

The Nova Scotian Surveyor

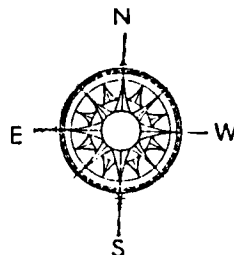
Published Quarterly under the Auspices of

The Association of Provincial Land Surveyors
of Nova Scotia Incorporated

Founded 1951

R. E. Millard, P. L. S., Managing Editor

Incorporated 1955



VOLUME 8

DECEMBER 1958

NUMBER 17

The Eighth Annual Meeting

held in the Lord Nelson Hotel, Halifax, N. S., Monday and Tuesday, October 27th and 28, 1958.

MONDAY'S MINUTES

The eighth annual meeting of the Nova Scotia Land Surveyors Association met in the ball room of the Lord Nelson Hotel, Halifax, October 27th and 28th under the chairmanship of the President, Colonel Ball. About seventy members attended representing the Province from Yarmouth on the West to Sydney on the East, and proved to be one of the most interesting meetings to date, both as to attendance and business transacted.

The Eighth Annual Meeting was opened at 10:15 a.m. with an address of welcome by President Spencer Ball.

PRESIDENT BALL'S OPENING ADDRESS:

Gentlemen:

It is with unusual pleasure that I welcome you to the Eighth Annual Meeting of our Association, and extend a specially warm greeting to the many visitors from our sister provinces and the United States. We are particularly fortunate in having with us a number of valued friends from Ottawa, and we hope to benefit from discussions with them, of our problems and their experiences. You will be hearing from several of these gentlemen as the programme is presented, but I shall ask them shortly to identify themselves and give their affiliations.

This meeting is one of extreme importance, as it falls a couple of months prior to the assembling of our provincial legislature, at which time the Bill on which we have spent so much time, thought and effort will be presented. Plans and preparations of all kinds are now in motion and must be considered by the meeting and endorsed or altered to their satisfaction.

Since you did me the honor of installing me as your President a year ago, events have marched in a devious and unexpected manner. Some of our hopes were rudely shattered; some were

realized beyond expectation.

The thoughts which were uppermost in our minds after the last annual meeting were concerned with the impending meeting of the House and its consideration of our Bill. What happened is now past history and would be unprofitable to discuss here except for the lessons which might be drawn from this experience. The situation was discussed by your executive committee which met as required to deal with all necessary business. The minutes of those meetings were sent to all members, so that the proceedings and decisions are in the hands of every member.

Briefly the plan which we adopted was:

- (a) to engage the best legal aid we could to take the bill, recommend what changes, if any, he found to be necessary, and to pilot it in its final form through the next session of the House;
- (b) to have a small committee stand by for attendance at the House committee before presentation to the Legislature;
- (c) to urge all members of the Association to approach their parliamentary representatives with requests for their support, to be prepared to answer questions and supply information as far as possible;
- (d) to use publicity at the appropriate time to help mould public opinion to our support;
- (e) send to every member of the legislature a copy of our briefs covering the reasons for the new Bill.

Each of these steps must follow in logical sequence, at its appointed time. We have already commenced with the appointment of Mr. W. J. MacInnes, a member of the legal firm of Wickwire, MacInnes and Wilson; this gentleman comes to us very highly recommended, and has accepted

our proposal that he act for us. The next step will be the publication of articles for the benefit of the public, following the opening of the new school at Lawrencetown. The remaining steps will fall into position as we receive our material from Mr. MacInnes.

These are the measures we have taken to rectify the failure of our proposed legislation. We have searched and checked on all sides to discover the reasons for this failure and have applied our counter measures as they were revealed.

Interests in our legislation is not by any means confined to our membership, or to our own province. This was clearly evident at the last annual meeting of the New Brunswick Association last January, where a place was reserved on the programme for a report on our progress. I had the honour of acting as your representative at Fredericton and found a vigorous and intelligent executive guiding a loyal and enthusiastic membership. We had opportunities for discussion and found, in general, that our problems are much the same as theirs, the striking difference being that the New Brunswick Association has been blessed with remarkably good fortune in its legislation, while ours has been dogged by a sequence of ill luck that might have discouraged less hardy citizens.

