster, safer and easier than the old RCN method, and suggested its use. The idea found instant favour in the *Bonaventure* where he was then serving, and has since been adopted for use by the RCN.

CPO Howard W. Libbey, of *Stadacona*, while serving in the *Nootka*, submitted a suggestion for a portable eductor to remove bilge from inaccessible compartments of ships. The idea has been adopted for use by the fleet.

### **Veteran of Two World Wars Dies**

George Slade, 60, recently appointed president of the Toronto Naval Veterans' Association died at Sunnybrook Hospital after a short illness.

Born in England, Mr. Slade came to Canada as a boy and joined the former RNCVR in 1917, serving until 1919 as an able seaman.

In 1939 he went on active service and specialized as a torpedo cox'n. He was demobilized in 1945 in the rank of chief petty officer.

During the war he served in the Atlantic, Pacific, Mediterranean and English Channel in destroyers, mine-

sweepers, corvettes and, finally, the frigate HMCS *Strathadam*.

Mr. Slade leaves his wife and a daughter. A son, Stan, a lieutenant, was lost in HMCS *Guysborough* when she was torpedoed in the Bay of Biscay in 1944.

### **Newfoundland Veterans Meet**

Three hundred naval veterans in Newfoundland "spliced the main brace" at the Old Colony Club near St. John's in the first full-scale naval reunion to be held there.

Ex-naval personnel from all over the province and from outside points as well attended the function to swap yarns and meet old friends.

Before the dinner there was a tour of the city in a 50-car motorcade. It is anticipated the reunion will be an annual affair.

### **Twelve Pilots Qualify in ASW**

Twelve pilots have completed the pilots' advanced anti-submarine course at *Shearwater* and have joined VS-880, anti-submarine Tracker squadron.

The pilots are: Sub-Lieutenants Peter J. Barr, Michael F. Churchill, Donald B. McKenzie, Lorne S. MacDonald, Kenneth A. Eliason, Ian A. Powick, Stanley W. Brygadyr, Colin M. Curleigh, Robert H. Burney, John M. Ford, Albert M. Bingley and David P. Cramton.

### **Admiral Mainguy Heads Lakes Body**

Vice-Admiral Edmond Rollo Mainguy, RCN (Ret), former Chief of the Naval Staff, has been appointed president and general manager of the Great Lakes Waterways Development Association, succeeding Lieutenant General Howard D. Graham, QC, who resigned as president of the association last January to assume the presidency of the Toronto Stock Exchange.

The Great Lakes Waterways Development Association was established in 1959 to encourage economic development through low-cost transportation on the St. Lawrence Seaway and throughout the Great Lakes system.

It is made up of industries, chambers of commerce, boards of trade, shipping lines, primary producers and various development organizations.

Following his retirement from the navy, Admiral Mainguy served as executive director of the Ontario division of the Canadian Mental Health Association. He is also president of the Ontario division of the Navy League of Canada, and a director of the Royal Canadian Military Institute of Toronto.



## Ottawa Sea Cadets Win Drill Contest

The rifle drill team of the Royal Canadian Sea Cadet Corps of *Falkland* Ottawa, in competition with the Army Cadets of the Cameron Highlanders of Ottawa and the 51st (Ottawa Optimist) Squadron of the Air Cadets won the (Ottawa branch) Canadian Legion Tri-Service Cadet Drill Team Trophy for 1961. The teams were evenly matched and the competition was keen.

Col. G. G. Aldous, 12 Militia Group Commander, took the salute, reviewed the cadets and made the presentation, before about 300 spectators, friends and relatives of the cadets.

PO Peter Jackson received the trophy and, on behalf of the team, presented it to Lt.-Cdr. W. J. Eastwood, commanding officer of the *Falkland* corps.

RCSCC *Falkland*, which parades twice weekly at Carleton, Ottawa naval division, also holds the Marine Club of Canada Shield for the best cadet in Ontario for 1960 and was judged the most efficient cadet corps with over 100 cadets in Ontario for 1960. The corps has also been awarded more crossed rifles per individual cadets with scores of over 90 than any other corps in Ontario.

## Hulk Proposed As Marine Museum

A six-man committee of the Newfoundland Historical Society is studying a proposal to turn the hulk of the former HMS *Briton*, ex-*Calypso*, into a floating marine museum.

The hulk, which was last used for salt storage, is now lying idle at Lewisporte, Newfoundland.

## Wolf Cubs Use Bottle Post

A bottle with a letter in it was dropped overboard Thursday, March 30, from HMCS *Lanark* at the precise moment the 1st Gravenhurst "B" Wolf Cub pack sat down to a father and son banquet.

The Ontario cubs decided on the "bottle post" as a venturesome method of corresponding with a pack of cubs outside Ontario. Accordingly, Cubmaster Peter Danyluk wrote a letter to the Atlantic Command Headquarters of the RCN for help.

Cdr. K. H. Boggild, Assistant Chief of Staff (Operations), arranged for the frigate to make the "drop" when she went to sea. The bottle was launched about 100 miles of the southeast coast of Nova Scotia.

"From this position the bottle may well find its way into the Gulf Stream and it should prove interesting to see where it is found," said Cdr. Boggild in his reply to Mr. Danyluk.



Richard Arnold, of the 20th Halifax Troop (Stadacona) chops off a three-fingered salute, Sea Scout fashion, as Rear-Admiral K. L. Dyer arrives at the Nova Scotian Hotel April 22 to attend the presentation of Queen's Scout qualifications by the Lieutenant-Governor of Nova Scotia. Richard is the son of Lt. D. A. A. Arnold, Base Fire Chief in the Halifax Dockyard. (Photo by Terry Waterfield, Halifax)

Built about 90 years ago, the *Calypso* was long used as a floating headquarters for the training of the Royal Newfoundland Naval Reserve. She was built as a sail-and-steam corvette, sister ship to the famous *Calliope*, which was the sole survivor of an international fleet of warships overwhelmed by a storm in the harbour of Apia, Samoa, in 1889.

Chief Justice R. S. Furlong, president of the Newfoundland Historical Society, is quoted as saying that, if the society is not successful in establishing a floating museum, an attempt will be made to set up such a museum on land.

## Ex-RCN Officer In Admiralty Post

Captain Albert N. Harrison, RN (Ret), a man who held a long and unique association with the RCN, has been appointed Director of Naval Construction at the Admiralty. Mr. Harrison was the first Director of Naval Construction for the RCN and held the appointment at Ottawa for seven years, from 1941 to 1948.

Mr. Harrison apprenticed as a shipwright to HM Dockyard at Portsmouth, England, in 1917, joined the constructor branch in 1921 and attended the Royal Naval College at Greenwich from 1922 to 1925. He served in various appointments afloat and ashore and designed and supervised the construction of many

classes of warships, including submarines, aircraft carriers and destroyers.

In 1941, shortly after being promoted to Captain, he was loaned to the Royal Canadian Navy and became its first Director of Naval Construction. He was awarded the OBE in January 1946 for being "largely responsible for the building of hundreds of ships during the period of rapid expansion of Canada's navy".

He returned to the Royal Navy in 1948 and on his retirement from the Royal Corps of Naval Constructors. He entered the civil service for duty with the Corps. Since 1951, when he became Assistant Director of Naval Construction, he has supervised the designs of the general-purpose frigate, several other destroyer and frigate projects and HM Yacht *Britannia*. He was created a Commander of the Royal Victorian Order in 1955.

## Ships Take Along Radio Programs

Frigates of the Seventh Canadian Escort Squadron which sailed in May from Halifax on a training cruise to the Caribbean, carried a stock of CBC radio programs along with their other recreational facilities.

The RCN and the Canadian Broadcasting Corporation announced that arrangements have been made for the supply of tape-recorded CBC broadcasts for playing over the public address systems of RCN ships on cruises away from home waters. Canadian sailors will thus have the radio links with home which have been provided for the past 10 years to Canadian soldiers and air force personnel on NATO duty in Europe.

CBC programs in the first shipment included a wide range of drama and variety features. They are supplied to the RCN from the CBC's Armed Forces Service in Montreal.

## Sailor Toils To Aid Children

Thousands of Canadian sailors have given their blood to help others in time of need—and at least one of them has given his sweat.

On learning of the assistance given by the Unitarian Service Committee of Canada to starving children in India, a West Coast sailor offered to roto-till the lawn of anyone who would give to the cause.

A Victoria couple took him up on the offer and the money was sent to USC headquarters in Ottawa.



*The utilization of Canada's human resources was the theme of an address by His Excellency Governor General Georges P. Vanier at the annual dinner of The Canadian Press at the Royal York Hotel, Toronto, on April 19. While his audience at that time was composed largely of senior members of the press, his remarks are applicable to all Canadians and most of His Excellency's observations could well have been made directly to members of the Royal Canadian Navy, from his opening statement of belief that "the*

*really important elements in the growth of any economy or any nation, are the human ones of imagination, initiative and resourcefulness, together with the development of skill and the exercise of frugality and foresight" down to his concluding admonition: "There is no place for a laggard in this age of space and speed and undiscovered worlds waiting for the coming of man. Our future depends upon the quality and value of what I have chosen to call human resources".*

# HUMAN RESOURCES

IT HAS BECOME almost a tradition to praise the wealth and variety of the natural resources of our country. The practice is harmless if unoriginal but it becomes dangerous when it is argued that Canada is assured of a great future simply because of the existence of great gifts of nature. I saw, for example, not long ago, a small headline which declared "Canada depends on its forests for its livelihood". I do not agree at all. I believe that Canada depends on its people for its livelihood. Had the forests not been available the people would have found other means of support or else they would have gone somewhere else.

I believe that the really important elements in the growth of any economy or any nation are the human ones of imagination, initiative and resourcefulness, together with the development of skill and the exercise of frugality and foresight. It is qualities such as these that permit countries to prosper and produce a high culture without necessarily possessing rich natural resources. I need hardly quote you such examples as Holland or Switzerland in order to make the point.

Men are coming to realize that the quality and value of what might be termed our human capital have a profound effect upon our economic progress. In fact investment in human capital can do more to foster prosperity than investment in physical capital. To show you that I am, as Disraeli might have put it, on the side of the angels in this matter, let me quote this saying which I came across in reading but whose source I cannot quite recall:

"All men fall into two main divisions; those who value human relationships and those who value social or financial advancement. The first division are gentlemen, the second division are cads."

The point is that human relations are often the last things we think of improving. Unlike the hard facts of finance or engineering, the personal aspects of a given problem cannot always be measured precisely. Yet the vital importance of people is well shown by these figures produced by one of the larger insurance companies. Over a long period it was found that 20 per cent of industrial accidents were due to such causes as the breakdown of machinery, lack of skill, or physical or mental failings. The remaining 80 per cent, or four out of five of the accidents, were ascribed to defects of personality. These included such things as personal frustrations, men not being suited to their work, conflicts on the job—in a word, a whole variety of causes which could be summed up under the heading of bad morale.

This example which I have just given obviously does not hold good for all times and all places. But I think that it is so striking that it forces us to turn our attention to the human factor, to human resources or human capital, call it what you will. There are many other reasons why we should do so. World trade in manufactured products, for instance, has been shown to be increasing at a considerably faster rate than trade in raw materials. A symptom of this process is the growing replacement of natural textiles by man-made fibres. To remain competitive in such circumstances this country will be obliged to improve and develop its industrial skills. Similarly as the world as a whole grows up, Canada must try to keep one scientific jump ahead so as to be able to sell products which other countries may not yet have learnt to make. Success in science as in industry depends in the end upon the quality of our thinkers and workers.

MAN, I hope you will agree, is not an economic machine, responding alternately to the stick and the carrot, and always seeking the maximum reward for the minimum effort. Neither is he a biologically determined animal, simply satisfying his instincts. These are two over-simplified caricatures which we have been offered in the past and their insufficiency is now apparent.

"The proper study of mankind is man." So wrote Alexander Pope more than 200 years ago. Today I believe that study is more than ever needed not only to perfect our knowledge and to discover new human resources, but also at the immediate and practical level to remove the obstacles to the best use of our existing human capital.

That these obstacles are very formidable can hardly be denied. In the field of education the number of children who drop out of school prematurely gives grounds for alarm. I understand that the National Employment Service has found that 70 per cent of the male applicants for work have grade eight or less, while only 21 per cent of our children complete High School. The seriousness of this situation will be appreciated when I tell you that grade seven is the absolute minimum requirement for candidates in the new public technical training schemes. Laboratory technicians are in fact expected to have grade 11. It is up to all of us, and here the Press can be a very great help, to convince both parents and children that all young people must get the fullest education of which they are capable.

We must realize that we are witnessing a revolution in techniques which we can only disregard at our peril. On the one hand there is an ever-increasing demand for the so-called white-collar professional and technical people. On



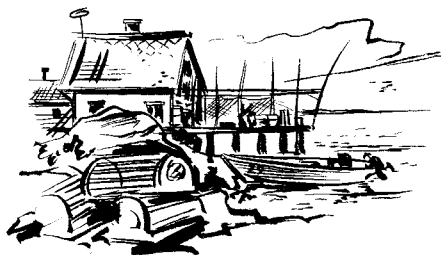
the other, the opportunities for purely manual workers become more and more limited. The length of the help-wanted columns reveals that the skills of our working force have not kept pace at all points with the changed demand. There is an urgent need for re-training as indeed for planning ahead to cushion the sudden effect of industrial innovation.

Accidents cause another obvious though avoidable drain upon our human resources. If they occur on the roads they usually receive considerable publicity. I read in the press, for example, only a month ago that "the numbers killed or injured in any three years on Canadian highways will be found to be equal to about 80 per cent of all Canadian casualties in all the years of the Second World War." This is serious, yet I wonder how many people know that in the year 1960 in the Province of Ontario alone there were upwards of a quarter of a million industrial accidents. They entailed the loss of 363 lives and the payment by the Workmen's Compensation Board of more than \$53,000,000 in compensation and medical expenses. Accidents wherever they occur cause loss, which is sometimes irreparable but always avoidable. The prevention of such loss will be among the first aims of any campaign for enhancing human resources.

Industrial disputes resemble accidents in that they are events that need not have occurred. They are similar too in that they entail loss and hardship and a quite unnecessary waste of human resources. Although they sometimes appear illogical, strikes do not just happen. Like all other forms of human behaviour they have their causes, even though they may not always be obvious. A Scottish writer on the psychology of industry has observed: "Strikes for higher pay are often motivated by totally different grievances, sometimes unconscious or unformulated." He went on to note that "No amount of money will make up for failure to treat people as human beings" and concluded as follows, "To ignore the human factor in industry is to be lacking in humanity, but it is also a sign of gross incompetence in the technical field." Unfortunately in their preoccupation with economics both sides of industry have sometimes neglected the all-important human elements. The results may lead to avoidable disputes. I feel that there is a great challenge and a great opportunity here for Canada. Can we not make the most of our population, which is small by comparison with the great powers, by leading the world in industrial peace, based squarely on the primacy of men over things?

**H**ARMONY in work is a sure sign of social health. If the tensions and conflicts of daily life are impairing the smooth working of our society, physical and mental health is almost bound to suffer. We all know that ulcers and high blood pressure are occupational complaints of the go-getting executive, but it is not so widely recognized that industrial impetigo and a predisposition to accidents are their counterparts among less privileged workers. It has been said that all medicine nowadays is of the psychosomatic type. The doctor has to treat the whole man, remembering that both he and the patient are made up of spirit as well as body.

We have learnt to control and prevent the great epidemic diseases which used to create such havoc, but we have still to learn how to deal effectively with social complaints such as alcoholism and mental illness. These complaints are



very much on the increase. They are a direct threat to our human capital because so often they attack the most talented individuals. Common humanity, however, demands that we go to the help of the sufferer, whoever he may be. We must stiffen the will to recover of the victims, and give our wholehearted support to those who are trying to remove the causes of social disease.

I have touched on some of the things that prevent the fullest use and development of our human resources. I hope you will forgive me if I seem to have painted too austere a picture, because there is a hopeful and positive side to the question, one that is full of the promise of happiness and success.

In the field of human relations the prospects are particularly bright, provided that the emphasis remains on the individual person. Sociologists and others have demonstrated the importance of human groups. But let us always see to it that the group exists for the benefit of the man, and not vice-versa. For if things or organizations are put before people, then human beings are sure to become cyphers. Let us insist that welfare measures be made to work directly for the good of their recipients.

Human relations depend for their effectiveness upon understanding. It may be said that a man is free to the

extent that he understands. Nevertheless a man's understanding of a given situation may be logically and intellectually correct, yet totally ineffective, because lacking in sympathy. It is a human characteristic that we desire not only to be loved, but to be loved in the way we wish. Conversely, many of us are willing to love others, but only in the way we wish to love them. The practical result of this is that in all areas of disagreement where opinions are strongly held, it is necessary to understand the other man's belief as he understands it himself. We have not only to see the other fellow's point of view, but, as it were, to feel it too.

I have tried to give some idea of the outlook needed if we are to make the most of the available human resources. Education, needless to say, will be the most important means of putting this into practice. So much has been said about education, and so much is expected of it, that it would be as well to make clear what its primary aims should be. I would like to state them as follows: to dispel primitive ignorance, and, secondly, to teach children and adults to think. If we can concentrate on these two points we shall avoid burdening teachers and schools with responsibilities which can better be discharged by parents or youth clubs, and a hundred and one other bodies. If our educators are relieved of all unnecessary burdens they will, I am sure, respond by improving not only the quantity but also the quality of the teaching they impart.

**A**FTER FORMAL education, the next step is technical and professional training. I touched on this matter earlier in connection with the technological changes with which we are at present so deeply involved.

I should now like to quote to you some figures from one Canadian province to show just how great is the need and the demand for technical training. When the new provincial scheme was announced in January, 12,000 people applied for the courses offered. By means of various expedients such as the use of technical high schools in the evenings after normal hours, it was possible to provide places for 3,500 applicants. Fortunately there do exist a number of different ways of acquiring a technical formation. It may be done by means of work and part-time study, or through night classes or resumed study after one or two years at work. Industry offers a certain number of places for trainees, while both the trade unions and the Armed Forces provide training courses in technical subjects.

