Canadian Hydrographers Association

NEWSLETTER NO. 1, FEBRUARY 1969

For some time now there has been talk of starting a C.H.A. Newsletter as a means of stimulating discussion of C.H.A. & C.H.A. related topics which would involve Dartmouth, Ottawa and Victoria to an equal extent. The advent of this newsletter has been delayed by various factors, most of which boiled down to simply "lack of time". That factor still exists but its validity is being challenged by this prototype newsletter - time can always be found to do the things that really matter - viz - if the newsletter idea is worthwhile, we will certainly find the time. Your reaction to this effort will determine our future course of action. If most of you do not think that a newsletter is a worthwhile project, then that will be the end of it. However, if most of you feel that it serves a useful purpose, then please show your support by contributing articles, comments, criticisms (constructive), information etc. To make this newsletter a real success, we would require in addition to the editorial staff, regional coordinators who would seek out contributions and forward them in edited or unedited form to the editor.

If this newsletter is to be successful, it will have to be issued on a regular basis (say - quarterly) and it will have to achieve some sort of balance between news, technical information and the humorous anecdotes we all know. Only you can decide how successful this newsletter becomes; make it your business to provide input, even if you confine it to the "Sounding Off" section.

Here's hoping that we haven't got another "Avro Arrow"; that we can look forward to communicating with one another through this medium on a regular basis.

REVIEW OF THE EVENTS OF 1968

The second annual national meeting of the Canadian Hydrographers Association took place in Ottawa at the beginning of February 1968, coinciding with and indeed taking up two half days of the Dominion Hydrographers' Conference. One half day was used as an information meeting on C.H.A. matters to be attended by all interested parties. The second half day concentrated on matters such as constitution revision, C.H.A. eligibility, the grandfather clause, the Step 2 Course (Assistant Hydrographer), the dues structure etc., and was attended only by C.H.A. members or those eligible to become C.H.A. members.

It was a stimulating occasion for the founders of C.H.A., even though many matters were left undecided due to lack of time.

On the final day of the conference, the appointment was announced of Dr. A.E. Collin, as the new Dominion Hydrographer. The appointment of Dr. Collin has ensured C.H.A. requests for training and education programmes of strong management support, while at the same time subjects the C.H.A. position on education and training to the cold hard scrutiny of a management concerned deeply about its ultimate benefit to the Canadian Hydrographic Service. Dr. Collin is a member of the C.H.A.

Mr. R.B. Young, the Regional Hydrographer, Pacific Region, and a member of C.H.A. retired at the end of April 1968, after 39 years of service to Canadian Hydrography. Mr. Young supported the objectives of C.H.A. from the beginning and his understanding enabled C.H.A. to flourish in the Pacific Region. We hope he will continue to remain a member of C.H.A., his wisdom and pithy comments are much admired.

Mr. M. Bolton transferred from his position as Regional Hydrographer, Central Region, to take over as Mr. Young's successor, Pacific Region, in May 1968. Mr. Bolton has been a supporter of C.H.A. since its inception and is also a member.

In May, 1968, Mr. McCulloch's appointment as Regional Hydrographer, Central Region, took effect. Mr. McCulloch was President of C.H.A. during 1968.

The C.H.A. Education Committee, consisting of a C.H.A. member from each region, met with the C.H.S. Steering Committee on Education & Training in Ottawa during June 1968. Considerable discussion took place on the content of the "Assistant Hydrographer" course to be held August - September 1968. C.H.A. input largely determined course content, but interpretation and implementation were left in the hands of training staff.

The "Assistant Hydrographer" course held in Ottawa during

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August & September 1968 was both encouraging and also shattering to C.H.A. On the one hand, the course achieved its primary purpose, a training course for aspiring "Assistant Hydrographers" became fact with all participants agreeing that the experience had been worthwhile and that they had learned a great deal. However, only two of the nine participants passed the course. The failure rate is unduly high and has caused some concern with C.H.A. that steps must be taken to ensure that this high failure rate is not repeated in 1969. Probable reasons for this failure rate are many and varied, but could be summed up as follows:

(a) The "first time" factor, with both students and instructors not entirely sure of the guidelines to be followed.
(b) Marking standards, weighting factors, etc. were decided only after the course concluded.
(c) The course syllabus was not in the hands of participants until two weeks prior to course commencement.
(d) Items (a) & (b) are co-related but were not in the final marking.
(e) Inclusion of participants on the course who had not been exposed to an examination system for many many years.
(f) Lack of appreciation on the part of some course participants as to the seriousness with which such exams were regarded by C.H.A. and management.

However, none of the foregoing remarks should in any way reduce C.H.A.'s pride in the achievements of Mr. Yeaton and Mr. Warren, the successful candidates. Both gentlemen have been presented with a C.H.A. "Assistant Hydrographer" certificate. The issuing of such certificates is C.H.A.'s first step on the road to professional recognition for qualified hydrographers.