So much for the seamy side of our record. On the reverse side we find plenty to gratify us. Our members have met all the vicissitudes with a steadfastness that is admirable, and it seems that misfortune only serves to harden our determination to overcome all obstacles. This quality has far reaching consequences, and is one on which we may congratulate ourselves. It would be wise not to become complacent, and above all not to neglect any precaution. The battle is not always to the strong nor the race to the swift.

Now I must touch on the outstanding event of the past year, for which we are jubilantly grateful; on Wednesday next, 29th inst., the new building of the Nova Scotia Land Survey Institute will be officially opened at Lawrencetown. This marks the first important milestone in the history of surveying in this province, — perhaps in this country. For some time the eyes of all Canada and parts of the United States have been upon us; we have attracted wide attention by our unanimous endorsement of the Holloway Report. Two things only were required for the achievement of this goal first, the legislation establishing our association as the official governing body for Nova Scotia; and second, a school capable of carrying out the drastic advance in training envisaged by our plans. Our expectation was that the legislation would precede the school, but unforeseen delays have reversed the order. We are now faced with a "fait accompli" — a new school capable of giving instruction in all types of surveying, photogrammetry, and cartography. The term has already been extended to two years.

This outstanding accomplishment is not the work of our association, strongly as we may support it, and heartily as we may endorse it, individually or collectively. The credit for this must go to the Department of Education, whose staff have shown a co-operation, foresight and wisdom unusual in most places, and positively shocking when discovered in our own bawliwick. I hope our members, guests and visitors from other provinces and the United States, will not hesitate to join us in congratulating these gentlemen for their splendid achievement, whenever opportunity offers.

I regret that I was unable to attend the meeting of the Canadian Institute of Surveying in Ottawa last February; my place was ably filled by Mr. Robertson, our secretary, who will give a short account of his experiences there.

There is little to add before we proceed with our other business. I would be remiss, however, if I did not pay tribute to the staunch support I received from your executive, your secretary, and the members generally. They gave unstintingly of their time and effort, voiced their opinions without fear or favour, and drove to their objectives with a unity and a single-mindedness of purpose such as I have never before experienced. You are fortunate, gentlemen, to have such quality to use in your organization, for the future will require greater loyalty, greater effort, and greater rewards will follow.

In closing, I ask you to pledge yourselves anew to the cause we have espoused, and to accord to your incoming officers the same support you have given in the past. With your proven abilities, your native courage and your indomitable hearts there can be no other result but success.

May the Infinite Mind whose creation we attempt to measure and plan, give you guidance to a prosperous issue.

President Ball then introduced the visitors;

He first introduced Mr. R. F. Mucklestone, Vice-President of the Association of Ontario Land Surveyors.

Mr. Mucklestone thanked President Ball on behalf of the Association of Ontario Land Surveyors for the invitation to attend the Eighth Annual Meeting.

President Ball then introduced Mr. Willis Roberts, Assistant Director of Surveys, Department of Lands and Mines, Province of New Brunswick.

Mr. Roberts thanked President Ball for the invitation to attend the Eighth Annual Meeting, and said that the greetings from the New Brunswick Association should come from the President, Mr. Brown who is present at the meeting.

President Ball then introduced Mr. Ralph Brown, President of the Association of New Brunswick Land Surveyors.

Mr. Brown said that he was very pleased to

attend our Eighth Annual Meeting, and that he hoped for the success of the new Act at the next session of the legislature. Mr. Brown mentioned passing through the town of Springhill on the way down from New Brunswick and asked to extend condolence to the people of Springhill and the people of Nova Scotia at this time of tragedy.

President Ball then introduced Mr. J. B. O'Neill, Past-Chairman of the Ottawa Branch of the Canadian Institute of Surveying.

Mr. O'Neill thanked President Ball and said that he brought the best wishes of the Ottawa Branch of the Canadian Institute of Surveying, and said that the Ottawa Branch would be willing to assist if we were interested in forming a Maritime Regional Branch in this area.

President Ball then introduced Mr. Llewellyn T. Schofield, President of the Massachusetts Association of Land Surveyors and Civil Engineers.