I believe that the need for each man to acquire skill in his chosen field is now more widely recognized than ever. It is nevertheless our responsibility to carry this message into the remotest corners of the land, so as to ensure that our population shall become the most competent and highly qualified anywhere.

I have spoken of education and training as being the obvious means which help us earn a living and make our way in the world. At the same time they raise the quality of our human potential. They enable us to adapt to change and to master the problems of building a complex society. It is evident that society can only be changed by transforming the members who compose it. I believe that we have to make the fullest possible use of human resources in each of the seven ages of man, from the very young to the very old.

Moving from youth to middle age, we encounter the problem of leisure. Formerly available only to a tiny minority, it then raised little or no dif-

ficulty. Now that leisure is within the grasp of virtually everybody, its implications are more complex. In an age of speed we should not forget that its primary purpose is rest or relaxation, the re-creation of the tired organism. It gives time for reading and for the deepening of the mind, while for the energetic it provides an opportunity for idealism, for unselfish, disinterested service.

What of old age? The tendency today is for people to live longer, yet at the same time to retire earlier from active life. What sadder sight can there be than a man or woman who has been compulsorily retired, who is reasonably well off and is yet bitterly unhappy because the hours pass so slowly? Can we not devise ways of using the energy, the talents and the abilities of the elderly for the benefit of everyone? To do so would be to restore the dignity of the older generations while conferring a boon upon the younger.

I suggest to you that at every point in the human life-span there are re-

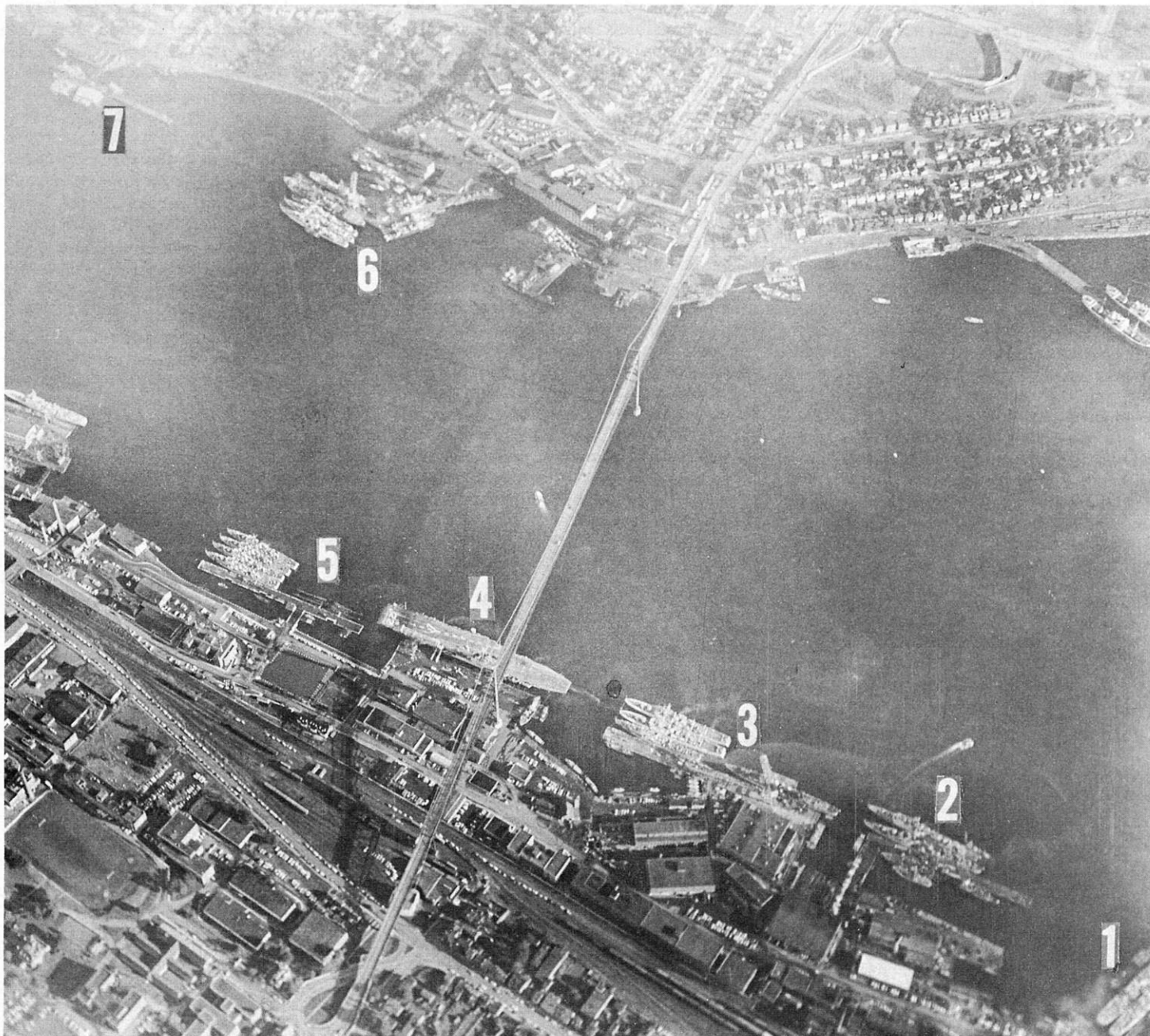
sources lying fallow, there are lights hidden under bushels, and talents buried in the ground. If we can mobilize these riches we have the chance of creating a national life of transcendent quality.

**W**E HAVE so much to be thankful for. We live in a land of rugged climate, in a land whose people have the same conception of life, of human dignity and of the love of God and man. With vast natural resources and with a small population, what hope is there of achieving our national destiny unless the quality of our people is high enough to command the respect of the great nations? To attain this end, each one of us must accept the challenge of effort, of work and of sacrifice. There is no place for a laggard in this age of space and speed and undiscovered worlds waiting for the coming of man. Our future depends upon the quality and value of what I have chosen to call our human resources.



Ord. Sea. Robert Sangan, surrounded by fellow members of the new-entry training division "Ottawa" at Cornwallis, holds up the photograph of Mou Fong, a nine-year-old Hong Kong boy who was adopted by the sailors through the Foster Parents Plan. Ord. Sea. Sangan, new entry trainee, was the prime mover in the adoption of the Chinese boy. The 62 members of the division undertook to provide financial aid to the young lad's family to help in his upkeep and education. Future "Ottawa" divisions were thereby committed to take over this responsibility as each group of foster parents completes its training and is drafted to the fleet. (0-15098)





## *Jetty Zero Gets A Number*

**H**MC DOCKYARD in Halifax will never be the same again, at least to old timers who remember Jetty Zero, the Gun Wharf and the old French Cable Wharf.

During the past few years extensive work has gone on in the Dockyard rebuilding its jetties and on June 1 they were re-numbered. Jetty Zero, at the extreme south end of the Yard has become Jetty One. Former Jetty One is now Jetty Two. Jetties Two and Three have been filled in, rebuilt and named Jetty Three. Jetties Four and Five remain the same.

Across the harbour the former Gun Wharf has become Jetty Six and further north the old French

Cable Wharf, now condemned, has been numbered Jetty Seven with a proposal for rebuilding it in a different direction with slightly changed proportions.

There has been no change in designation for the Bedford Magazine jetty, the Seaward Defence jetty near Point Pleasant Park, or for the Shearwater jetty, recently completed at the RCN Air Station to accommodate aircraft carriers.

Navy jetty space at Halifax will now accommodate about two miles of ships.

The Atlantic Fleet, placed end to end, measures well over the two miles of jetties by nearly another half mile.

Naval aviation in Canada had its beginnings in the closing months of the First World War. With the coming of peace, the fledgling force was disbanded and a quarter of a century was to pass before any determined move was made for its revival.

That aviation in the Royal Canadian Navy finds itself in its present flourishing state is in large part due to the efforts of two officers, now retired—Rear-Admiral H. N. Lay, first RCN officer to command an

aircraft carrier, and Rear-Admiral R. E. S. Bidwell, who commanded the second.

In this article, the third of a series, Admiral Bidwell tells of his experiences in command of HMS Puncher a U.S.-built Royal Navy aircraft carrier, manned by the RCN. And he describes briefly a useful little “game” with which to while away the dreary hours of the middle watch.

# RANDOM MEMORIES



O MY LASTING regret I missed the outbreak and the first nine months of the Second World War in Canada, as I was once more serving with the Royal Navy. Some 18 months earlier I had left command of the *St. Laurent* and had been sent to England to carry out the Staff Course, on completion of which I had received an appointment as Staff Officer (Operations) to the Commander-in-Chief of the East Indies Station, whose flagship was based on Trincomalee, Ceylon.

This officer was none other than the famous Sir James Somerville, of whom I can simply say that he was undoubtedly one of the greatest admirals that the Royal Navy produced. His reputation caused one to shake in one's shoes, but on close acquaintance he proved to be the most charming “boss”; and the austerity of his views was much relieved by his outstanding sense of humour. Under his guidance we all worked like demons to prepare for the war we all knew was coming. Alas, before war came, he was invalided, but he was to make a great return to the sea-service as Commander of Force “H” later in the War.

It was under Admiral Leatham that we finally went to war in September 1939, the flagship having rushed to her war station a few days previously. This was the port of Aden, our station for a European War, and a few days later we received the War Telegram while on duty in the Red Sea; so I had the distinction of being at war before my own country declared war, together with my RN assistant, who happened to be a southern Irishman.

Not long after the outbreak of war, our then flagship was detached to the

Mediterranean, and the C-in-C's staff moved ashore to Columbo, where we continued to run the rather inactive (at that time) station, operating various ships temporarily attached to us, and feeling rather “out of it”—the only hostile ships in those waters were surface raiders, including for a short period the *Graf Spee*. However, Ottawa had been asking for my return and early in 1940 I returned to Canada, and reported to Ottawa as Director of Operations.



U-BOAT WARFARE had started as soon as the rest of the war, and was already assuming alarming proportions. Ships were sailing in convoy from the very start, but for the first six months or more the danger from submarines lay mostly in the Western Approaches; however the scenes of U-boat attacks was drawing more westerly all the time. Our handful of destroyers was being used to provide close escorts to convoys from Halifax through the focal points of trade and out into the Atlantic, but most of the attacks took place on the European end of the run.

As attacks from shore-based aircraft from the U.K. increased, the U-boats deployed more and more to the westward, but in the meantime all RCN destroyers were in the Western Approaches. Thus the role of the RCN was gradually changed from that originally planned (i.e. protection of allied shipping in

Canadian coastal waters etc.) to the protection of convoys, period.

Plans, in the meantime, were being made for Canada's share of the building in large numbers of simple close-escort vessels, corvettes, and by the end of 1940 a dozen of these, Canadian-manned and built, were in commission. To man these vessels every possible expedient was used. Every officer and man of the Naval Reserve and Volunteer Reserve was employed, and training was going on without ceasing in the schools at Halifax and Esquimalt.

The ships we had to man called for anti-submarine tactics, and therefore the training of our new officers and men was mostly in A/S warfare; for this reason the RCN grew into the role of an A/S force, and has maintained this ever since. Our ships (mostly corvettes) increased, and we were able to man them as they were completed.

So the RCN grew.

In the early months of 1941 the convoys became subjected to submarine attack right across the Atlantic, and it was necessary to establish an escort base as far east in the American continent as was possible. Accordingly at Admiralty request, a base for ocean escorts was set up at St. John's, Newfoundland, and manned by the RCN. Admiral Murray went there in command and took me with him as his Chief of Staff and thus I obtained a front-row seat in the Battle of the Atlantic.

Much has been written about this; and it turned out to be an extremely busy job, and full of interest. The Atlantic convoys were established on a definite routine and schedule, and each convoy, mostly originating from Halifax, was met at sea off St. John's by its assigned ocean escort, British, Canadian or U.S. groups. Keeping this system

Part Three of a Series  
by  
Rear-Admiral R. E. S. Bidwell  
RC (Ret)



running necessitated a lot of staff work; the groups were constantly shifting and expanding, and enemy and weather damage took a constant toll.

But these groups (which we tried to change as little as possible) each developed their own group spirit. Some of them were "lucky groups" and would have convoy after convoy without much untoward incident; others were always in the thick of it from bad weather or protracted U-boat actions. On return from each trip both the Admiral and I would glean all possible particulars from the captains and others of the ships, so as to keep abreast of the changing tactics at sea.

In the meantime our escort forces in the Atlantic were gradually building up, from the totally inadequate numbers at the start to reasonable size and strength and gaining almost daily in efficiency and experience. I had paid a visit earlier to the RN Escort HQ, Liverpool, England, and we had based our own HQ on this, and operated in close touch (direct line) with the staff of C-in-C Western Approaches.

This interesting and exacting appointment lasted for two years—in fact right through the crisis of the Battle of the Atlantic. I was anxious to get to sea again but I never could be "spared" and, when an opportunity occurred early in 1942, my Admiral (Murray) moved to Halifax, where he became the first Canadian Naval C-in-C under the title of C-in-C North West Atlantic. He did not forget his promise of a sea billet for me however.

I stayed on long enough to bridge the gap, and then was transferred to Halifax temporarily as his Chief of Staff once more. After another year there in a still more complicated set-up, during which the main convoys usually sailed from New York instead of Halifax and many other changes took place, I found myself early in 1944 appointed as captain of one of the two first aircraft carriers ever to grace the Canadian Navy, HMS *Puncher*.



**SMALL CARRIERS** had become more important in recent years in the Battle of the Atlantic and the Admiralty had asked the RCN whether she could man two of

them, to which we agreed. The RN had been scraping the bottom of the barrel for men and, though we could not provide air squadrons, at least we could provide officers and men to run the ships. They were on lend-lease, so Canada did not acquire them as HMC ships.

The first of these vessels, HMS *Nabob*, was commissioned several months before mine, which was of great benefit to me, as she was able to solve the many complications which arose at first, due to running an HM ship on lend-lease, manned by an all-Canadian crew. The captain incidentally was an old friend, H. N. Lay (Rear-Admiral, (Ret)), who, I would say, was the father of the Fleet Air Arm in the RCN and the man who first inspired its formation towards the end of the war.

HMS *Puncher* commissioned in Vancouver, B.C., early in 1944, carried out trials (except air trials, as we had no squadrons until we joined the fleet) and thanks to the avoidance of most of the administrative pitfalls experienced by *Nabob*, we were ready for sea and steaming down the West Coast by early June 1944.

We were a motley bunch; I was one of the only two RCN officers, the rest were an assortment of RCNVRs and RCNRs, but we were a happy ship. We soon outgrew our original nickname of "floating coffin" (which we somewhat resembled) and earned a reputation of being a lucky ship, up to which we lived for the two-year duration of our one and only commission.

On our way east we had many submarine reports in the Caribbean, and on one occasion, one day out from New Orleans, from where we ferried motor launches to New York, we sighted gunflashes and what looked like rockets far ahead. There were known to be tankers cruising independently in those waters, so we detached our escort—she was HMCS *Beacon Hill*—to investigate. We followed at a discreet interval, but nothing more was seen or heard.

We proceeded from New York to Norfolk, Va., and after various repairs etc. we learned that our fate was to proceed in convoy from New York to carry aircraft to Africa, and then return for more, until our prospective squadrons were ready for us.

Accordingly, we sailed from New York in a special fast U.S. convoy and I was pleasantly surprised by the excellent convoy discipline that had been achieved. These formations proceeded at 15 to 16 knots, a great advance over the old "fast" commercial convoys, and manoeuvred like a pre-war squadron of naval ships, with promptness and exactitude. The commodore was a serving U.S. captain, and my ship was the second commodore ship and was to take charge of that part of the convoy bound for North African ports when we divided off the entrance to the Mediterranean. There were a number of submarine alarms, but no actual

attacks took place and we reached our destination of Casablanca in good time.

And so we plied back and forth across the Atlantic several times carrying aircraft in fast U.S. troop convoys and infrequently molested by U-boats, though there were plenty around! At last the day came when our squadron arrived and we commenced a strenuous series of flying trials with our new squadron.

The aircraft turned out to be Barracuda Mark V (Fairey aircraft) which, though hideous to behold, were actually excellent aircraft on the deck and good general-purpose aircraft in their day, since they could be armed with torpedoes as well as bombs and mines. In fact, by the time I joined the Home Fleet, I had the only airborne torpedo strike left, since all the large carriers had departed, or were about to depart, to the Pacific sphere of operations. This had a bearing on our general operations, since the *Puncher* had the only torpedo strike available, and since it was still entirely feasible that several major ships of the German Fleet might break out into the Atlantic and carry out untold damage to our shipping. We couldn't depart too far from the Home Fleet area, and for this reason we were, thanks heavens! never detailed for Russian convoys.

There were eight or nine auxiliary carriers operating at this time with the Home Fleet and we usually worked in pairs supported by a cruiser. Our operations varied a lot, but mostly took the form of molesting the iron ore trade which was moving from Norwegian ports to Germany, making use of the coastal waters and leads. It was an interesting game, since weather played a great part of it, and in that part of the world was very changeable and unpredictable; and never knew when one flew off a strike whether one would ever see it again, since the aircraft were well out of the range of their home airfields. The length of time to make a long strike was apt to be four or five hours, and the waiting period was an anxious time for all aboard. To add to this, the northern North Sea was invariably full of U-boats and the utmost caution had to be observed.

The *Nabob* had been torpedoed nearly nine months previously, though she managed to get back to Rosyth in a badly damaged condition. The *Puncher* herself was attacked several times, but she held to her luck. On one occasion a determined night attack was made by aircraft flying low to avoid radar. However, this particular attack was repulsed by our after 5-inch battery, which were not A/A guns at all, but could put up

large splashes which proved highly inconvenient to the low fliers and discouraged their approach when still out of torpedo range.