In December 1968, the joint committees met once more in Ottawa to discuss future Step 2 course content in the light of recommendations suggested by C.H.A. and the course participants. These recommendations were supported by the Joint Committee and the training officer was requested to implement them prior to the 1969 course. The Dominion Hydrographer acted as chairman of most of the time spent on these Joint Committee deliberations. Considerable additional discussion took place on the C.H.A. proposed "Hydrographer" Course, which will probably be scheduled for 1970 or 1971. Dr. Collin indicated that he was setting up a Training and Education Committee which would consist of himself as chairman, a permanent C.H.A. representative, the training officer, a H.Q. staff officer and the Regional Hydrographer, Central Region, as Regional Management representative. Provision would be made for regional C.H.A. participation when the committee met out of Ottawa. C.H.A. agrees with the requirement for a strong small committee but question the desirability of having either the training officer or

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the H.Q. staff officer as permanent members of such a committee. We believe that such a committee will have to act often as a senate or court appeal and that inclusion of the training officer on the permanent committee would inhibit the range of disucssion and the decision making strength of such a body. The inclusion of a H.Q. staff officer only makes sense if the role of the committee is expanded to include the training and education requirements for the entire Hydrographic Service.

The Central Region C.H.A. initiated luncheon meetings in December 1968, by inviting the Dominion Hydrographer as their first guest speaker. He spoke most entertainingly on the subject of "Ice Islands" in the Arctic at a meeting which was well patronized. A very successful effort on the part of Central Region C.H.A.

Also, in December 1968, Mr. J. Rutley, Regional Chief, Chart Construction, Pacific Region, retired. Mr. Rutley was a field hydrographer for many of his 38 years of service, and is a C.H.A. member. We hope he will continue his interest in C.H.A. matters and remain an effective member of our organization.

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C.H.A. PLANS FOR 1969 - NATIONAL AND REGIONAL

Mr. N. Anderson was elected National President, C.H.A. for 1969.
Mr. B. Lusk was elected Vice-President, C.H.A. (Pacific) for 1969.
Mr. E. Brown was elected Vice-President, C.H.A. (Central) for 1969.
Mr. K. Williams was elected Vice-President, C.H.A. (Atlantic) for 1969.

Congratulations, fellows, and to all other members of the new national executive. At this time, also a few words of thanks are in order for the outgoing members of the national executive and the various committees. It is not easy to combine regional ideas and positions into common C.H.A. goals. Although differences of opinion still exist, you have done a good job in the face of many difficulties and misunderstandings.

The C.H.A. (Central) group has arranged a luncheon meeting for February 7, 1969, with Dr. R. Boyle, University of Saskatoon, as the guest speaker. His subject - naturally - Automated Cartographic Study.

The Dominion Hydrographer's committee on Training and Education meets in Victoria late February. C.H.A. regional Education Committee members will be attending this meeting where possible.

The C.H.A. National Meeting (No.3) is arranged for Tuesday, March 4, as a part of the Canadian Hydrographic Conference which is being held March 3-7, 1969 in Victoria.

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QUOTATIONS

You may, or may not, agree with the following quotations. If, however, they make you think, examine your prejudices as objectively as you dare, then we will have each accomplished something.

It appears to your editor that there exists today in the Western World a state of war against the democratic process - - direct action, often violent, is pursued in order to produce a confrontation with the establishment, be it academic or otherwise. It seems to be accepted by many that it is possible to make an issue of obeying or disobeying every law without repudiating the principle of majority rule and the democratic process to which that rule is integral. Edmund Burke said it much better than I could possibly approach.

"Men are qualified for civil liberty in exact proportion to their disposition to put moral chains upon their own appetites - society cannot exist unless a controlling power upon will and appetite be placed somewhere, and the less of it there is within, the more there must be without. It is ordained in the eternal constitution of things that men of intemperate minds cannot be free. Their passions forge their fetters".

From the Brief to the Senate of Canada Special Committee on Science Policy submitted by the Department of Energy, Mines and Resources, November 1968:

"It has been shown both in this department and elsewhere that the vitality of the data gathering group is stimulated by collaboration with the users of their data. Deliberate efforts are being made to integrate the operations of scientists and surveyors wherever this will result in either economy of operation or a broadening of interest for the personnel involved. Both groups became part of a team which has goals in which all the participants can identify themselves".

I think that the above quote correctly describes the changing role of hydrography. Does it describe your concept of the role the C.H.S. will play in the future? Do you agree or disagree?

Letters to the editor on both quotations will be welcomed and published in a future edition (with your permission).