Mr. Schofield said that it was a real pleasure to be back again and to represent the Massachusetts Association of Land Surveyors and Civil Engineers at this Eighth Annual Meeting. Mr. Schofield said that in Massachusetts, they too had experienced difficulty in having new legislation passed but that they have finally been rewarded with success this year. Mr. Schofield invited the members of the Association of Provincial Land Surveyors of Nova Scotia to attend the Fourth Annual Meeting of the Massachusetts Association of Land Surveyors and Civil Engineers to be held in the Hotel Bradford at Boston on December 5th, and 6th, 1958.

President Ball then introduced Mr. A. Phillips Bill, Chairman, Property Surveys Division of the American Congress on Surveying and Mapping.

Mr. Bill said that he was honoured by the invitation to attend this Eighth Annual Meeting of the Association of Provincial Land Surveyors of Nova Scotia, and said that he knows that he will enjoy his visit to Nova Scotia. He said that his parents had come from the Maritimes.

President Ball then introduced Mr. Lester C. Higbee, Past President of the American Congress on Surveying and Mapping.

Mr. Higbee said that this was his first visit to Nova Scotia, and mentioned that the weather here is the same as they have been having in Troy, N. Y. (rain). He said that President Williams of the American Congress on Surveying and Mapping would have enjoyed attending this meeting. Mr. Higbee said that the Congress is inviting other organizations to affiliate with them and invited the Association of Provincial Land Surveyors of Nova Scotia to consider affiliation, and invited our members to their meetings in Washington. Mr. Higbee said that he was just back from the Western meeting in California, which was very interesting.

President Ball then introduced Mr. James Canning, Secretary-Treasurer of the Association of

Newfoundland Land Surveyors.

Mr. Canning said that he brought the best wishes of the Association of Newfoundland Land Surveyors, and said that he hoped we would be successful in passing our legislation this year. Mr. Canning extended the invitation to their meeting in St. John's in January.

President Ball then introduced Mr. S. C. Gamble, President of the Canadian Institute of Surveying, and Director, Surveying and Mapping Branch, Department of Mines and Technical Surveys.

Mr. Gamble said that he brought greetings from the Minister of Mines and Technical Surveys, and the Canadian Institute of Surveying and on behalf of all surveyors wished to extend sympathy to the people of Springhill. Mr. Gamble said that he was very pleased to attend the meetings and also the opening of the new Survey School at Lawrencetown on the day following the meetings here in Halifax. Mr. Gamble commented on the new school and said that it was a step in the right direction. Mr. Gamble invited the members to attend the meeting of the Canadian Institute of Surveying in January. Mr. Gamble informed the members of the advantage of forming District branches of the Institute such as has been done in Montreal and Ottawa. Mr. Gamble said that the job of the Canadian Institute of Surveying is to educate the surveyors and keep them informed. Mr. Gamble said that it is their hope that every surveyor in Canada should be a member of the Institute. He said that it has been the policy of the Institute of Surveying to keep the fees as low as possible. Mr. Gamble said that one of the important functions of the Canadian Institute of Surveying is to represent Canada at international conferences. Mr. Gamble said that the Institute recognizes the fact that it is not possible for a great many members to attend the Annual Meetings in Ottawa as it is in a good many cases, often too much of a financial sacrifice to do so. However, members may profit by the forming of regional branches, or as they should be called, local branches. Mr. Gamble said that this has been very successful in both Ottawa and Montreal. Mr. Gamble said that the formation of regional or local branches gives the opportunity to all branches of surveying, the engineering surveyor, the photogrammetrist, etc. Mr. Gamble said that there are no different classes, such as member, associate, and junior member as there is in the parent Institute, and this gives a chance to the younger members and also gives them broader ideas in surveying. Mr. Gamble said that the branches are aided financially by the Institute, and the branches are expected to be of great value to the Institute. Mr. Gamble said that the Institute welcomes papers from the Provincial Meetings.

Mr. Ralph Brown, President of the Association of New Brunswick Land Surveyors said that he

wished to mention that Mr. Harold Tait, Director of Planning for the Province of New Brunswick, Mr. Charles Cook, Past President of the Association of New Brunswick Land Surveyors, Mr. Neil Flemming, and Mr. Auguste Landry, surveyors with the New Brunswick Department of Lands and Mines, were present at the meeting.

President Ball then asked Messrs. Tait, Cook, Flemming, and Landry to stand.

President Ball then called on the Secretary-Treasurer to read the minutes of the last Annual Meeting.