PERIODIC operations of this sort prevented life from becoming too monotonous; I myself used to consider the proceeding to sea out of Scapa and the subsequent return as the most hazardous part of it all. There was a heavy tidal sweep at right angles to the "gate", and it was necessary to take a good run at it at full speed to be sure of getting safely through. A sudden loss of vacuum at the wrong moment could prove disastrous, and this was a complaint to which these ships were rather vulnerable. They were single-screw vessels, and I never heard of anyone who considered them highly manoeuvrable!

Our last operation of the war was North of the Arctic Circle and mostly carried out in gale force winds!

The *Puncher's* luck held, and we returned to Glasgow for a much-needed boiler clean. During this time the

armistice with Germany was signed. The European war was over. It seemed strange that I was only a few miles from Rosyth where we had been when the First World War had ended over 25 years before.

The rest of the *Puncher's* story does not take long to tell. She was partially converted into a troop ship, and spent the rest of the war up till a few months after VJ day in ferrying back Canadian troops to Canada, and then turning round and proceeding to New York to bring back British troops and dependants to the U.K. This was a nice rest cure after the war-time navigation of the Atlantic in convoys. My sailors became experts as nursemaids, and we became the only ship in the RCN to carry a female nurse.

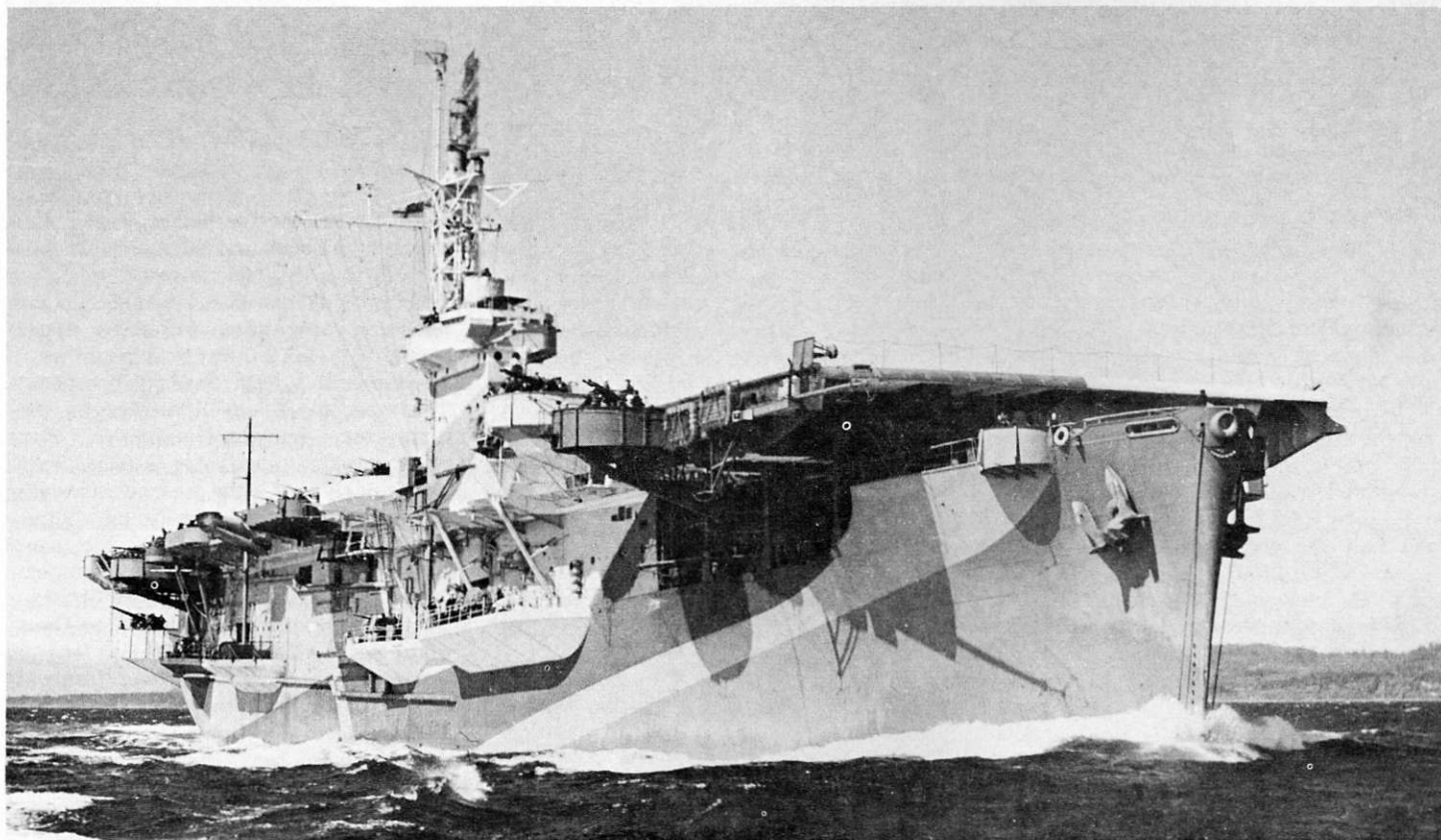
But the *Puncher's* days were numbered, and our last passage included one of the worst gales I have ever seen at sea. We finally reached Halifax just before Christmas in 1945. Early in the New Year we sailed to Norfolk where the ship was paid off and returned to the U.S. Government on January 16, 1946.



URING the commission of the *Puncher* I had learned many things—particularly about the Fleet Air Arm. So on leaving the *Puncher* I proceeded to headquarters in Ottawa, where I became head of our newly-formed flying branch.

One other thing I learned was how to employ the long hours on the bridge in wartime, a game called "What I'll do if . . ." In this game you invent all possible emergencies that might come upon your ship, and make your mind entirely clear on what you must do. In this way you should instantly do the right thing without any consideration or without any delay. I have found this "game" very useful, and it is highly recommended.

This takes my disjointed memoirs to the end of the Second World War and I will write one more chapter in conclusion, which will take in my service as Flag Officer Atlantic Coast, and my retirement from the Navy in 1957.



Her own sailors, with ghoulish humour, dubbed HMS *Puncher* "the floating coffin" because of her ungainly box-like shape. Actually she proved to be a lucky ship and came through the closing year of the Second World War unscathed. Manned by Canadian sailors and RN aircrew, she was commanded by Rear-Admiral R. E. S. Bidwell. (F-2645)

The fourth and final instalment of Admiral Bidwell's memoirs will appear in an early issue.



# THE MARITIME MUSEUM OF CANADA



The library and work room of the Maritime Museum of Canada, in Halifax, showing the low vaulted ceiling of the Citadel in which the museum is housed. (HS-61699)

THE OBJECT of the Maritime Museum of Canada on Citadel Hill in Halifax, as defined by its constitution, is "to promote patriotic, artistic, literary, educational and recreational interest in the historical development of the Naval and Mercantile Services of Canada."

The museum is housed in a portion of the casemates of the Halifax Citadel. After you cross the causeway leading to the citadel walls and come through the arch, turn "hard a-starboard" and you will find the entrance. There are five spaces on the ground level, and four on the level below, allocated to the museum as shown in the diagram. Next to the Maritime Museum is the Canadian Army Museum (of which Captain W. B. Armit, who served during the Second World War in the RCNR—no brackets please!—is the curator) and across the way is the Provincial Museum. Another section of the Citadel is reserved for firing the noon gun. In the summer the guard changes ceremoniously, and the IODE provides excellent lunches and teas, with an extra-special fish chowder on Fridays. In addition Citadel Hill provides a wonderful view of one of the world's great harbours.

Halifax has taken some part in most of Canada's naval past, and has for centuries been a leading commercial port. It is, therefore, a logical place for a national maritime museum. Originally called Chebucto by the Indians, the area was selected in 1749 as the site of a British colony and fortress, which we know today as the city of Halifax. The first charge on the new colony was the

By  
Cdr. C. H. Little  
RCN (Ret)

construction of a citadel. A second citadel was built in response to the American Revolution. The third, named Fort George, was started by the Duke of Kent, Queen Victoria's father, in 1795, and the fourth and existing citadel was commenced in 1828.

The four display rooms at ground level indicate by their names the general nature of their contents.

The Windships Room covers the longest period of time because man depended for so many centuries on the

wind for locomotive power at sea. It is a nostalgic room, not only because sailing ships are such graceful spirits of the past, but also because the construction and operation of sailing vessels brought the Atlantic Provinces world renown and a high level of prosperity. There are many excellent models, contemporary paintings and a large photographic library of sailing ships, particularly of the cargo carrying schooners of the Maritimes. Nameboards of ships wrecked on Sable Island are a reminder of the perils of the deep.

The Steamship Room has striking models of steamers which visited Canadian ports. These include a two-ton model of the old Cunarder *Franconia* and a small scale model of the huge Upper-Laker *Sir James Dunn*. Many a visitor, who sees the wheel of the *Aquitania*, will recall her thousands of miles on wartime service. Another famous link with the past is the model of the *Royal William*, the first Canadian steamship to cross the Atlantic.

The Early Canada Room illustrates the types of ships used by explorers, who came to our shores from the 11th to the 17th century, together with maps,

charts and records of important voyages of discovery. There are also exhibits of the Seven Years' War, the American Revolution and the War of 1812-14, all of which had naval and maritime repercussions in Canada. It is hoped to obtain models of men-of-war which made history in our waters, especially during the struggle between France and Britain for the possession of Canada.

The *Bluenose* Room, as its name indicates, gives pride of place to a splendid model and other relics of the famous schooner which, under Captain Angus Walters, brought such fame to Canada. This model is a seven-foot, full-scale, perfect representation of the great racing schooner. Fishing displays and models of many types of Canadian fishing vessels are to be seen. A particularly striking display is that of the river drive boats used to bring logs down from the forests to the mills.

The last room on this level has been made a combination of library, archives, drawing office and business office. Among the growing number of books, photographs and charts is the invaluable F. W. Wallace Collection. Its worth should not be judged by weight, but some of the problems inherent in running a museum are indicated by the fact that this collection alone weighed one and a half tons upon arrival.

A staircase coming down from the Steamship Room leads to a passage-way lined with paintings and sketches by Canadian war artists. These include such prominent names as Harold Beament, Leonard Brooks, Michael Forster, Anthony Law, Grant Macdonald, Donald Mackay, Jack Nichols and Eric Riordon. Indeed there are many more paintings than there is space to display them. Here, as in so many areas, the museum is handicapped by lack of room.

The remainder of this below-ground level is devoted to stores, a small workshop, a convoy display and two special rooms: the Navy Room and the Arctic Room.

The Navy Room contains a number of uniforms dating from before Trafalgar, a complete set of Canadian ships' badges, and numerous models of naval ships, beginning with CGS (later HMCS) *Canada* and running through to ships in the RCN today. Among the relics of Lord Nelson are three signed letters and a sea chest, which he is believed to have used. There are many interesting photographs of early recruits and of early ships' companies. The development of the RCN from an uncertain infancy to a proud maturity is admirably depicted.

A vast amount of Canada is in the Arctic, and it is fitting that the museum

should devote a special room to Arctic exploration. The Arctic Room contains a fine model of HMCS *Labrador*, the first naval vessel to sail around the North American continent. The RCMP schooner *St. Roch*, now preserved in Vancouver, is commemorated by a life-belt and other possessions. All the bravery and tragedy of 19th century attempts to sail from the Atlantic to the Pacific are recalled by relics of such ships as HMS *Fury* and SS *Victoria*, and by dioramas of historic scenes in the Arctic.

This brief description of the rooms in the museum will have conveyed the main problem confronting the board: where can space be found for the growing number of exhibits? How long the

Maritime Museum of Canada can remain in its present quarters remains a burdensome question, but it is certain that there must be expansion somehow.

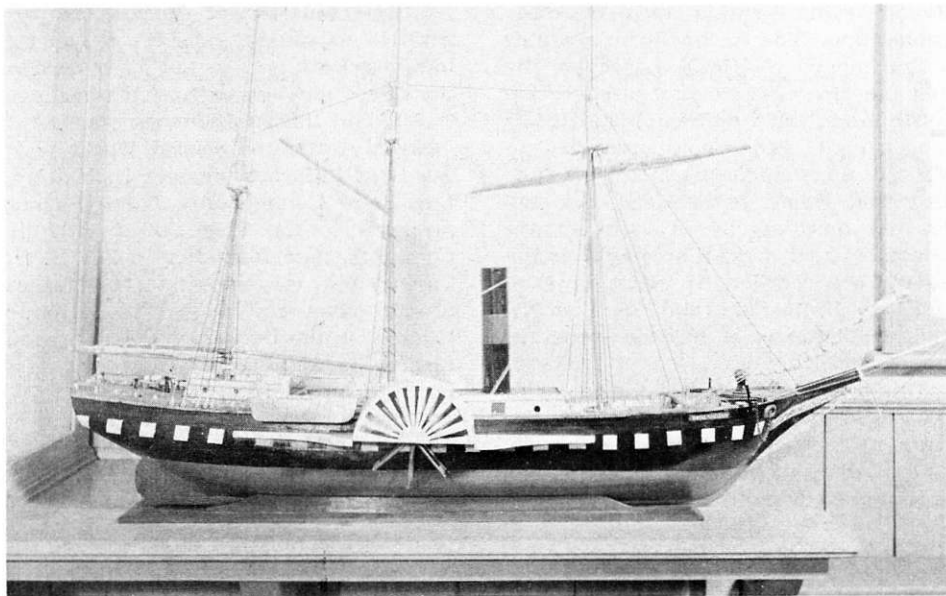
How did this museum get started?

Shortly after the Second World War, the King's Harbour-master in Halifax, Cdr. (now Commodore) James Plomer proposed to the Flag Officer Atlantic Coast (the late Rear-Admiral C. R. H. Taylor) that the many important relics of our naval past should be gathered together in the Dockyard. It was agreed to provide Building No. 20 as the first home of the new naval museum. (You will not find this building today for it was torn down years ago to make way for the Angus L. Macdonald Bridge). The initial meeting of the volunteer



During his visit early this year to the Atlantic Command, Hon. Douglas S. Harkness, Minister of National Defence, visited the Maritime Museum of Canada, atop Citadel Hill in Halifax. There he saw, in a small glass case, models of the entire fleet with which the RCN went to war in 1939—six destroyers, five minesweepers and two training vessels. From left to right are Commodore M. A. Medland, chairman of the museum's board of trustees; Mr. Harkness, Rear-Admiral K. L. Dyer, Flag Officer Atlantic Coast, and Niels Jannasch, museum director. (HS-64710)





The Maritime Museum's model of the Royal William, built in 1831 and the first Canadian steamship to cross the Atlantic, in 1833. She was sold to Spain in 1834 and was converted into a warship, the *Isabella Segunda*.

museum committee was held January 8, 1948. The total attendance was only six naval officers, but they were workers with good ideas, and the program they drew up was successful from the start. Exhibits came from all over as both the civilian and the naval population of the Atlantic Provinces responded to the appeal for donations.

Before the year ended there was a museum in being. The Flag Officer Atlantic Coast, Rear-Admiral E. R. Mainguy (later Vice-Admiral and Chief of the Naval Staff) formally opened the Naval Museum on December 8, 1948. The first official civilian visitor was the late Hon. Angus L. Macdonald, Minister of National Defence for Naval Services from 1940-1945 and Premier of Nova Scotia both before and after the war.

A great deal of hard work went in to the museum during the next two and a half years and Building 20 began to bulge at the seams. Although comparatively few visitors found their way to this corner of the Dockyard, there was no lack of contributions and space became an urgent consideration. Fortunately it was decided to restore the Halifax Citadel in 1951 and to make of it a national monument under the then Federal Department of Resources and Development. In May of that year the Maritime Museum was moved to its present site.

In its new home the Maritime Museum has proved a real attraction. The attendance figures speak for themselves: 1952 — 42,000; 1953 — 84,000; 1954 — 105,000; 1955 — 118,000; 1956 — 208,000; 1957 — 232,000; 1958 — 185,000; 1959 — 187,000; 1960 — 208,000.

in succeeding years, and they remain the principal benefactors of the institution.

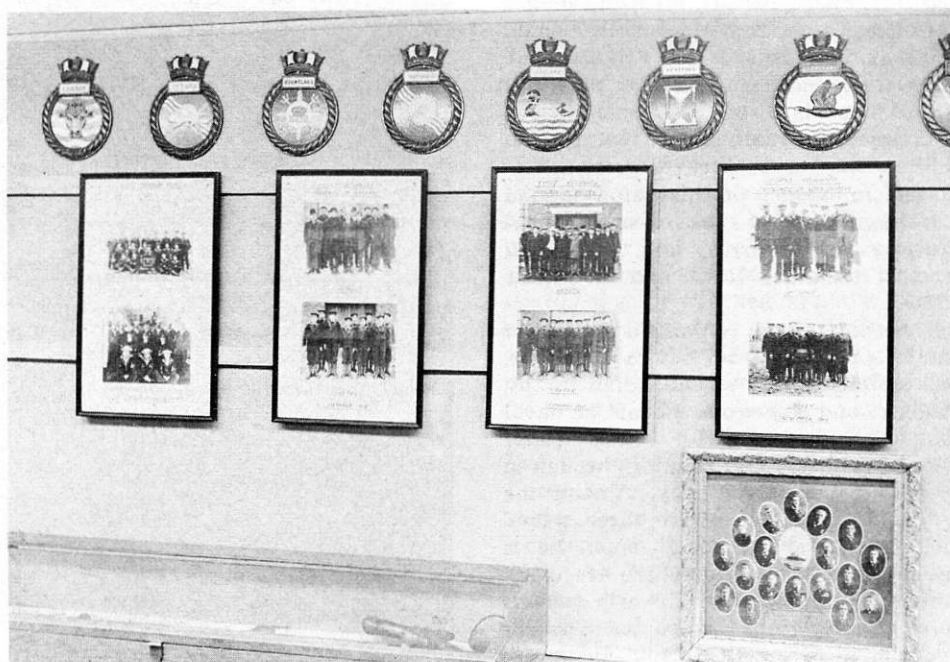
Also in 1953 His Excellency the Governor General of Canada graciously consented to become patron of the Maritime Museum of Canada, as it was renamed, and the Federal Minister of Resources and Development accepted the office of honorary president.