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DID YOU KNOW THAT:-

Deferring action in acquiring ship support can result in greatly increased costs?
Last year, the U.S.C.G. sought a $12 million appropriation to build a new oceanographic cutter. Congress decided that they could wait and refused to put up the money. This year the price tag had risen to $14.5 million when the U.S.C.G. renewed its request. Despite a greater need than ever for evonomy, congress OK'd the cutter, feeling that a 20% increase boded ill if construction were deferred any longer.

An integrated production-development hydrographic survey of the Lower St. Lawrence will commence in 1969? This survey will be commanded by A.J. Kerr, Hydrographic Development Officer in Central Region and will be the field test of "Hypos" and "Sonodist" as well as many other innovations that have already been evaluated on other surveys. It is anticipated that the development group at A.O.L. will participate in this programme.

A consortium of oil companies plan to run a 100,000 ton tanker through the N.W. Passage in 1969, as part of their feasibility study on transportation of oil from the Prudhoe Bay Alaskan oilfield?

Polar Continental Shelf Project expect to be evaluating a hovercraft equipped with echo sounder and fixed strut transducer in the Beaufort Sea in 1969?

SOUNDING OFF

This is your page - to beef, moan, groan and otherwise relieve your pent up feelings about C.H.A., C.H.S, the establishment (whoever they are?), the high cost of living your next door neighbour, the weather - you name it!

As a starter - here is one of mine.

Why don't those who complain about the things C.H.A. has done or has not done stop leaving things for "Jack" to do? Why don't they become involved, accept collective responsibility for our decisions, change the things that can and should be changed and accept the realities of the C.H.A. role vis a vis the C.H.S.?

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OUR HUMOUR PAGE

Hey, Bud, How High's That Building?

Some time ago, I received a call from a colleague who asked if I would be the referee on the grading of an examination question. He was about to give a student a zero for his answer to a physics question, while the student claimed he should receive a perfect score and would if the system were not set up against the student. The instructor and the student agreed to submit this to an impartial arbiter, and I was selected.

I went to my colleague's office and read the examination question: "Show how it is possible to determine the height of a tall building with the aid of a barometer."

The student had answered: "Take the barometer to the top of the building, attach a long rope to it, lower the barometer to the street, and then bring it up, measuring the length of the rope. The length of the rope is the height of the building."

I pointed out that the student really had a strong case for full credit, since he had answered the question completely and correctly. On the other hand, if full credit were given, it could well contribute to a high grade for the student in his physics course. A high grade is supposed to certify competence in physics, but the answer did not confirm this. I suggested that the student have another try at answering the question. I was not surprised that my colleague agreed, but I was surprised that the student did.

I gave the student six minutes to answer the question, with the warning that his answer should show some knowledge of physics. At the end of five minutes, he had not written anything. I asked if he wished to give up, but he said no. He had many answers to this problem; he was just thinking of the best one. I excused myself for interrupting him, and asked him to please go on. In the next minute, he dashed off his answer which read: "Take the barometer to the top of the building and lean over the edge of the roof. Drop the barometer, timing its fall with a stopwatch. Then, using the formula S equals $\frac{1}{2}at2$, calculate the height of the building.

At this point, I asked my colleague if he would give up. He conceded, and I gave the student almost full credit.

In leaving my colleague's office, I recalled that the student had said he had other answers to the problem, so I asked him what they were. "Oh, yes," said the student. "There are many ways of getting the height of a tall building with the aid of a barometer. For example, you could take the barometer

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out on a sunny day and measure the height of the barometer, the length of its shadow, and the length of the shadow of the building, and by the use of a simple proportion, determine the height of the building."

"Fine," I said. "And the others?"

"Yes," said the student. "There is a very basic measurement method that you will like. In this method, you take the barometer and begin to walk up the stairs. As you climb the stairs, you mark off the length of the barometer along the wall. You then count the number of marks, and this will give you the height of the building in barometer units. A very direct method.

"Of course, if you want a more sophisticated method, you can tie the barometer to the end of a string, swing it as a pendulum, and determine the value of "g" at the street level and at the top of the building. From the difference between the two values of "g", the height of the building can, in principle, be calculated."

Finally he concluded, there are many other ways of solving the problem. "Probably the best," he said, "is to take the barometer to the basement and knock on the superintendent's door. When the superintendent answers, you speak to him as follows: "Mr. Superintendent, here I have a fine barometer. If you will tell me the height of this building, I will give you this barometer."

At this point, I asked the student if he really did not know the conventional answer to this question.

He admitted that he did, but said that he was fed up with high school and college instructors trying to teach him how to think, to use the "scientific method," and to explore the deep inner logic of the subject in a pedantic way, as is often done in the new mathematics, rather than teaching him the structure of the subject.

With this in mind, he decided to revive scholasticism as an academic lark to challenge the Sputnik-panicked classrooms of America.

By: Alexander Calandra.