The Secretary reminded the members that the minutes of the 7th Annual Meeting had been published in the Nova Scotian Surveyor, and made the motion that the minutes be adopted as published.

Seconded by Prof. E. O. Temple Piers. Motion carried.

President Ball then called on the Secretary-Treasurer to present the financial report.

The Secretary-Treasurer said that copies of the financial report had been distributed among the members and made the motion that the financial report be accepted as printed.

Seconded by Mr. Eldon Adams.

Mr. March said that he would like to mention the honorarium of \$150.00 paid to the Secretary-Treasurer and wondered if at a later time we could consider an increase to the honorarium.

President Ball said that he agreed with Mr. March and asked for the opinions of the membership.

Mr. Adams said that we still have a motion on the financial report and asked if this could be adopted first.

The motion that the financial report be accepted as printed was then passed.

Mr. Adams stated that the honorarium to the Secretary-Treasurer should be increased, and that he would make a motion that the honorarium to the secretary-treasurer be increased to \$250.00.

Seconded by Major Church. Motion passed.

Mr. Adams said that he would like to see the Association make a donation to the Springhill Disaster Fund, either from the funds of the Association, or by taking a collection at the meeting.

Mr. Eldridge made the motion that the Association make a donation of \$100.00 to the Springhill Disaster Fund.

Seconded by Prof. E. O. Temple Piers. Motion passed.

President Ball then called for the report of the scrutineers.

Officers elected for the year 1959 are:

President: Herbert Martell

Vice-President: Walter E. Servant

Secretary-Treasurer: H. B. Robertson

Halifax City Area: John A. McElmon, A. F. Chisholm

Halifax County: William S. Crooker, John R. Fiske

Western part of Province: Donald E. Wagstaff, Errol B. Hebb

Eastern part of Province: J. Ronald Chisholm, Donald L. Eldridge

Cape Breton Area: Eldon Adams, John E. MacKenzie

President Ball said that the new slate of officers would be installed during the last afternoon of the meeting instead of during the afternoon of the first day as in previous years.

Mr. Adams said that he feels that the districts do not have enough to say about the names that appear on the ballots, and wondered if some other method of obtaining these names could be devised. Mr. Adams said that they hold regional meetings in the Cape Breton Area, and could make up a list of the names to appear on the nomination list for the Cape Breton Area, and that other areas could do the same.

Prof. Piers said that this could be done if the members in the Cape Breton area or any other group could make up a list of the names that they wish to appear as their representatives on the nomination list. If they would do this it would be most welcome by the nominating committee.

Mr. March said that it was his impression that this was already the function of the members of the Council.

Mr. Adams suggested that each region could have their own branches and elect their own officers.

Mr. Llewellyn Schofield explained that they started with branches in Massachusetts and later formed the large group, and that they have five regional groups. He said that the business is actually formed by the regional groups.

President Ball told Mr. Adams that his suggestion could be placed before the incoming Council.

Mr. Adams said that he is of the opinion that regional meetings would mean an increase in the membership of the Association.

Mr. Tupper said that the Department of Highways divides the Province into four districts, with a district engineer in each district. He said that the Association should try and do something similar and form district groups so that the members in each group could get together.

Mr. Adams said that possibly the new Council should take the responsibility of organizing these groups and that a motion is not required.

Mr. John E. MacKenzie said that he would be most glad to contribute and that he feels that the organization of regional groups would create more interest in the Association.

Mr. Adams asked for the views of the New Council Members at this time

Mr. Martell said that he would go along with Mr. Adams' suggestion that the incoming Council look into the matter of forming regional groups.

Mr. Servant said that he would go along with the suggestion.

Mr. Crooker said that he was in agreement with Mr. Adams, and that he feels that something should be done about it before too long, but was doubtful of the boundaries and that they should be made the most convenient for all members and not tied down to physical boundaries.

President Ball said that the idea of regional districts should be studied very carefully.

Mr. Eldridge made a motion that the members of the Council take Mr. Adams suggestion back to their local members and then report to the full Council.

Seconded by Mr. March. Motion carried.

Mr. Dickie said that he is of the opinion that something should be done regarding the members who are behind in their dues. He said that it is costing the Association money to send the "Nova Scotian Surveyor" and other literature to these members.