On May 17, 1957 the Maritime Museum of Canada was incorporated under the Societies Act of Nova Scotia.

In accordance with the by-laws as amended last year, the affairs of the museum are ordered by a nine-man board of trustees consisting of the president and chairman, who are ex-officio of the Flag Officer Atlantic Coast and Commodore RCN Barracks respectively, the secretary-treasurer, and six members, naval or civilian, elected for various terms. Then there is an advisory committee of persons interested in the work of the museum. Five standing committees are provided for: membership, acquisitions, budget and finance, nominations, and editorial. Memberships exist in three categories: honorary, full and subscribing, with "life" categories in each of the two latter. Applications for membership will be welcomed wherever you live or serve.

The day to day work of the museum is carried on by two full-time officers—Niels W. Jannasch, the director, and John R. Stevens, the curator. In addition the valuable services of the Corps

Like most museums, the Maritime Museum has always needed money. For the first years it subsisted on gifts from interested naval officers and men; then in 1953 the City of Halifax decided to contribute \$3,500 annually, and the Province of Nova Scotia matched this contribution shortly afterward. These sums added to the donations of other friends finally provided some working capital, and made it possible to appoint a full-time curator. Both city and province have increased their contributions



In the Navy Room of the Maritime Museum are to be found a number of fine old uniforms, including one worn at the Battle of Trafalgar in 1805, and relics of Lord Nelson. All RCN ships' badges are displayed here. The group photographs are of recruits, who joined the naval service in 1910 to man HMCS Niobe.

of Commissionaires are made available through the Department of Northern Affairs and National Resources, which now controls the Citadel as a national historic site.

While there are limits to physical things, there is no limit on the mind, and the museum is therefore endeavouring to encourage its members and friends to write about the sea. In April 1958 commenced the first in a series of *Occasional Papers*, whose aim was expressed by the chairman of the board, at that time Rear-Admiral H. F. Pullen, in the following terms: "The Board of the Maritime Museum of Canada has decided to produce a series of historical sketches on maritime subjects of importance to the nation. It is hoped that these *Occasional Papers*, as they will be known, will encourage the writing of serious studies on sea power as it has affected Canada in the past (and will continue to do so in the future) and the publication of little-known or overlooked documents which research may bring to light."

The first *Occasional Paper*, entitled *The Influence of Sea Power on the Conquest of Canada*, was readily available, for it had been given by the writer as an address to both L'Ordre du Bon Temps and to the United Services Institute of Nova Scotia, but the next three required a great deal of research. Observing that in the period 1958-60 we would celebrate the two hundredth anniversary of the three most important battles of the Seven Years' War, as far as Canada was directly concerned, it was decided to publish the despatches of the naval officers who bore the chief responsibility at war, with the exception of Admiral Boscawen whose career had already been the subject of an excellent book. With the help of the Public Archives of Canada and the Provincial Archives of Nova Scotia, microfilms of the original hand-written despatches were made available for copying and editing, and the writer undertook their publication.

*Occasional Paper Number Two*, which carries the despatches of Admirals Hardy and Holburne, shows how the 1757 attack on Louisbourg was planned and was foiled by a gale, and how the ships in North America were prepared for the successful attack of 1758.

The third paper should be required reading for every naval officer and man because it shows, through the despatches of Admiral Saunders, that sea power determined the fate of Canada. The naval side of the capture of Quebec has not been stated clearly and often enough.

*Occasional Paper Number Four* is made up of selected despatches from Admirals Durell and Colville from 1758



The Arctic Room of the Maritime Museum covers northern exploration from the early 19th century to the present. Dioramas show explorers' camps of more than a century ago and there are many relics of northern voyages. In the foreground is a fine model of the Labrador, first large ship to complete the Northwest Passage and circumnavigate North America.

to 1761. They contributed to Quebec, to the final capitulation of Canada by Vaudreuil to Amherst in 1760, and to the settlement which followed.

The year 1959 marked the 200th anniversary of the establishment of a naval dockyard in Halifax. It seemed appropriate to devote the fifth paper to a study of the origins and development of Canada's oldest dockyard and the first Royal dockyard in North America. This study was done by Peter Watson.

One of the most intriguing episodes of the war between France and Britain for the supremacy in Canada was the attack by the former on St. John's, Newfoundland, in 1762, and the town's subsequent recapture by a combined British force. The despatches of Admiral Colville during the period 1761-62 deal with this interesting event horrifically, us with sentences of courts martial and describe the processes of an 18th century prize court. The writer was responsible for the research and editing of this sixth *Occasional Paper*.

Referring again to the introduction to the first *Occasional Paper*, the board stated: "We appreciate that the annals of war will claim the greater interest of both reader and writer; at the same time we know that sea power requires the merchant ship in the first instance. Hence we hope that a good proportion of these papers will deal with peaceful pursuits upon the sea, and that subjects such as shipbuilding and surveying, sealers and schooners, will receive the attention they deserve."

Fittingly enough *Occasional Paper Number Seven* was entitled *The Dory*. Lt.-Cdr. F. W. Nicholson has produced a paper which combines written description, photographs and line-drawings of a familiar part of our East Coast life.

*Occasional Papers Eight and Nine* appeared in April 1961 under one cover

and in a new format. The former, by Admiral Pullen, deals with the stirring march overland from the Maritimes to Lake Ontario of several hundred naval officers and men during the winter of 1814, for the purpose of manning naval vessels built on the Great Lakes to prosecute the war. The latter, by the curator, Mr. Stevens, tells the story of the armed schooner *Tecumseth*, built in 1815 at Chippawa and raised in 1953 after being 125 years at the bottom of Georgian Bay.

Other *Occasional Papers* are in hand, and it is hoped that over the years the museum will bring before the Canadian people the rich and varied naval history that is theirs. The chairman and board of trustees place great value on these papers as a means of increasing interest in the museum both in Canada and in other countries.

Undoubtedly the high point of the museum's literary effort was reached last year when, under its sponsorship, *Sails of the Maritimes*, edited by Captain John Parker, of Sydney, Cape Breton, was published with the assistance of the Canada Council. This admirable book brings together the story of all the cargo-carrying schooners of the Atlantic provinces, while the details were still available and could be edited by a captain who actually owned and sailed one of these beautiful ships. (See *The Crowsnest*, March 1961, where Captain Parker's book was reviewed.)

In conclusion we can say that the Maritime Museum of Canada is vigorous and well-run; that it has a wealth of material for display; and that it is successfully interpreting Canada's naval and maritime past. If it is to reach full stature, it must have more space and more support. It deserves the backing of everyone who reads this story.

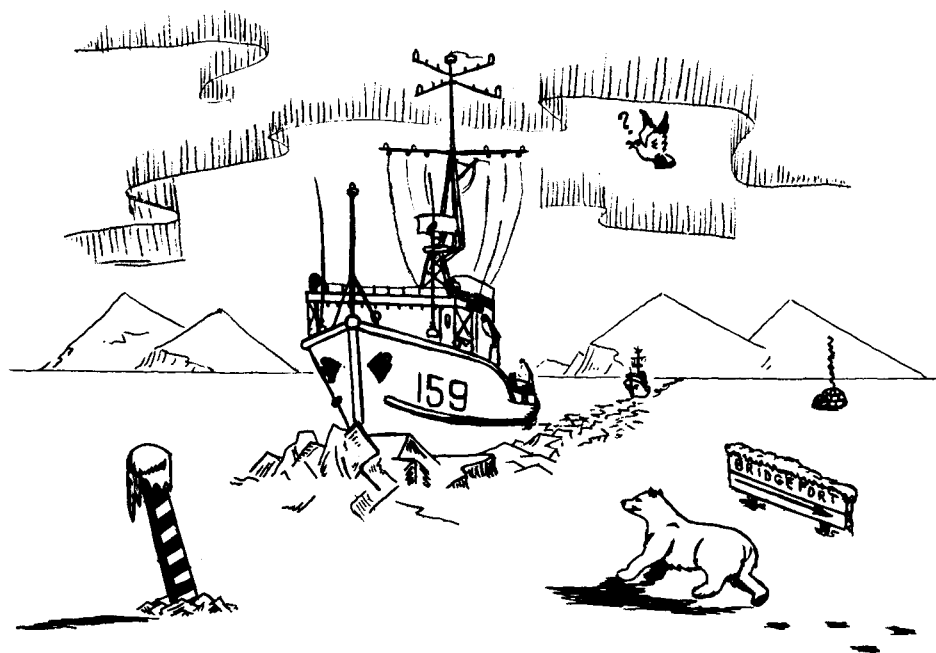


# With Peary in Long Island Sound

FOLKS ALMOST anywhere on the eastern seaboard will agree that the early months of 1961 offered some of the worst winter weather ever known in those parts. Canadian warships were iced up as they hadn't been since Second World War convoy days and the area was buffeted by a succession of blizzards and snowstorms.

How grim things really were was brought home to the minesweepers *Fundy* and *Chignecto*, which had been happily exercising in Bermuda, when they set out in early February to call at Bridgeport, Connecticut. Here are a few paragraphs from the report of proceedings of Lt.-Cdr. James Butterfield, commanding officer of the *Fundy*:

"While on passage, an unscheduled storm was encountered which appeared to be a secondary weather system that developed on the periphery of the heavy storm that paralyzed New York city for three days at this time. Seas exceeding 50 feet in height and winds of 85 miles



## USN Aircraft Set Records

United States Navy aircraft set some new speed records in May. One of three Navy jet fighter planes streaked from coast-to-coast in two hours 47 minutes for an average speed of 871.38 miles an hour, to win the Bendix trophy. The course was from Ontario, California, to Floyd Bennett Field, New York, a distance of 2,445 miles. The second jet arrived 10 minutes later. All three aircraft were F-4H-1's. Their ceiling for the flight was 50,000 feet, and even at this height they caused consternation on the ground by the thunderous shock waves accompanying them.

One record, made by a Sikorsky HSS-2 helicopter, seemed a snail's pace by comparison but it beat a Russian record made two years ago.

The HSS-2 established a speed of 174.9 miles an hour over a 62-mile closed course near Stratford, Connecticut. The previous mark has been set by a Russian MIL-6 in 1959 at 167.09 miles.

A week earlier a twin-turbine Sikorsky shattered all helicopter records by making a three-kilometer straight-line run at a clocked speed of 192.9. Sikorskys now hold three major world records—an Army H-34 (S-58) set a record for the 1,000 kilometer (623 miles) distance in 1956 with a speed of 132.6.

The speed runs were conducted under the sanction of the National Aeronautics Association and are subject to confirmation by the Fédération Aéronautique Internationale.

You sure this is Long Island Sound?

per hour were experienced for a five-hour period on Saturday night, which caused sections of topmast and whip aerials to be carried away, as well as other superficial damage.

"While hove to in these conditions it was reminiscent of a corvette after 10 hours in a full gale, with the mess decks awash, and the cook doing his best to keep something hot for anyone still interested in taking nourishment. . .

"The monumental snowfall, with which this storm brought the Metropolis to a virtual standstill before going out to sea, occasioned some unprecedented emergency measures in the city itself. This was apparent when making the passage up the East River by an almost total lack of any traffic on expressways and city streets. . . .

"Considerable brash ice was experienced in the lower bay area of the harbour approaches, but the magnitude of the storm did not become fully apparent until turning the corner into Long Island Sound at Throgs Neck where the ships were confronted with solid pack ice two to three feet thick, as far as the eye could see. While contemplating the nuisance and delay of going back to seaward and entering the Sound via Block Island and 'The Race' (at the northern end of Long Island), a large steel scow came up from astern,

being pushed by a tug. Both ships fell in line and followed close astern. It took one and a half hours to make the next five miles to Execution Rocks, and at this point our erstwhile icebreaker gave a farewell blast as he bore off to starboard in the direction of Hampstead Harbour on Long Island.

"However, the ice had now become thinner (approximately one foot) and slightly more open. An excursion to the masthead showed a ribbon of blue water stretching up the coast inshore on the mainland side, and having picked a tentative route whereby to gain this open water, I set off to break the way to the buoy off Marmaroneck."

The worst was over at last, but slush ice still remained a threat to intakes, rudders and propellers of the two ships and they proceeded with the greatest caution, arriving on schedule at Bridgeport at 1600 on Monday, February 6.

The experiences of the ship in ice-bound Long Island Sound prompted AB Edwin David Sutherland, engineering mechanic in the *Fundy*, to sketch the only slightly exaggerated scene which appears on this page. The subject matter is perhaps more familiar to AB Sutherland's father, James Sutherland, who is an engineer on board the Department of Transport icebreaker and supply ship, the *Edward Cornwallis*.

# TECHNICAL SERVICES

THE RESPONSIBILITIES allotted to the Technical Services Branch of Naval Headquarters have been authoritatively described as embracing "the multifarious business relating to Naval material; the design, construction and equipping of ships and aircraft and their armaments; the (naval) administration of the ship and aircraft building program; the maintenance and repair operations of (naval) ships and aircraft; all civil engineering matters (that relate to the RCN)."

The most effective and efficient organization to discharge this task within the framework of the RCN has been deliberated over the past two years, simultaneously with similar studies of the other major elements of Naval Headquarters. The outcome of these deliberations was the adoption, effective March 1, 1961, of a functional type of organization by the Technical Services Branch.

This new functional structure contrasts with the segregated professional groupings which characterized the previous Technical Services organization as well as our former naval personnel structure. Our previous structure was a well-tested inheritance from the Royal Navy and served us well for years. The progressive growth of technology within navies, with the attendant specialization of personnel placed pressures on this system, eventually too great for it to bear effectively. Both the Royal Navy and ourselves have been compelled to modify our personnel structure and to find a less cumbersome form of Headquarters organizational concept.

It will be remembered that the previous Technical Services organization comprised a Chief and Deputy Chief of Naval Technical Services with major divisions under the Engineering-Chief, the Naval Constructor-in-Chief, the Electrical-Engineer-in-Chief, the Director General of Naval Ordnance, the Supply Officer-in-Chief and the Civil Engineer-in-Chief, each responsible generally for activities in those professional fields which their titles would indicate. Additionally, there were organizational elements responsible for co-ordinating activities in given fields, notably ships and aircraft, as well as further groups to provide Staff services.

The new Technical Services organization, which is depicted in the accompanying diagram, features:

(a) A Chief and Deputy Chief of Naval Technical Services,

(b) Five Directors General to supervise Naval Technical Services activities, each in a particular functional field,

(c) Three Staff groups, headed by the Assistant Chief of Naval Technical Services (Plans), the Director of Scientific Services and the Director of Engineering Standards and Naval Specifications, respectively.

The general responsibilities of the principal officers supporting the Chief and Deputy Chief of Naval Technical Services, are:

*Director General Naval Supply*—is responsible for the distribution, ware-

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By  
**Rear-Admiral J. B. Caldwell**  
**Chief of Naval Technical Services**

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housing and arranging the maintenance of all material not on charge to users.

He is responsible for procuring a range of stores and material in general use; and obtaining technical advice from design and maintenance authorities concerning the procurement of other technical material.

He is responsible for providing supply services.

*Director General Aircraft*—is responsible for the design, production, procurement, conversion and repair of aircraft (air frames, engines and inherent systems) by civilian or naval facilities.

He is the approving authority for the installation arrangements of fighting equipment and systems in aircraft, and directs the execution of such installations.

*Director General Ships*—is responsible for the design, production, procurement and conversion of ships including machinery and electrical systems.

He is the approving authority for the installation arrangements of fighting equipment and systems in ships, and directs the execution of such installations.

He shall provide technical advice and criteria as required to Director General Support Facilities in the field of ship repair and maintenance.

*Director General Fighting Equipment*—is responsible for the design and production and procurement of fighting equipment and systems for use ashore and afloat, "weapons, communications, detection and navigation."

He shall advise Director General Ships and Director General Aircraft on fighting equipment installations.

He shall provide technical advice and criteria as required to Director General Ships, Director General Support Facilities and Director General Aircraft in the field of modernization, repair and maintenance of fighting equipment.

*Director General Support Facilities*—is responsible for the preparation, progressing and monitoring of the ship maintenance and repair program; policy guidance of the planned maintenance program for ships, and technical advice to the Director General Naval Supply on the quantity and type of major support material required to maintain the Fleet.

He is responsible for the design, production and procurement of naval properties, buildings, fixed facilities and domestic services and for prescribing policy for their maintenance and repair; for the determination of the requirement for plant and engineering equipment and machine tools, for the design, production and determination of the requirement for fire and intrusion alarm systems; the Headquarters aspects of the Firefighting Services administration; the co-ordination of the safety engineering program; and the design, production and determination of the requirement for vehicular and floating support equipment including their hire or charter.