EQUIPMENT TALK

Small Gyrocompasses have Precision Features:

Big names in the field of new, miniaturized gyrocompasses are Sperry Marine Systems Division, Charlottesville, Va.; S.G. Brown Ltd., Watford, England and C. Plath, made in Hamburg and distributed in the U.S. by Griffith Marine Navigation, New Rochelle, N.Y. The Sperry Mark 27 Gyrocompass, for instance, is a new, low cost, highly accurate heading reference specifically designed to meet the requirements of small military and commerical vessels. It requires only 2 cu. ft. of space and 50 watts of input power. Overall accuracy of the system is plus or minus 0.5 degree. It provides a direct readout where the compass is employed at the steering station. It can also be supplied with transmitters for compatibility with the steering stand, radar and other systems requiring heading information. Mean time between failure on the gyro element is in excess of 20,000 hr. Recommended for the large vessel is the Mark 227, a completely integral reference and data transmission system. The system consists of the master compass, compass controls and electronics, power converter, solid-state 70-volt repeater power supply, relay transmitter and a repeater distribution panel. This is a deck-mounted chassis with the compass gimbaled on the top.

A feature of the Arma-Brown gyrocompass is quick starting and small size. Max space occupied is 14 cu. in. and it takes 5 min. to get the wheel to speed. Total run-up time: 35 min. Error is 0.5 degree plus or minus, and the heading is read off the compass card contained within the unit. It is then channelled to operate repeaters, the automatic helmsman, and stabilization service for the RDF and the radar.

The C. Plath "MiniNavigat" is 14.4 in. in diam. and 22 in. high. The north-seeking element in the Mini-Navigat has a diam. of 160 mm. The aluminum sphere is coated with liquid plastic and filled with hydrogen to avoid corrosion, reduce gas friction and remove heat from the gyro. The two gyros of 580 grams each, spinning in specially tested precision ball bearings, require a single-phase ac of 333 hz, which accelerates them up to almost 20,000 rpm. The dual compass rose system on top of the control unit eliminates the need for a special steering repeater. The binnacle contains the transmitter for the repeater compass.

Omega 1 Navigation Receiver Now Available:

The Omega I is a newly developed commercial version of the AN/SRN-12 Omega receiver now under contract production for the

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U.S. Navy by Northrup Corp. of California. This unit is said to make dead reckoning extinct. Simple to operate, it provides the navigator with a fix to within two miles at any point on the globe.

Operating on 10.2 khz, it measures the phase difference between signals received from any pair of transmitters ashore. Ships position then is automatically displayed in digital form on the front panel. Typical time needed for the complete operation from observation to final fix is about one min.
- Northrup or Marconi International Marine, Elettra House, Westway, Chelmsford, Essex, England.

Some New Instruments to Aid the Navigator:

Motorola's Government Electronics Division has developed transponders for both X-band and C-band radars. Placed anywhere, such as a wreck, buoy, or iceberg etc, the small unit weighing about 3 lb. will produce a bright unmistakeable blip on an approaching ship's radar screen. The units, which have a very low battery current drain, are ideal for search and rescue missions, fishing ground locations, convoy station keeping and ASW helicopter applications. Also, equipping drill rigs with the distinctively coded radar transponder enables a support craft to see and identify them at max radar range.

Honeywell's Test Instruments Division has developed a maritime distress tone generator, Model TG-502A. When switched on, the battery-driven unit will provide a transmitter modulating signal that penetrates the babble on 2182 Khz to alert Coast Guard monitors and vessels within range to distress or emergency calls. It contains two audio oscillators (1300 and 2200 hz) which are alternately triggered for 250 msec by a multi-vibrator. The 2182 distress frequency is constantly monitored.

SCM-Kleinschmidt has installed the first marine Telescripter Printer. Kleinschmidt is a division of SCM Corp., 299 Park Avenue, New York City. The Telescripter Printer is essentially a receive only telecommunications page printer, which is said to be small, light and simple by comparison with other telecommunication page printers. It is an impact-dot type printer which works from a code of audio beeps picked up by the radio receiver. Present models print at 75 WPM using a 7 by 9-in print matrix in a 9 by 13-in. area. The non-print portion of the 9 by 13 area allows clean areas between the lines and characters. It uses few moving parts, no ultra-high-speed movements, thereby furnishing a high level of reliability.

Racal Communications, Silver Spring Md. has available a radio receiver that permits direct measurement in digital form, of true received signal frequencies over a range of from 1 Mhz to 30 Mhz. The frequency range also can be extended to 3 Khz for LF operation. The system, Racal Type RS 6551, is the only

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one currently available that has the capability of measuring and displaying the true frequency without the use of transfer equipment, it is stated. This equipment finds its primary use in monitoring applications such as checking the frequency of signals from radio stations or from ships. In addition to its frequency measurement role, the equipment can be used as a standard receiving terminal for back-up operation.