Mr. Crooker said that he agrees with Mr. Dickie, but does not think it would be wise to take action at this time.

Mr. Martell made a motion that the Secretary compile a list of these members and send that list to the members of the Council so that each Council Member could contact those in his district and remind them that they are behind in their dues.

Seconded by Mr. Adams. Motion carried.

Mr. Irwin Cameron asked what is stated in the by-laws.

The Secretary then read Section 3 of the by-laws which states; "A member shall be deemed to be in good standing if his annual dues are not more than three months in arrears, and if there is no proved charges or complaint on file regarding him in respect to unprofessional or improper conduct or contravention of these by-laws."

President Ball said that the only answer is in the passing of our new legislation.

The question was brought up regarding the present day graduates in civil engineering, and if these graduates are qualified as land surveyors.

Mr. Adams said that he feels that engineering and land surveying are separate professions.

Mr. March said that he noted that the Massachusetts Association is called the Massachusetts Association of Land Surveyors and Civil Engineers, and asked Mr. Schofield if he would explain how this is worked.

Mr. Schofield said that in Massachusetts, up until their recent law was passed, anyone could become registered as a land surveyor, but that under the new law an engineer will have to produce evidence that he is qualified to practice as a land surveyor.

Mr. Tupper asked Mr. Schofield if it is possible to be a land surveyor in Massachusetts without first being an engineer.

Mr. Schofield said that there are many who practice only land surveying, and will continue to do so for many years.

Prof. Piers then brought up the subject of the inaccurate maps of Canada which show the Maritime Provinces at least five hundred miles nearer the north pole than it actually is. He mentioned the maps displayed in the restaurant windows by the Canadian Restaurant Association.

Prof. Piers said that he has approached Government officials and others in a campaign to have these maps replaced, and asked for the support of the Association.

Mr. March then made the motion that the Association support Prof. Piers in his efforts to have these inaccurate maps of Canada replaced by more accurate maps.

Seconded by Mr. Adams. Motion carried.

Mr. Higbee said that he feels that a lot of "Yankees" never even look at the map because they feel that Nova Scotia is a most delightful place to come to.

President Ball then brought up the question of life membership and referred to such members who are retired and are no longer able to engage in active surveying. President Ball said that this question had been brought up at one of the recent meetings of the Council when a letter from Mr. W. P. Morrison was read to the members of the Council. In this letter, Mr. Morrison stated that he was now retired and is no longer able to survey and asked to resign from the Association. President Ball said that Mr. Morrison had contributed greatly to the surveying profession, and that he would like to see him made a life member of the Association.

Mr. March said that he felt the same as President Ball about this matter, but that he did not think that there was anything in our by-laws pertaining to life membership.

The Secretary said that there is nothing in the by-laws to permit the appointment of life members, and informed the meeting that it would require an amendment to the by-laws.

The Secretary said that an amendment to the by-laws would require that a motion be passed at the Annual Meeting and then passed by letter ballot to the entire membership.

FINANCIAL STATEMENT

For period October 31, 1957 to September 30, 1958

Bank Balance October 31, 1957	\$ 215.11	
Receipts	1,386.40	
Expenditures		\$ 1,003.17
Bank Balance September 30, 1958	598.34	
	\$ 1,601.51	\$ 1,601.51

Details of Expenditures

Editors expenses re: The Nova Scotian Surveyor	\$ 8.87
Printing 2,000 envelopes	26.40
August 1957 issue of the Nova Scotian Surveyor	52.80
Postage	40.00
Flowers for the funeral of the late F. A. Harrison	10.00
Printing programs and pocket cards for 1957 Annual Meeting	19.53
1957 Annual Meeting and Dinner	217.75
Delegae to attend New Brunswick Annual Meeting	17.65
200 Membership Cards	10.73
Honorarium to the Secretary-Treasurer for 1957	150.00
December 1957 issue of The Nova Scotian Surveyor	105.60
Long Distance Telephone Calls	17.20
February 1958 issue of the Nova Scotian Surveyor	49.50
Post Office Box Rental	6.00
Printing fees for Bill 119, 1958 (Queen's Printer)	98.50
May 1958 issue of The Nova Scotian Surveyor	49.50
250 sheets 8½ x 11 white print paper	3.39
Delegate to attend the 51st Annual Meeting of the Canadian Institute of Surveying	108.00
	\$ 991.42
Bank Charges:	
Exchange on cheques (not deducted on Deposit)	\$ 9.25
Bank operating charges	2.50
	\$ 1,003.17

Respectfully submitted,
H. B. Robertson, P. L. S.
Secretary-Treasurer

Tuesday's minutes to appear in February issue.