*Assistant Chief of Naval Technical Services (Plans)*—shall:

- (a) Develop long-range planning forecasts, objectives, policies and programs for the approval of CNTS;
- (b) Study existing methods and procedures in use in the Branch and recommend changes to improve efficiency;
- (c) Make studies and reports on special projects as may be required by CNTS;



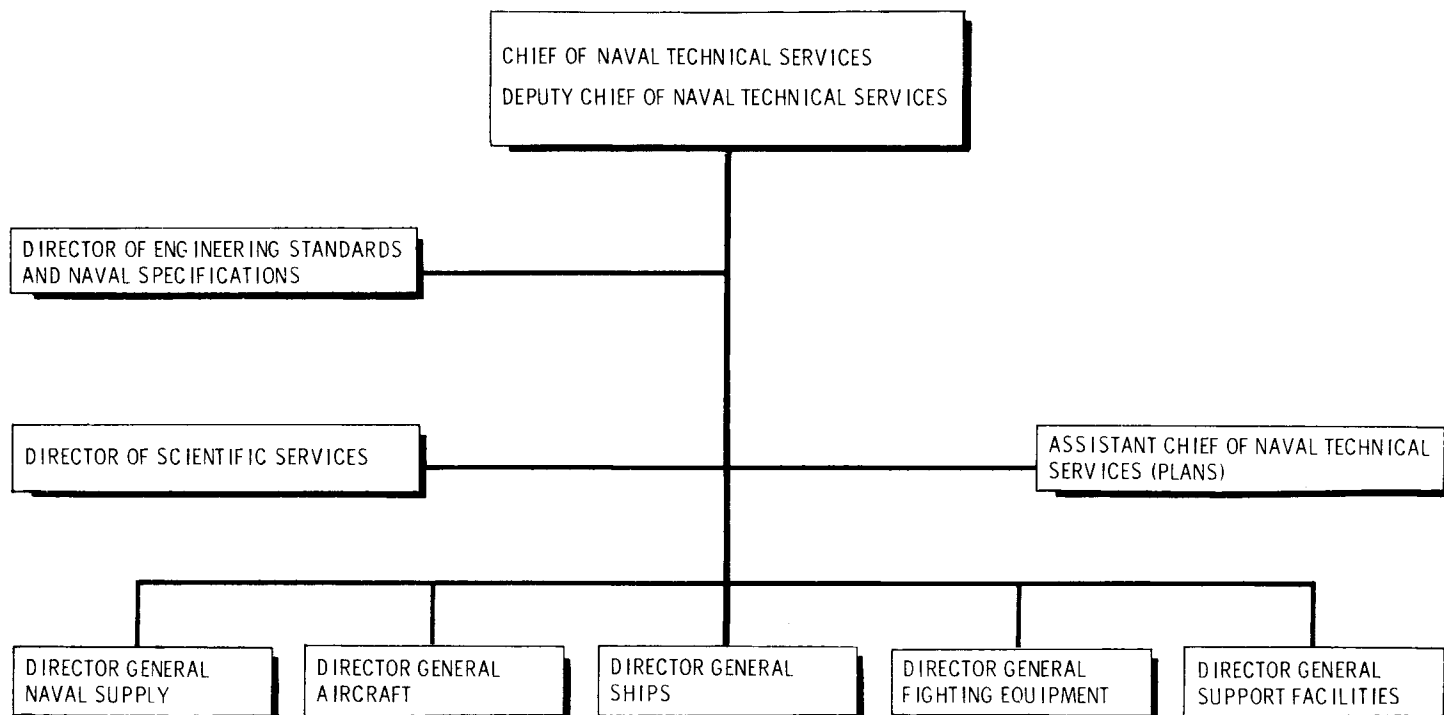
- (d) Maintain and provide statistical data for use by CNTS in arriving at management decisions;
- (e) Be Co-ordinator, Technical Services Council.

*Director of Engineering Standards and Naval Specifications*—is responsible for the standardization of engineering materials and practices within the RCN and for ensuring the accurate and expeditious issue of manufacturing data in support of Naval contract demands within the purview of CNTS. In addition,

*DESNS* provides the centre for qualification procedures and acceptance inspection matters and is the centre for patent licenses and royalties affecting the RCN.

*Director of Scientific Services*—is responsible for the co-ordination and financial administration of the RCN's research and development program. The Director also provides the direct link between the RCN and the Defence Research Board and, in fact, much of his staff is drawn from DRB.

The re-organization has seen the disappearance of many familiar titles, and the amalgamation of many closely related functions. At this writing, the newly organized branch is but a few weeks old and most certainly cannot claim to have shaken down. However, long months of careful planning have gone into the changes and the outcome has been a closely knit organization which, I am convinced will operate smoothly and economically, and in the best interests of the RCN and Canada.



## The New Chief of Naval Technical Services

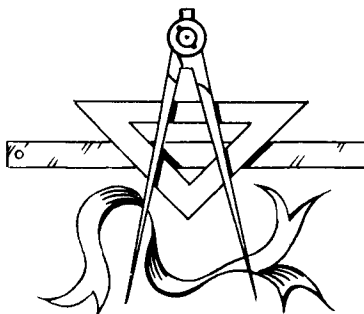
REAR-ADMIRAL John B. Caldwell, the author of this article was promoted to his present rank and appointed Chief of Naval Technical Services on February 1.

He succeeded the late Rear-Admiral Brian R. Spencer, who died in January.

Rear-Admiral Caldwell was born in Amherst, N.S., on November 7, 1913. He entered the RCN as an engineering cadet in 1933 and took early training with the Royal Navy.

At the outbreak of the Second World War, Rear-Admiral Caldwell was appointed to HMCS *Saguenay* (destroyer). In 1941 he became engineer officer of one of the first Canadian Tribal class destroyers, HMCS *Athabaskan*. He was mentioned in despatches for his part in bringing the ship safely back to

port after she had been damaged by a glider bomb in the Bay of Biscay in August 1943.



He was appointed to HMS *Sheffield* (cruiser) a month before the *Athabaskan* was sunk in April, 1944, and shortly after went to the cruiser HMCS *Uganda*.

After the war, Rear-Admiral Caldwell, with the development of aviation in the RCN, became a specialist in naval aviation engineering. He completed an air engineering course with the Royal Navy in November 1947 and subsequently held a number of senior appointments in this field.

Rear-Admiral Caldwell took up the appointment of Engineer-in-Chief at Naval Headquarters, in September, 1958. In November 1960 he was appointed Deputy Chief of Naval Technical Services.



Divers from the Pacific Command's operational diving unit at Esquimalt, who were in the Western Arctic last summer on a special assignment involving the clearance of beaches and waterways. Left to right: AB Ernie Maddams, AB Ron MacKenzie, Ldg. Sea. Charles Greengrass, CPO Colin Drew, Lt.-Cdr. Frank Bayfield-Davis, AB Ivan Sherlock, and PO Red Larsen. They are clad in "wet" diving suits, whose porous material admits water which then serves as insulation against the cold. (E-57556).

## PSYCHOLOGY AND DIVING

**S**ENDING a diver under water to do an impossible job is part of the psychological toughening process at the Royal Canadian Navy's Operational Clearance Diving Unit Number 2, Esquimalt.

"We tell them to put some pipe together," says Lt.-Cdr. Ben Ackerman, officer in charge, "and then we send them down some fittings that don't fit, and see what they do."

A sly grin flickers over his face as he tells how the navy harasses would-be divers at its Pacific Coast base near Victoria.

"We send them down with parts of a wooden box, and tell them to put the box together while they are sitting on the bottom of the bay. Of course the wood floats, and it is difficult to handle.

"If we see one plank float to the top, we can be pretty sure that all the rest

will be upon the surface soon, followed by some bubbles of blue-looking air with cuss-words in them.

"The idea of all this is to see how they react to unexpected strains and annoyances. We used to weed out about 50 per cent of them during the course, but the advance screening—both physical and psychological—is more exacting now, and the attrition rate during the course is much smaller."

Divers must learn to feel just as relaxed 100 feet under the sea as they do on the surface. Panic could mean death. They need good nerves for other reasons, too. Fully qualified RCN divers are also bomb and mine disposal experts.

Clearance Diving Unit No. 2 (No. 1 is at Halifax) draws its name from its original task, mine clearance. It still does that job, but since 1954 all diving functions, as well as bomb and mine

disposal, have been combined in the unit.

The work of OCDU includes the training of two kinds of divers: Full-time career divers, and part-time ship's divers who have other trades, and go down only when they are needed.

The unit also carries out ship repairs, miscellaneous underwater jobs, salvage, demolition, and mine disposal.

About 100 ship's divers a year and a smaller number of career divers are trained in the unit. They learn theory in blast-proof classrooms near the concrete bunkers of the former naval magazine at Colwood, and descend into the chilly waters of Esquimalt Harbour for their practical training.

There they learn to weld patches on sunken buoys and boilers and make them float. Their training includes following an underwater rope highway over a triangular route of some 800



yards; swimming free by compass some two and half miles under water and running, marching and walking back to their home base to get themselves in good physical condition.

The ship's divers—the part-time men—are volunteers from various trades. If they pass physical and psychological examinations, they go through a four-week course and descend to a maximum of 50 feet.

They train with self-contained compressed air equipment only. (The RCN was the second navy to use such equipment, after the French, in 1951). In a four-week course, the ship's divers are schooled in the use of the equipment, in safety rules, hand signals, the techniques of inspecting a ship's hull. They undergo the Navy's diabolical tests of their temper and ingenuity.

When they rejoin their ships in their own trades, they stand ready to double as divers. They may be called upon to rescue men and equipment from a flooded compartment, inspect the ship's hull for damage, or clear obstructions from screw or rudder.

The RCN is one of the few of the world's navies that offers a full-time career for divers. Trainees undergo four separate 18-week courses, sandwiched into years of practical experience. Ultimately, after six or seven years' practical experience and a year to 15 months of formal training, they qualify as trade group four tradesmen.

Versatility is the watchword of naval divers. The career divers learn how to use a wide variety of gear, including . . .

The traditional hard-hat suits, using air pumped from the surface, representing a type of gear now brought into action only for salvage jobs of longer duration, perhaps two per cent of the navy's underwater work;

Shallow-water surface-air gear, with a small air hose and simple mask;

Self-contained compressed-air breathing apparatus of the open-circuit type, in which the diver's exhalations bubble away;

Closed-circuit oxygen-breathing apparatus that gives off no bubbles; used for assault jobs when secrecy is important;

Hard-hat self-contained equipment, similar in appearance to the standard hard-hat gear, but used for mine recovery work. It is non-magnetic and acoustically safe (to reduce danger of accidental explosions), but it is the trickiest of all to operate.

The first stage of the course takes the beginning career diver to 140 feet; teaches him the use of all of the equip-

ment and some of the techniques of demolition and mine recognition.

The second stage includes a refresher course on the equipment; more mine recognition and more demolition; descent to 180 feet.

Stage three begins with an above-water course of six weeks in welding; then oxy-arc cutting and gas cutting and use of these techniques below water.

Stage four includes a complete bomb and mine disposal training course. Trainees learn how to recognize a wide variety of bombs, mines and booby-traps of all nations. They descend to 297 feet; and take a course in pilotage and navigation, so that each of them is qualified to serve as second officer of the watch in one of the navy's Pacific Coast diving tenders.

The 69-foot diving tender YMT 2 is used for ship repair. The 75-foot YMT 9 and her sister ship YMT 10 (reserve



diving tender) are self-sufficient vessels carrying a crew of 14, fitted with non-magnetic gear for use in mine countermeasures, and equipped for fairly long voyages.

Only experience can teach a diver to resist "nitrogen narcosis"—the ailment that reduces grown men to a state of semi-hysterics, when everything seems hilarious, memory fails and the simplest problems appear insurmountable.

Nitrogen narcosis hits every diver below 120 feet. The seasoned diver learns how to brace himself for it and keep working regardless.

Another great danger is oxygen poisoning, which can produce convulsions like those of an epileptic seizure. Under ordinary circumstances, naval divers are allowed to descend only to 297 feet, which is the physiological limit for air diving. Below that point the risk of oxygen poisoning is high.

The third risk is the "bends"—formation of nitrogen bubbles in the blood. To guard against it, divers are

brought up by stages, or else hoisted straight up and popped into a decompression chamber—famously known as the "pressure pot"—where undersea pressures are reproduced and gradually lifted, giving the nitrogen a chance to dissolve harmlessly.

Divers are trained in underwater photography. To reach below the limit of human divers, the navy lowers a television eye—a specially designed underwater camera that can send back a picture from depths down to 3,000 feet. The picture can be viewed on a closed-circuit screen and recorded permanently by motion-picture camera.

From time to time the Navy blows up Second World War Japanese mines that are still found floating in the Pacific or washed upon beaches. Officers—who get their training in the United States and Britain as well as in Canada—take the lead in bomb and mine disposal, assisted by tradesmen of four-group status. One mine disposal officer was killed in the explosion of a Japanese mine several years ago.

New remote-control tools have lessened the risks of bomb disposal, but it remains a hazardous task.

Civilian police sometimes call in naval explosives experts to help them. A navy team, asked to search for some nitroglycerine that a burglar had buried in a backyard, faced a tricky problem—how to dig up the touchy explosive without setting it off. They carefully washed away the soil with hoses, carried off the nitro in a padded container, and disposed of it.

Sometimes, on request by other authorities, naval divers salvage planes that have crashed in the water, or recover sunken cars with bodies in them.

One of the tasks of naval divers has been to locate, survey and clear suitable northern beaches for the landing of supplies to the DEW line.

A mass dive by the navy in Arctic waters proved that "wet suits" worked well at minimum water temperatures and maximum depth. The RCN is to the forefront in the use of these suits, made of cellular material that insulates even when wet. Water that does get in is warmed by the body and kept warm by this unique material.

Divers carry out sizeable repairs to ships. They are capable of replacing the screw of a destroyer escort under water. Inspecting ships for dry docking, repairing marine railways, inspecting and repairing submerged pipelines and dry dock gates are among the many jobs that fall to the versatile divers of the Royal Canadian Navy—*Canadian Shipping and Marine Engineering News*.

# SCIENCE AND THE NAVY

## **Decompression Tables Studied**

The deep-sea divers' "bible", *Haldane's Decompression Tables*, will have to be re-written or at the very least modified according to the *London Daily Telegraph*.

The tables were worked out by Professor J. S. Haldane in 1907, and have been used by the Royal Navy ever since. Recently the Navy became suspicious of them for emergency deep dives of up to an hour and a half. To prove or disprove their reliability the RN sent 14 divers to a remote part of the Canary Islands in the salvage ship *Reclaim* and 136 test dives were carried out.

The results? In testing the accuracy of the tables in emergency dives at 160 feet, the Professor's calculations were found to be so far out one man spent 40 hours in the decompression chamber overcoming the "bends" and another, days later, had no sensation in his left forearm and hand.

The officer-in-charge of the team said later that "the results of the tests would be analysed by the Royal Naval Physiological Laboratory, but there seems no doubt even at this stage that certain tables will require at least modifications".

## **RCN Testing Navigation Gear**

A new short-range, high-accuracy, electronic-navigation system is being evaluated by the Royal Canadian Navy on the East Coast to determine its suitability as a mobile fixing system for highly accurate survey operations.

The system, known as the HI-FIX Survey System, has been developed to meet the urgent need for a high-precision light-weight, position-fixing system which will give accuracies of a few feet at ranges of more than 25 miles and which is portable, simple to operate and quick to install.

HI-FIX utilizes three shore stations which transmit special, high-frequency, radio signals every second. These signals are received in the ship and are compared in phase in a unique, radio receiver, with counter-type dials rather like the speedometer on a car.

The information displayed on these counters enables the position of the ship to be plotted on a chart to an accuracy

## **Bang! Bang! And The Boiler's Clean**

Do you know how to clean a boiler without getting your hands dirty? The Royal Navy does.

At the 1961 Marine Engineering, Welding and Nuclear Energy Exhibition, in London, April 20 to May 4, The Royal Navy displayed its new "bullet brush" system. This uses a low pressure "air gun" to fire brushes through the boiler tubes.

Visitors to the exhibition were invited to operate the system.

The RCN has investigated the system but prefers a chemical cleaning method.

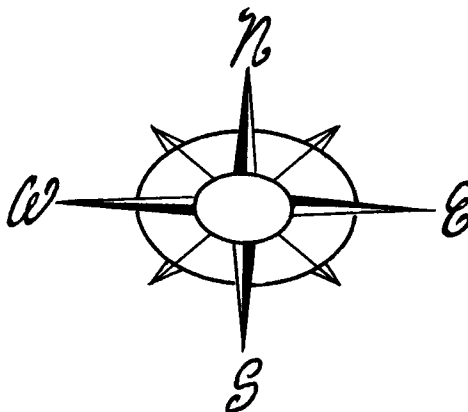
of a few feet. For this purpose it is necessary to have charts specially overprinted with a lattice of lines on which the radio information can be plotted.

A complete transmitting station can be carried in the trunk of a car and be made operational within one hour of arrival at a pre-selected site. The receiving equipment placed aboard the ship can be installed in the same period of time, thus indicating the mobility of the system.

These are two forms in which HI-FIX can be used:

A two-range version, which gives the maximum accuracy obtainable from the system and uses only two shore stations. No lattice charts are needed but only one ship can use the system at a time.

The hyperbolic system, which uses three shore stations and requires latticed charts but can provide a high-accuracy service to an unlimited number of vessels in the area. It is only necessary to provide each ship with the small receiver.



The system has been made available for the evaluation by Computing Devices of Canada Limited, the Canadian licensees, and the Decca Navigator Company Limited in Britain, who developed and manufacture the equipment.

## **Submarine Fitted For Oceanography**

A specially fitted submarine is being used by Russia in oceanographic and fisheries research, according to a brief item in *Nature*, the British scientific weekly.

*Nature* quotes a Russian source as stating that the submarine has a viewing apparatus, several light projectors, mechanical arms for collecting specimens from the sea bottom, echo-sounding gear and moving picture apparatus.

The submarine, the *Severyanka*—a name which appears to indicate its intended use in northern waters—left on her first expedition to the Barents Sea in December 1958 with nine scientists on board. A later cruise of about three weeks in the northern part of the Atlantic Ocean was intended to study the movement of herring and covered 4,000 nautical miles.

*Jane's Fighting Ships* describes the boat as a converted "W" class submarine. The "W" class is said to be made up of medium-size, long-range submarines (13,000 to 16,500 miles), variously equipped for minelaying or patrol duty.

## **Approach System First in Canada**

"The first complete flashing approach system in Canada and the largest installation of its type ever made at one time in the world," are the claims made by the company which installed the electronic flash approach system at HMCS *Shearwater*.

In a recent national advertisement, Sylvania Electric (Canada) Ltd., credits the system with the ability to guide naval pilots to safe landings in fog, mist, rain and snow.

"EFAS 'fires' a 30-million-candle power beam that travels toward the runway at 60 miles a minute. Many times brighter than any lighthouse beam, each flash lasts just 1-5,000th of a second, there is no dazzle and the pilot's vision remains unimpaired."



# HUNGRIEST CREATURE IN THE SEA

THE SHARK is a dim-visioned creature which tends to investigate any nearby commotion in the water in the hope that it is produced by something edible.

Since human swimmers fall into the edible classification, their frantic efforts to escape on sighting the ominous dorsal fin only tend to hasten the tragedy and, as blood dyes the sea, other sharks will flock to join the feast.

Swimmers do not need to assume, however, that the shark has a special sweet tooth for human flesh, for no animal—not even a goat—could be more unchoosy in its food. It will gulp an old tire with the same enthusiasm it will show toward a Hollywood starlet.

Thomas Helm, the author of *Shark!* describes the contents of the stomach of a large blue shark that had been keeping company with a merchant ship for several days. When the fish was caught, hauled upon deck and opened, the autopsy produced the expected garbage and small fish, plus an assortment of 27 indigestible articles: "In the collection we found two soft drink bottles, an aluminum soup kettle with a broken handle, a carpenter's square, a plastic cigar box, a screw-top jar partly filled with nails, a two-celled flashlight, several yards of one-quarter-inch nylon line, a rubber raincoat, and a worn-out tennis shoe. The largest and most improbable object was a three-foot-wide roll of tar paper with about 27 feet of the heavy black paper still wound on a spool."

Helm, a veteran of service in the USN during the Second World War, has fished for sharks, both commercially (their livers are loaded with vitamins) and for sport. His experience has been such as to lead to the strong conviction that a shark should never be trusted.

The author starts from the beginning with the information that there are 300 different types of sharks, ranging from about a foot long to those over 60 feet in length and weighing 15 tons. He pays special attention to those which he considers warrant special attention either due to their unusual size or because of their potential danger to man. These he illustrates by drawings to assist in identification, gives both their scientific name and their common name and then tells of their general appearance, habits, size and the likelihood of them being dangerous to man.

## BOOKS for the SAILOR

Other chapters deal with shark attacks on human beings the world over, documented or authenticated where possible, and relate personal experiences the author himself suffered. He also describes a number of other undersea killers, including the Barracuda, moray eel, sting ray and octopus, and then deals with the sharks' worst enemy, the lovable porpoise, familiar to any seafarer. He also gives an account of commercial shark fishing and assesses shark repellants and their reliability.

Thomas Helm in his book shows a deep insight into one of man's worst undersea enemies, whose dorsal fin

cleaving the water has struck terror into the hearts of men.

This book is highly recommended for people who swim wherever sharks may be found, and especially for naval skindivers whose travels take them around the world and into some of the world's worst shark areas. Mr. Helm's opinions on sharks differ sharply from some authors who contend that, if left alone, sharks are harmless to man. Some of these authors have since changed their minds and now leave the water the minute they see the dorsal fin of any unidentified shark.

*Shark!* in addition to being an educational book for swimmers, skindivers, fishermen and sportsmen, is also an entertaining and gruesome account of the most dreaded inhabitants of the world's oceans.—L.W.T.

SHARK! by Thomas Helm; published by Dodd, Mead and Company, (Canada) Limited, 25 Hollinger Road, Toronto 16, 260 pages; \$4.50.

## HARDSHIP AND COURAGE IN DEFENCE OF CANADA

THE MARCH OF THE SEAMEN is a toothsome piece of Canadiana, one that will appeal to those interested in naval history in particular and Canadian history in general. Rear-Admiral H. F. Pullen has found an incident worth recording, and he has given it a thorough and careful treatment.

The paper was prompted by the raising of the schooner *Tecumseth* (the original spelling) from the bottom of Penetanguishene Bay on Lake Huron in 1953 and the discovery, in the wreck, of a naval officer's uniform button of the 1812 period. With this beginning, Admiral Pullen skilfully introduces his topic, the almost epic march of 217 naval officers and seamen from Saint John, New Brunswick to Kingston, Upper Canada in the winter of 1814.\* The officer who later commanded the *Tecumseth* at Penetanguishene, Lt. Henry Kent, was in charge of one of the marching detachments.

The account of the march, compiled from primary sources and contemporary reports, is well written and excellently documented. The difficulties and hard-

ships experienced by the sailors on snowshoes are vividly recalled in their own words:

"... the march ... to Madawaska was beyond anything you can conceive ... the drift of snow was so great, it was almost impossible to discern a man a hundred yards distant. ... We reached it (Madawaska) about nine o'clock at night, almost fainting, a distance of 21 miles. The following morning ... out of 110 only 10 (were) able to proceed on the march; I was, therefore, obliged to halt for a day. ..."

For accomplishing this feat of marching, which consumed two months, the men received the accolades of their officers:

"Considering the Character and general habits of Sailors, the conduct of the men has been orderly."

Not the least significant aspect of this paper is the overall context in which the incident has been placed. The author makes it clear that the despatching of trained seamen from Halifax to the Lakes was a result of the long-overdue decision to remove the moribund Provincial Marine from the indifferent care of the Quartermaster General's Department and place it under

\*An article "Sailors on Snowshoes", in the November 1953 issue of *The Crowsnest* described this mid-winter march.

the more efficient administration of the Royal Navy.

When the War of 1812 broke out there was not a single ship of the Royal Navy on Lake Ontario, and in 1813 what ships existed were either fighting inconclusive battles with the Americans or being sent scuttling for the shelter of Kingston and York with embarrassing frequency—a situation that was partly due to slovenly construction and armament. The cleaning of the Provincial Marine closet came almost too late, but nevertheless it was timely enough to boost morale and efficiency. Consequently it is surprising that the author neglects to mention the long-term effects of the march. The successful arrival of some 206 men at Kingston after a 900-mile march, with the loss of only ten through death and desertion, meant that the new ships building at Kingston would be manned and ready to sail by the opening of navigation, thus ensuring Royal Navy control of Lake Ontario.

Included in this pamphlet is a complementary monograph by J. R. Stevens, curator of the Maritime Museum of Canada, describing the raising of the *Tecumseth* and the details of her con-

struction. Mr. Stevens has included a number of his excellent drawings which accurately reconstruct the original vessel.

These two papers, published under one cover, well-written, and incorporating a good deal of original research on a little-known episode in our naval history, will be of interest to a wide range of readers.—M.S.

THE MARCH OF THE SEAMEN, by Rear-Admiral H. F. Pullen, OBE, CD, RCN (Ret); THE STORY OF HM ARMED SCHOONER TECUMSETH, by J. R. Stevens; *Occasional Papers No. 8 and 9*, published by Maritime Museum of Canada, Halifax, 1961; price not listed.

## HOLIDAY BOOK

THE ATLANTIC ADVOCATE HOLIDAY BOOK is, as the title implies, designed for vacationers in the Atlantic provinces. It is just the right sort of book for a summer cottage or for a motor trip and some of its contents can be referred to with profit at any season of the year.

The editor describes *Holiday Book* as a "miscellany containing stories, poems, songs, articles, recipes for good dishes, notes on birds and beasts". Thus you will find something for every age and every taste.

The stories and articles, all reprinted from the *Atlantic Advocate*, comprise the first section. Then there is a selection of songs of the Atlantic shore, including such naval favourites as "Jack Was Every Inch a Sailor" and "I'se the B'y".

Following a catalogue of birds and wild animals likely to be found in the Atlantic Provinces comes an anthology of poems written by Maritimers and the book ends with a list of recipes for the products of the region.

The low price of this compendium of fact and fancy was made possible by good planning and the use of a new production format. The result is a sturdy, easily read book at reasonable cost. It would be a pleasant addition to naval libraries both ashore and afloat.—C.H.L.

HOLIDAY BOOK, edited by D. Kermode Parr, published by The Atlantic Advocate, 272 pages; \$2.50.



Members of the guard and band bow their heads during the Battle of the Atlantic Sunday service before the Sailors' Memorial on Citadel Hill, Halifax, on May 7. (HS-65011)



# THE NAVY PLAYS

## **Bandsmen Win Cock O' Walk**

For the second time *Naden* bandsmen proved they have a right to blow their own horn when they compiled 166 points in soccer, volleyball, basketball, swim meets and sports tabloids to take the winter Cock o' the Barracks trophy. This time it was Band "B", while the summer Cock o' the Barracks was won by Band "A".

Final standings for the winter trophy were: Band "B"—166; RCNH—159; Academic—154½; Wardroom—154; Band "A"—123½; Operations—107½; Weapons—95; Supply "A"—78½; Engineers "A"—70; Engineers "B"—37½, and Supply "B"—10.

## **Water Safety Program Success**

HMCS *Shearwater* has been awarded a citation for its fine Swimming and Water Safety Program in 1960, the first of the kind to be presented in the Maritime Provinces.

The citation was presented to *Shearwater* by the Red Cross Swimming and Water Safety National Director, C. R. Blackstock, of Toronto, and accepted by Cdr. P. G. Chance, who passed it on to CPO D. Collins, representing the instructors that made the award possible.

A total of 3,352 persons were under instruction and 2,208 of these qualified in the various categories. Naval personnel and dependents in each group were as follows, with the number qualifying in brackets.

Beginners .....	1,396	(921)
Juniors .....	924	(604)
Intermediates .....	503	(316)
Seniors .....	198	(111)
Intermediate Bronze ....	62	(47)
Bronze .....	145	(111)
Award of Merit .....	18	(12)
Diploma .....	1	(1)
Royal Life Saving In-		
structions .....	7	(4)
Red Cross Instructors...	98	(81)

Helping with instruction were Mrs. R. Pitt, Miss M. Burbidge, Mrs. J. Nash, CPO D. Collins, PO P. C. Bruner, Ldg. Sea. M. A. Heddon, Mrs. L. Sabourin, Mrs. Cyril Heaton, Mrs. B. McGrath, PO T. Keller, PO Kenneth Bullock, PO G. C. Angrignon, Miss S. Bradshaw,

Mrs. L. Robert, Mrs. R. Swansburg, PO Cyril Heaton and Ldg. Sea. J. Scott.

The following instructors have been added in the 1961 program and are helping maintain the established standard: Mrs. J. Stewart, Lt. T. F. Stephens, Mrs. T. Levesque, Mrs. J. Langlois, Mrs. F. Pilcher.

## **275 Cadets Vie In Island Tourney**

The annual Vancouver Island sea cadet sports day in early May brought out 275 sea cadets from Port Alberni, Victoria, Campbell River, Shawnigan Lake, Duncan and Nanaimo. The tourney was held at *Naden*.

The Victoria cadets won the High Aggregate Trophy for the most points in all competitions. They took first place in the whaler race, placed second in the tabloid of sports and the rifle competition and tied for second in the tug-o-war.

The final standings were: Victoria—20½ points; Shawnigan Lake—20; Nanaimo—14½; Duncon—14; Campbell River—8, and Port Alberni—7.

## **Navy Softballers Win Two out of Three**

The Navy softball team got off to a good start in the Senior "B" League in Victoria by downing George Hotel 4-1, only to lose to Chinese Students 11-8, and then take a win from Pro Pats 4-3. Pitching was by PO Norm Haskell, coaching by PO Andy George.

Among the veterans turning out for games were PO "Pop" Reeves and Leading Seamen Tom Sloan, Don Bota, George Spicer, Ray Reimer, Mike Beshora, Stan Florchyk and Al Chedd.

## **Mylrea To Boss Boxing Team**

A national boxing team from Canada has been invited to enter the Pan-Pacific Games in Honolulu, August 20 to September 3, and for the first time a serviceman has been selected as the national Canadian team manager.

He is Lt.-Cdr. Reg Mylrea, well known in sports circles from coast to coast and a former Golden Gloves boxing champion of Saskatchewan.



"Leicester Square to Old Broadway" or "Theatre-In-A-Lift-Well" came to the Bonaventure on her recent Caribbean cruise. A troupe composed of ordinary seamen to commanders had the ship's company on the edge of their seats as they trod the steel plates for the entertainment of their shipmates. Here are members of HS 50 Squadron, as they put on their act, "The Whistlers". A close look at the "faces" will disclose them to be the painted torsos of five squadron officers.

(BN-3932)

# TRADE COURSE SELECTION

**A**LTHOUGH the new trade course selection system of the Royal Canadian Navy appears (and is) more complicated than the method used up until about two years ago, its objective is to ensure that trade course go to the men likely to make the best use of their higher training.

The procedures involved in its administration are defined in the *Manual of Advancement and Promotion*, BRCN 113 (1), but some explanation may be required of the reasons for introducing the present trade course selection system.

Lower deck personnel are fully aware of the abolition of the old CNS 507 assessment system and of its replacement by the CNS 4000 evaluation system on February 1, 1959. It must be admitted, however, that when the CNS 507 roster system was abolished, one aid to the selection of personnel for trade courses was eliminated.

In February 1959, the fleet was advised that since the borne trade group state was near the authorized complement, the numbers of advancements would be controlled by RCN Depots effective March 31, 1959. This meant that a ceiling was imposed, whereas previously advancement was limited only by the acquisition of the necessary qualifications. Those vacancies which were available therefore had to be reserved for the trades which were below their approved trade group complements. Thus the situation became similar to promotion opportunities.

Before the introduction of the new trade structure in January 1960, the methods of selecting men for trade courses differed from branch to branch. It was decided, to follow the new trade structure concept, it would be necessary to produce a system which would be common to all trades. Thus the original form of the course selection system was introduced in July 1959.

The following factors were borne in mind in producing the selection system:

- The system must be designed to select the men most suited to meet the trade skill requirements of the navy.
- Since rank and trade are equally essential for the successful conduct of the Navy's responsibilities, it is important to select for trade courses those men who are most likely to be promoted to higher rank, because in

many instances a man must hold a certain minimum trade group before becoming eligible for promotion.

- It then becomes evident that the limited promotion and advancement vacancies must be reserved for and awarded to those men considered most suited for and capable of accepting the greater responsibilities and performing the higher trade tasks. This is now being done.

- It was undesirable to introduce a pure trade assessment system which would be responsible for another large workload similar to that associated with the CNS 4000 series performance evaluations.

Performance evaluations in conjunction with other factors are regarded as a measure of suitability for promotion. However, the inevitable consideration of the inseparable rank-trade functions influences the final assessments to a considerable degree. It was considered, therefore, that the degree of influence was sufficient to make performance evaluations an important factor in deciding on suitability for trade courses.

The average of the performance evaluations rendered has become the

predominant factor in the course selection system. The number of performance evaluations used in the averaging process are the same as used for the purpose of promotion.

The importance of seniority in trade and rank has not been overlooked and is utilized in the following manner:

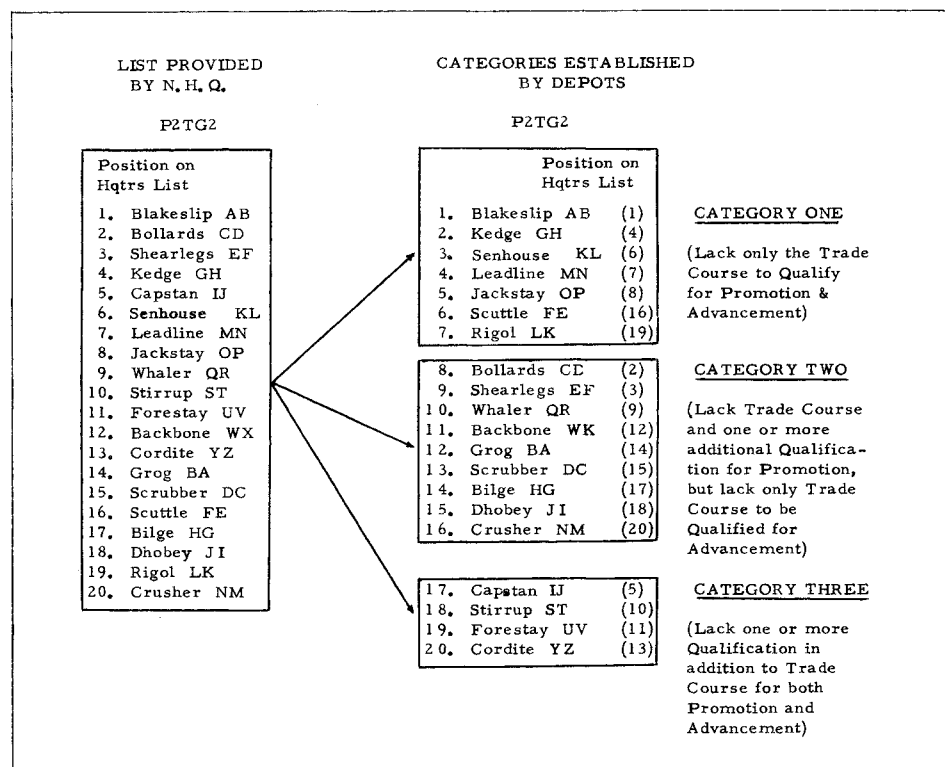
When two or more men in the same rank and trade group appear with equal average performance evaluations, the trade group seniority held by each man is first utilized and determines which man precedes the other in this list;

If a tie still exists, seniority in rank is used to break this tie, and

Finally, should the tie still remain, the factor of continuous RCN service is considered.

All of these steps are taken in Naval Headquarters. Listings of names are then produced which, in the opinion of Naval Headquarters, most accurately reveal the relative order of preference for selection for a particular trade course.

This, however, is not the end of the process. After the RCN Depot is in



The above diagram shows how names which appear on the Naval Headquarters list are placed by the RCN Depots in the Commands in Categories One, Two and Three in determining their eligibility for trade courses. The procedure is identical, if applicable, for LSTG2 and ABTG2.



receipt of the lists it must apply the following procedures:

- From the Headquarters lists RCN Depot first extracts and places in Category One the names of those men in any one rank and trade group block who have completed all the qualifications necessary for promotion and advancement except the formal trade course. This step was considered essential to assure that out of all those men who are considered suitable for a formal trade course, those who are most nearly qualified for promotion and advancement are selected first.

- From the remaining names on the lists provided by Naval Headquarters RCN Depots extract and place in Category Two the names of those men in the same rank and trade group who lack not only the formal trade course for advancement but some additional qualification for promotion. Once again it was considered essential to assure that those most nearly qualified for advancement are selected after they group in Category One.

- There now remains on the lists provided by Naval Headquarters the names of those men who lack a qualification in addition to the formal trade course for advancement and promotion. These men appear in Category Three and may not be selected for a course until they appear in Category Two or One or special permission is granted by Naval Headquarters.

All of the names which are transferred to Category One, Two or Three retain the same relative order as they held on the master lists. Names are also moved from one category to another as they acquire the necessary minimum qualifications.

Before RCN Depots make any selections from Categories One or Two the names of any to whom the following disqualifications apply are removed. The disqualifications include: anyone who had failed or been withdrawn from a formal trade group course within the minimum limits as stipulated in the *Manual of Advancement and Promotion*; anyone who is under report for any reason; anyone who is non-available as defined in the *Manual of Advancement and Promotion*; anyone who has less than two years to serve before pension, and anyone who has failed the same formal trade course examination twice.

The Officer-in-Charge, RCN Depot,

now selects names first from Category One in the highest rank, followed by names from Category Two of this same rank if insufficient names are available in Category One. This may be followed by names from Group One and then Group Two of the next lower rank whenever this is permissible and necessary.

The names of those selected are now forwarded to their Commanding Officers. The Commanding Officers are required to confirm or deny the suitability of the candidates selected for the trade course concerned based on up-to-date observa-

tions by reporting a simple YES or NO recommendation. This step is included to assure that Commanding Officers have the final control in whether or not any man is selected at any particular time.

If the recommendation is YES, nothing remains but for the man to be drafted for the course. If the recommendation is NO, the man is not placed on the current course but is not precluded from being selected for any future course as long as his name remains on the original course selection list as provided by Naval Headquarters.

## RCN(R) PROMOTIONS

ABCV(X)1	R. B. Collrin	R-17489	ABQR(X)1	J. Giguere	R-21931
ISTD(X)2	R. W. Fergus	R-17377	ABQR(X)1	G. Deschenes	R-21927
WP2SS(X)4	J. A. Thorpe	WR-15935	ABQR(X)1	C. J. Pelletier	R-21924
P1RN(X)6	G. J. McRae	R-17543	WLSA(X)2	G. M. Bureau	WR-21898
ABCV(X)1	M. J. Jones	R-17593	WAME(X)1	S. Plamondon	WR-21976
WACO(R)1	S. J. Bursell	WR-13319	WAME(X)1	M. Huot	WR-21977
WASA(X)1	C. K. Ralph	WR-13348	WAME(X)1	A. M. Halle	WR-21971
ABCV(X)1	B. T. Eggink	R-22390	P1BD(X)6	M. J. Rainville	R-10624
ABTD(X)1	J. S. Ventura	R-16408	LSQR(X)2	A. F. Burridge	R-21895
C2ER(X)8	C. J. Hill	R-16385	LSBD(X)3	J. M. Roy	R-10658
P2PW(X)4	G. K. Sembera	R-16345	ABBD(X)1	A. Bourget	R-21961
C1EA(X)8	J. Rawes	R-16223	ABQR(X)1	E. M. Martinuk	R-20712
ABBD(X)1	G. S. Boole	R-22420	ABQR(X)1	R. Didier	R-20692
ABCV(X)1	R. M. Vandoornick	R-22433	LSLM(X)2	J. Evans	R-20732
P2NS(X)4	C. W. Van Volkingburg	R-8717	PIAW(X)6	D. Sorochan	R-10800
ABQM(X)1	R. R. Weick	R-19715	C1ER(X)8	P. Rourke	R-10930
ABEM(X)1	A. E. Bortoluzzi	R-19394	ABCR(X)1	W. Harrison	R-20803
P1SH(X)5	K. N. Chapman	R-3798	ABCR(X)1	J. B. Jones	R-22679
C1SW(X)8	J. R. Mercier	R-3461	WACO(T)1	M. Nolan	WR-22646
WLCO(T)2	M. D. Robert	WR-16694	WASS(X)1	S. A. Spooner	WR-22653
ABBD(X)1	W. N. Evans	R-23636	LSNS(X)2	W. Thorup	R-13931
ABCV(X)1	K. A. Mitchell	R-23586	P2VS(X)4	W. R. Porter	R-13827
P2VS(X)4	D. W. Loverock	R-14776	P2NS(X)4	G. G. Fluter	R-18233
ABPW(X)1	M. A. Sutton	R-23501	LSNS(X)2	W. J. Stetner	R-18366
P1BD(X)6	T. B. Kearnes	R-14920	LSRP(X)2	D. Dormuth	R-18403
WAME(X)1	J. E. Mitten	WR-19036	P2AW(X)4	A. R. Schaefer	R-18285
C2ER(X)8	W. G. Taylor	R-4492	P1NS(X)6	J. S. Nicholson	R-11118
C1CR(X)6	J. A. Bates	R-4325	C2ER(X)8	E. L. Dunfield	R-6559
ABCV(X)8	R. L. Johnson	R-21505	LSQM(X)2	G. W. Merry	R-11649
ABLM(X)1	G. K. Bungay	R-21473	P2CV(X)4	R. I. Hope	R-15869
WLME(X)2	S. O. Aney	WR-21443	ABRP(X)1	R. Ford	R-17050
WAME(X)1	C. E. McConnell	WR-21552	ABRP(X)1	M. P. Simmons	R-17037
LSQR(X)2	P. S. Leblanc	R-21414	LSCR(X)3	G. A. McLuckie	R-17007
LSPW(X)2	R. Plourde	R-21458	P1CR(X)5	J. H. Carrington	R-6694
WASA(X)1	M. E. Finch	WR-24101	LSPW(X)2	H. G. Carleton	R-21613
P1LS(X)6	J. H. Genik	R-9460	LSPW(X)2	O. G. Thomas	R-21614
ABEM(X)1	R. S. Legault	R-17279	ABPW(X)1	G. Taylor	R-21661
P2MA(X)4	S. P. Burley	R-24185	ABAW(X)1	G. F. Wilson	R-21664
LSBD(X)3	W. H. Maarchalkerweerd	R-24123	ABAW(X)1	T. J. Randall	R-21886
ABCV(X)1	T. W. Young	R-24140	ABMA(X)1	S. H. Hubley	R-23014
P2EM(X)4	D. Maurice	R-17347	LSNS(X)2	R. R. Floryn	R-20149
LSPW(X)2	J. W. Sumpton	R-18025	P1GA(X)6	S. E. McCallum	R-7012
ABCR(X)1	W. A. Drumbrell	R-18024	WAME(X)1	M. I. Minnikin	WR-23028
WAME(X)1	M. M. Urban	WR-18097	C2SH(X)7	R. G. Wheller	R-12718
P1BD(X)6	L. A. Goodman	R-17987	ABRP(X)1	J. R. King	R-23024
C1EG(X)8	W. J. Stevenson	R-4072	P2VS(X)4	Wm. C. McCallum	R-12343
C1EF(X)8	W. J. Kittson	R-16722	WP2NP(X)4	J. J. Jones	WR-20052
P2AW(X)4	R. L. Lester	R-16771	WLSA(X)2	R. Pukavina	WR-18054
WP2SS(X)4	M. Lortie	WR-10606	P1ET(X)6	J. Martin	R-12803
ABQR(X)1	C. J. Girard	R-21939	P2EF(X)6	W. C. Martin	R-23150

# LOWER DECK PROMOTIONS

Following are lists of men selected by Naval Headquarters for promotion. These selections are subject to confirmation by the RCN Depot and the concurrence of the commanding officer in each case. The effective date of promotion is March 1, 1961.

## Atlantic Command

### For Promotion to Petty Officer Second Class

LSNS2	R. B. Robertson	7388-H
LSEM2	W. T. Cherwak	7741-H
LSRA3	E. J. Carriere	8070-H
LSCK2	R. W. Wade	8708-H
LSEM2	G. J. Gillingham	8755-H
LSEM2	K. G. Wadsworth	9013-H
LSVS2	J. Andrusyk	9320-H
LSVS2	E. Larter	10444-H
LSEA3	R. V. Ruston	11196-E
LSNS2	R. R. Currie	11217-H
LSRP2	L. J. Edmunds	11689-H
LSAT2	K. W. Dawson	11718-H
LSEM2	D. H. Schwartz	12001-H
LSAM2	D. J. Murphy	12560-H
LSAT3	D. P. Kane	12640-H
LSRP2	R. V. Lawson	12741-H
LSVS2	D. L. Mousseau	13241-H
LSCK2	B. R. Powell	13622-H
LSEM2	F. M. Coady	13760-H
LSSW2	C. L. Oake	13774-H
LSSG2	H. Stratton	13788-H
LSRP2	C. J. Fitzgerald	13929-H
LSRM2	C. J. Green	13972-H
LSAW2	E. J. Belyea	14680-H
LSRM2	R. W. Forsyth	15287-H
LSEM2	S. M. Toombs	15400-H
LSEM2	M. G. Kennedy	16305-H
LSRM2	R. G. Janes	16866-H
LSVS2	G. M. Waldrum	16911-H
LSLT3	J. D. Corrigan	17298-H
LSEM2	W. W. Bruce	17575-H
LSPPW2	J. G. Blanchard	17676-H
LSET3	G. R. Daye	17894-H
LSET3	B. J. Cote	17896-H
LSMM2	L. E. Catton	18189-H
LSRM2	G. W. Sigrist	18200-H
LSVS2	K. J. Wilton	18211-H
LSRS3	J. R. Domingue	18523-H
LSNS3	R. L. Whiteside	18654-H
LSLT3	H. G. Lucas	19586-H
LSLT3	D. G. Hicks	19671-H
LSRP2	S. J. Emmons	19717-H
LSRM2	W. J. Starr	19777-H
LSNS2	E. E. Jarvis	19811-H
LSWU3	C. E. Bugg	19840-H
LSSG2	H. E. Newman	23371-H
LSET3	G. P. Dunn	23399-H
LSWS3	R. C. Lawrence	23461-H
LSLT3	R. D. MacKnight	23604-H
LSCK2	J. H. Pearce	24376-H
LSAT2	V. Head	24900-H
LSRS3	C. J. Colp	24997-H
LSRS3	H. D. Stewart	25040-H
LSEM2	W. M. Comeau	25162-H
LSRS3	G. R. McMillan	25175-H
LSAW2	D. A. Nickerson	25347-H
LSNS2	L. J. Rathbone	25402-H
LSBN2	L. Truelove	25597-H
LSWU3	J. J. Cordiner	25756-H
LSMA3	R. T. Grist	25760-H
LSRA3	R. E. Bezan	25882-H
LSEM2	M. G. Johnson	26055-H
LSNS2	C. M. Carrie	26122-H
LSNS2	B. T. McKenna	26128-H
LSRA3	V. J. Margetts	26384-H
LSEM2	L. Smaggus	26392-H

LSRA3	E. E. Johnston	26702-H
LSRM2	W. R. Babcock	26703-H
LSRS3	H. A. Pawly	26746-H
LSAW2	R. H. Riches	26814-H
LSSG2	G. J. Taylor	26849-H
LSEM2	N. L. Jones	26995-H
LSSG2	J. R. Walter	27021-H
LSNA3	W. J. Reaume	27146-H
LSRP2	H. Vanee	27371-H
LSFC3	E. L. Moffat	27714-H
LSAW2	S. A. Raymond	28378-H
LSBN2	K. A. Overton	28456-H
LSWA2	W. D. Key	28469-H
LSEM2	N. J. Beauvais	29154-H
LSEM2	D. J. Boisjoli	29316-H
LSET3	A. R. Martin	29497-H
LSET3	J. W. Kostal	29774-H
LSFC3	P. Smedley	30112-H
LSLT3	J. D. Dube	30640-H
LSNS3	M. D. Dawson	30790-H
LSMA2	R. T. Falshaw	30866-H
LSNS3	J. T. Thorne	31031-H
LSNS2	F. P. Galipeau	32077-H
LSMA3	G. C. Hill	33163-H
LSNA3	R. T. Dunmall	33652-H
LSLT3	J. G. Hancock	33847-H
LSFC2	L. B. Carroll	33946-H
LSLT3	R. S. Taylor	34051-H
LSSG2	D. S. Copeman	34259-H
LSEM2	W. Lennon	34270-H
LSLT3	E. Kozyra	34826-H

### For Promotion to Leading Seaman

ABVS1	F. N. Thibodeau	7108-H
ABFC2	L. W. Hogg	7725-H
ABRA2	J. Gallacher	8869-H
ABCK2	E. W. Wilkinson	12943-H
ABPH2	W. G. Parrell	13584-H
ABCK2	J. H. Tessier	14196-H
ABVS2	G. H. Kennedy	14313-H
ABAT2	J. R. Jackson	15473-H
ABFC2	D. L. Culley	15797-H
ABCK2	C. R. Coles	16589-H
ABNA2	J. G. Thompson	16761-H
ABSW2	K. F. Fleiger	17955-H
ABEM1	A. G. Reaume	18195-H
ABAM2	R. K. Harding	18667-H
ABLT2	R. F. Kent	19199-H
ABCK2	H. C. Frayne	19620-H
ABAW2	C. L. Feere	19770-H
ABBN1	W. F. Thibodeau	19901-H
ABEM2	K. L. McBride	22825-H
ABEM1	W. G. Haviland	23402-H
ABRP2	M. F. Dougherty	23404-H
ABRS2	R. D. Craft	23494-H
ABVS1	J. C. MacMichael	23530-H
ABLM2	K. E. Kavanaugh	23553-H
ABEM1	P. L. Leblanc	23666-H
ABEM1	H. R. Gilks	23689-H
ABRP2	B. E. Schneider	23802-H
ABEM1	T. Y. Oikawa	23884-H
ABEM1	D. T. Lowther	24446-H
ABMS2	M. J. McAfee	24562-H
ABWA2	D. Davis	24899-H
ABCK2	J. B. Boyce	24994-H
ABRP2	E. D. Colton	24998-H
ABRP2	H. A. Snow	25029-H
ABAR1	H. R. Boone	25102-H
ABBN1	D. G. Horne	25320-H
ABRS2	R. J. Hiltz	25354-H
ABNA2	P. J. Harrington	25886-H
ABWU1	B. E. Payne	26057-H
ABNS1	R. F. Price	26158-H
ABNS2	G. M. Wakerell	26237-H
ABLT3	R. T. Dawson	26260-H
ABAT2	W. A. Lebrun	26290-H
ABSG1	L. J. Beaulieu	26304-H
ABSW2	J. G. Danis	26438-H
ABRP1	J. H. Panke	26532-H
ABW03	H. A. Park	26880-H
ABCK2	S. N. Menear	27208-H

ABAM2	R. W. Budd	27419-E
ABRS2	D. C. Goodwin	28159-E
ABVS1	A. J. Belzile	28406-H
ABAM2	R. J. Heinz	28563-E
ABAR1	G. L. Hefford	29531-H
ABPW1	A. H. Badcock	29540-H
ABSG1	H. C. Serjeant	29548-H
ABFC2	A. F. Campbell	29556-H
ABEM1	R. E. Steeves	29876-H
ABRS2	J. E. Elliott	29879-H
ABRA2	J. D. Durnford	29927-H
ABBN1	G. M. Masterson	30027-H
ABCK2	T. A. Ogilvie	30106-H
ABWA1	D. K. Grisch	30127-E
ABEM1	W. J. Lloyd	30432-H
ABBN1	F. A. Murphy	30465-H
ABRP1	J. A. McQuaid	30474-H
ABEM1	R. Williams	30495-H
ABSG2	W. C. Belnap	30498-H
ABEA2	D. A. Carmichael	30543-H
ABRS2	K. M. Cummings	30616-H
ABNS1	G. Johnson	30713-H
ABSW1	M. E. Granville	30771-H
ABET2	G. E. Lynch	30784-H
ABHM1	J. A. Redding	30892-H
ABAW1	D. M. Watson	31117-H
ABVS1	E. H. Rourke	31127-H
ABCD1	G. H. Rank	31139-H
ABWS1	L. E. Doucett	31252-H
ABWU1	D. W. Noble	31271-H
ABNS1	R. L. Winton	31325-H
ABRP2	W. D. Hay	31414-H
ABAR1	J. E. Lockie	31922-H
ABNS1	A. W. Turner	31987-H
ABEM1	G. A. Racette	31992-H
ABEM1	C. L. Cooley	32001-H
ABAR1	P. D. Hillaby	32018-H
ABWS1	W. H. Dockrill	32184-H
ABRS2	J. A. Marshall	32820-E
ABAR1	R. W. Florence	32925-H
ABRS2	A. J. Bruneau	33162-E
ABCK2	W. J. Middleton	33631-H
ABRM1	R. Natale	33690-H
ABNA2	T. A. Hearn	33698-H
ABCK1	J. A. Passafiume	33814-H
ABAT2	G. K. Crossman	33983-H
ABRM1	J. T. McGee	34023-H
ABEM1	E. J. McLaughlin	34134-H
ABAF1	D. A. MacKillop	34171-H
ABWU1	D. D. Murray	34172-H
ABRP1	R. J. Campbell	34182-H
ABNA2	J. Dodd	34276-H
ABLT2	E. E. Tokley	34294-H
ABEM1	G. R. Horn	34973-H
ABRS2	E. G. Collins	34982-E
ABEM1	V. F. Honisch	35040-H
ABRS2	G. E. Cooper	35185-E
ABAT2	R. D. Haight	35450-H
ABRS2	G. G. Wallace	35579-H
ABNA2	S. V. Morley	35584-H
ABRP1	N. W. McKnight	35586-H
ABRM1	L. F. Phillips	35615-H
ABEM1	M. P. McGuire	35625-H
ABEM1	R. Hatton	35630-H
ABSN2	W. J. Demmery	35637-H
ABEM1	D. F. Cain	35639-H
ABRM1	G. D. Denham	35647-H
ABRA2	J. E. Ferrier	35648-H
ABSG1	J. M. Heitz	35659-H
ABRP2	D. R. Gorham	35698-H
ABNS1	N. B. Sakins	35704-H
ABEA2	R. J. Geoffroy	35870-H
ABRP1	R. J. Miron	35949-H
ABRS2	R. G. Phillion	35969-H
ABSW1	M. J. Roy	36001-H
ABNS1	J. C. Asprey	36032-H
ABRM1	H. A. Downie	36033-H
ABRP1	M. L. Hennessy	36047-H
ABET2	J. D. Anderson	36185-H
ABRP1	D. E. Wood	36190-H
ABFC1	R. B. Davies	36195-H
ABET2	E. H. Flumerfelt	36201-H

ABAF1	R. H. Robertson	36253-H
ABEM1	R. W. Wilson	36285-H
ABLT2	R. A. Windsor	36347-H
ABAF1	D. W. MacKay	36360-H
ABRP1	A. A. Kirkham	36530-H
ABEM1	R. J. Taylor	36540-H
ABRM1	W. G. Martel	36575-H
ABEM1	M. A. Cushing	36582-H
ABLT2	J. V. Laurier	36611-H
ABLM2	R. C. Connor	36675-H
ABRP1	R. O. Fox	36814-H
ABRP1	C. J. Bechard	36815-H
ABMA2	B. K. Coutts	36843-H
ABRM1	T. F. Myers	36845-H
ABEM1	Y. J. Desutter	37111-H
ABEM1	L. W. Patton	37402-H
ABNA2	R. Robertson	37419-H
ABSG1	H. R. Porter	37437-H
ABAW1	J. Camp	37457-H
ABRA2	E. W. Bradley	37476-H
ABLT2	R. G. Townsend	37510-H
ABSN1	D. E. Jones	37536-H
ABFC2	D. A. Manuel	37619-H
ABFC2	P. A. Hanlon	37624-H
ABMA2	G. A. Dares	37633-H
ABSG1	M. D. Paterson	37709-H
ABET2	J. G. Norman	37748-H
ABNA2	R. C. Phillips	37789-H
ABMA2	B. J. Glover	37804-H
ABNS1	D. J. Bernier	38008-H
ABRM1	B. T. Howard	38069-H
ABEM1	C. A. Mitchell	38091-H
ABRM1	F. L. Guadagnolo	38108-H
ABNS1	W. R. Lewis	38115-H
ABET2	J. H. McIntyre	38299-H
ABMA2	T. M. Firman	38339-H
ABFC2	S. C. Thompson	38400-H
ABMA2	M. R. Watkin	38440-H
ABFC2	D. L. Davies	38475-H
ABVS1	R. H. Gauthier	38924-H
ABRA2	H. B. Andres	38969-H
ABRP2	R. J. Smith	38974-H
ABMA2	C. L. Conine	39726-H
ABSN1	B. W. Sharkey	39926-H
ABEM1	D. G. Sedore	42232-H
ABET2	J. R. Barber	42299-H
ABRA2	G. D. Buckingham	42377-H
ABLM2	G. R. Jackson	42603-H
ABLM2	R. J. Lalonde	42604-H
ABNS1	E. G. Phillips	42815-H
ABSN2	D. A. Brown	42825-H
ABNA2	L. B. Crompton	42899-H
ABSG2	F. J. Arsenaault	42903-H
ABSG2	T. H. Geldart	42976-H
ABHM1	W. J. Ellwood	43206-H
ABLT2	J. J. O'Sullivan	43269-H
ABRM1	J. R. Dunn	44012-H
ABLM2	D. W. Ellsmere	44329-H
ABRA2	R. R. Folkins	44504-H

## Pacific Command

### For Promotion to Petty Officer Second Class

LSRP2	R. G. Thompson	5580-E
LSET3	K. P. Parker	7440-E
LSRM2	R. A. McDonald	7448-E
LSCD3	C. F. Greengrass	7558-E
LSRP2	J. K. McTavish	7759-E
LSAW2	S. T. Ayres	8051-E
LSVS3	A. G. Smith	8413-E
LSWS2	J. N. Bond	9112-E
LSET3	R. G. Orton	9397-E
LSVS2	J. W. Cockrill	9732-E
LSSG2	W. N. Blades	10024-E
LSWU2	W. E. McCue	12603-E
LSEM2	B. R. Farrell	13429-E
LSSW2	P. K. Hannaford	14738-E
LSCK2	D. A. Stipkala	15007-E
LSSG2	K. O. Mayberry	15091-E
LSRP2	C. C. McArdle	15173-E
LSSG2	R. J. McCullagh	16540-E
LSLT3	L. L. Cuthbert	17106-E

LSNS2	W. M. Koeh	17108-E
LSEM2	J. W. Reil	17165-E
LSNS2	D. A. Pickles	17343-E
LSEM2	G. A. Presly	17471-E
LSVS2	H. E. Partridge	18394-E
LSRM2	R. J. Hazel	18689-E
LSSG2	R. E. Staicue	24093-E
LSPW2	D. R. Swanbeck	24116-E
LSRM2	R. L. Jordan	24258-E
LSWU2	W. L. Nasby	24685-E
LSSN2	C. R. Kniert	24686-E
LSRP2	G. W. Johnson	25603-E
LSMA3	K. O. Hunt	27497-E
LSWU3	J. B. McCallum	27592-E
LSRM2	A. Y. Thornhill	27632-E
LSSN3	A. B. Klassen	27864-E
LSLT3	B. T. Batchelor	28595-E
LSEM2	D. W. Purdy	28642-E
LSET3	D. N. Gudbrand	28741-E
LSLT3	J. K. Lafave	33169-E
LSWU2	J. A. Munro	34590-E
LSLA3	H. Friesen	35066-E

### For Promotion to Leading Seaman

ABVS1	M. O'Brien	8624-E
ABSW2	R. J. Trottier	13496-E
ABSN1	N. Zbitnew	14944-E
ABFC1	J. E. Sandberg	15190-E
ABPH2	E. M. Kochanuk	17033-E
ABWS1	D. F. Hall	18450-E
ABBN2	P. L. Cummings	19771-E
ABHM1	J. H. Alton	23789-E
ABSG2	R. J. Pettit	23897-E
ABRM1	J. N. Tupper	23971-E
ABCK2	F. J. Quakenbush	24022-E
ABAW2	G. R. Bennett	24202-E
ABEM1	G. M. McColman	24836-E
ABEM1	V. G. Dool	24871-E
ABWU2	T. E. Palmer	25581-E
ABCD1	R. Mackenzie	25700-E
ABCK2	C. J. Johnson	27380-E
ABRP2	H. S. Logan	27595-E
ABWS1	W. C. Knott	27747-E
ABLT2	R. R. Fulton	27933-E
ABLT2	R. W. Jonsson	28071-E
ABVS2	L. D. Campbell	28108-E

ABRP1	E. R. Gienow	28200-E
ABET2	M. A. Pain	28213-E
ABRM1	D. R. Zbitnew	28214-E
ABSN1	G. E. McCarthy	28231-E
ABLT2	E. A. Deleum	30524-E
ABSN1	R. G. Nichol	31470-E
ABET2	M. L. Syrja	31477-E
ABNS2	R. E. Cooke	32685-E
ABRM2	J. H. McGregor	32867-E
ABET2	B. I. Browerberkhough	32868-E
ABSG1	L. J. Bluekens	32872-E
ABRP1	L. F. Lutz	32883-E
ABMA2	C. C. Kennedy	32896-E
ABPW1	D. L. Baptist	32930-E
ABVS1	D. L. Collins	33153-E
ABWU1	A. J. Birnie	33182-E
ABEM1	B. J. Therrien	33205-E
ABEM1	J. H. Latham	33216-E
ABNS1	R. B. Martens	33354-E
ABEM1	W. A. Layman	33399-E
ABLT2	L. W. Wood	34644-E
ABRP1	T. E. Davies	34675-E
ABSG2	D. T. Davidson	34749-E
ABLM2	W. J. Syer	34767-E
ABWU1	M. J. Campbell	34854-E
ABRP1	R. L. Davidson	35012-E
ABLT2	G. N. Paul	35091-E
ABRP1	R. S. Willey	35138-E
ABLT2	P. R. Godfrey	35215-E
ABET2	E. Dennis	35226-E
ABET2	L. R. Quilter	35306-E
ABSG1	G. K. Francey	38303-E
ABVS1	J. A. Erickson	38330-E
ABSG2	L. A. Ethier	38336-E
ABSG2	T. C. Chad	38412-E
ABET2	M. N. Krywy	38602-E
ABLT2	G. M. Melnechenk	38611-E
ABSN2	W. E. Moyer	39326-E
ABSN2	M. R. Leeming	39358-E
ABET2	G. H. McCann	39378-E
ABET2	K. Toule	39402-E
ABET2	R. H. Demontigny	39405-E
ABLT2	D. W. Brown	39473-E
ABSG2	R. D. Marsden	39609-E
ABWU2	H. O. Loutit	39633-E
ABMA1	G. H. Haworth	39640-E
ABLT2	K. R. Caldwell	39673-E
ABLM2	E. F. Davis	39682-E



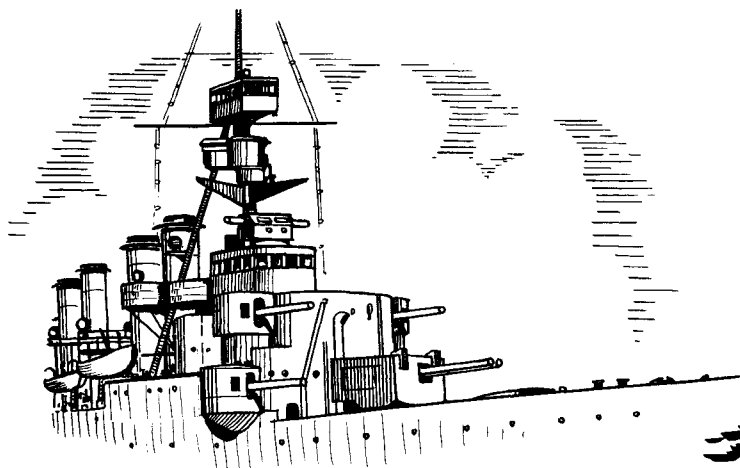


# Naval Lore Corner

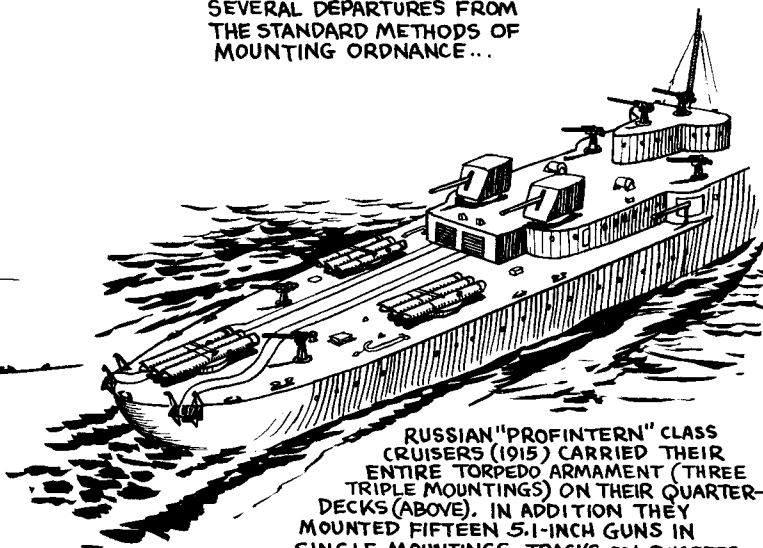
Number 95

UNORTHODOX ARMAMENT DISPOSITIONS

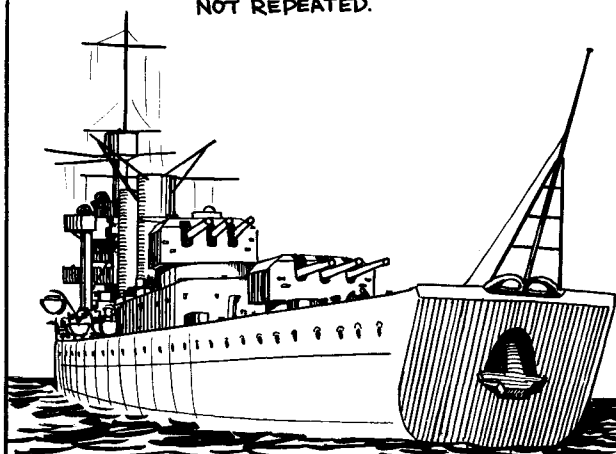
IN NAVAL CONSTRUCTION AS IN OTHER FIELDS OF DESIGN THERE ARE STANDARD LAYOUTS OF ARMAMENT ARRANGEMENT WHICH ARE GENERALLY EMPLOYED. DEPICTED HERE ARE SEVERAL DEPARTURES FROM THE STANDARD METHODS OF MOUNTING ORDNANCE...



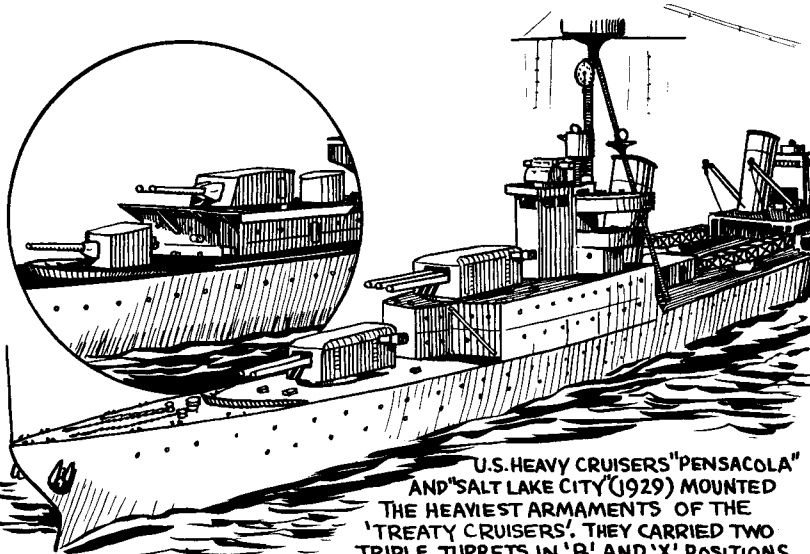
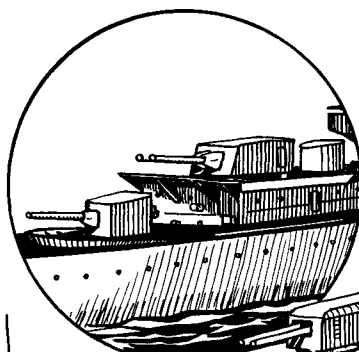
"OMAHA" CLASS LIGHT CRUISERS (U.S., 1920-24, 8 SHIPS) WERE ORIGINALLY DESIGNED TO CARRY EIGHT 6-INCH GUNS, ALL MOUNTED IN CASEMATES IN THE SUPERSTRUCTURE. TO IMPROVE AXIAL FIRE, TWIN GUN HOUSES WERE ADDED FORE AND AFT, BUT THE RESULT STILL PROVED UNSUCCESSFUL. A SIMILAR GUNNERY DISPOSITION WAS ATTEMPTED IN THE SWEDISH CRUISER "GOTLAND" AND SIMILARLY NOT REPEATED.



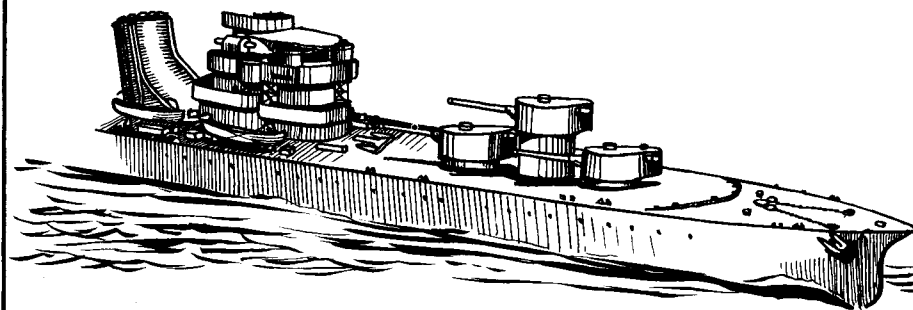
RUSSIAN "PROFINTERN" CLASS CRUISERS (1915) CARRIED THEIR ENTIRE TORPEDO ARMAMENT (THREE TRIPLE MOUNTINGS) ON THEIR QUARTER-DECKS (ABOVE). IN ADDITION THEY MOUNTED FIFTEEN 5.1-INCH GUNS IN SINGLE MOUNTINGS. TRACKS ON QUARTER-DECK CONVEYED MINES FROM THE STORAGE SPACE TO THE STERN FOR "LAYING".



GERMAN LIGHT CRUISERS OF THE KÖNIGSBERG CLASS (1927-28) MOUNTED THEIR AFTER, TRIPLE 5.9-INCH TURRETS ON EITHER SIDE OF THE CENTRE LINE, "X" TURRET TO PORT AND "Y" TURRET TO STARBOARD... AN ARRANGEMENT THAT WAS CLAIMED TO SAVE WEIGHT BUT MUST HAVE PROVED A SEVERE STRAIN TO SUCH LIGHT VESSELS WHEN FIRING THE GUNS...



U.S. HEAVY CRUISERS "PENSACOLA" AND "SALT LAKE CITY" (1929) MOUNTED THE HEAVIEST ARMAMENTS OF THE 'TREATY CRUISERS'. THEY CARRIED TWO TRIPLE TURRETS IN 'B' AND 'X' POSITIONS SUPERIMPOSED ON TWIN TURRETS IN 'A' AND 'Y' POSITIONS... A SEEMINGLY TOP-HEAVY ARRANGEMENT. THE JAPANESE LIGHT CRUISER "YUBARI" SIMILARLY MOUNTED TWIN 5.5-INCH TURRETS OVER SINGLE 5.5-INCH GUN HOUSES (SEE INSET)...



JAPANESE 8-INCH CRUISERS "KAKO" AND "FURUTAKA" (1925) WERE THE ONLY POST-WORLD WAR I CRUISERS TO MOUNT 8-INCH GUNS IN SINGLE TURRETS, THE THREE FORWARD TURRETS BEING DISPOSED AS ILLUSTRATED (LEFT). THIS DESIGN WAS NOT REPEATED AND ALL LATER VESSELS MOUNTED TWIN TURRETS...

*Roger Duhamel*

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