President Ball said that the Annual Meeting should have the authority to amend the by-laws.

It was decided to defer this matter until the business session of the following day.

Mr. Adams asked if the Association could make a contribution to the Land Survey School, and asked for the views of the members later in the meeting.

At 12:30 p.m. President Ball adjourned the meeting until 2:30 p.m.

The meeting then recessed for lunch.

Following the recess for lunch, President Ball called the meeting to order at 2:30 p.m.

President Ball then introduced Mr. S. G. Gamble, Director, Surveying Mapping Branch, Department of Mines and Technical Surveys, Ottawa, who then presented a very interesting paper on the "Topographical Survey", which was illustrated by the showing of slides of the workings of the Topographical Survey.

Following Mr. Gamble's paper the members and guests left the convention room to see the Tellurometer Display, which, due to rain was held from one of the hotel rooms instead of on the north commons as intended. By setting the remote unit up on Citadel Hill and the master unit in the window of the hotel room Mr. Keith Rosebrugh and Mr. Blair Erskine were able to put on a display of the Tellurometer in operation.

Following the Tellurometer display the members adjourned until the Reception and Dinner at 7 p.m.

The Annual Reception and Dinner was held 7 p.m. with the Hon. R. Clifford Levy, Q. C., Minister of Lands and Forests and Municipal Affairs as the guest speaker. One hundred and thirty-nine people were present at the Reception and Dinner. This included the members, guests and their wives.

An innovation of this meeting was the invitation extended to wives and friends by the members to attend the annual banquet, many of which availed themselves of this opportunity.

For their entertainment two tours were provided: On Monday afternoon an extended tour of the City of Halifax followed by a tea at the home of Mrs. Colonel Ball. On Tuesday afternoon a trip to the wild life park at Shubenacadie with dinner served at the cook house. These trips were greatly enjoyed especially by those ladies outside the Province.

A great deal of credit for this entertainment is due Mrs. Ruskin March, Mrs. Colonel Ball and to the Department of Lands and Forests.

Another feature that deserves mention here was the exceptionally fine display of instruments put on by the different concerns, nine in number—prices ranging from a few dollars to over ten thousand dollars.

Members Registered and Present at One or More Sessions

Robert Gougn, Halifax, N. S.
 H. B. Robertson, Halifax, N. S.
 R. E. Millard, Liverpool, N. S.
 J. C. Sherren, Moncton, N. B.
 Matthew McMullin, Mahone Bay, N. S.
 Spencer Ball Halifax, N. S.
 Frank Yates, Baddeck, Victoria County, N. S.
 Max. D. Rafuse, Halifax, N. S.
 Murray F. Cossitt, Sydney, N. S.
 J. E. MacKenzie, Glace Bay, N. S.
 Eldon Adams, Sydney, N. S.
 Robert Sarty, Halifax, N. S.
 J. Carl MacDonald, Halifax, N. S.
 E. Whitby, Halifax, N. S.
 V. P. Harrison, Halifax, N. S.
 J. E. R. March, Halifax, N. S.
 C. H. Robart, Moncton, New Brunswick
 R. E. Dickie, Liverpool, N. S.
 D. E. Wagstaff, Liverpool, N. S.
 J. H. MacDougall, Antigonish, N. S.
 J. Ronald Chisholm, Antigonish, N. S.
 George T. Bates, Halifax, N. S.
 Neil Flemming, Fredericton, New Brunswick
 Auguste Landry, Collette, New Brunswick
 F. W. McKeown, Halifax, N. S.
 W. E. Servant, Halifax, N. S.
 S. G. Snow, Ecum Secum, Guysborough Co., N. S.
 Irwin Cameron, Milton, Queens Co., N. S.
 Freeman Tupper, Halifax, N. S.
 L. Robert Feetham, Windsor Junction, Halifax Co., N. S.
 Gerald MacDougall, Amherst, N. S.
 E. O. Temple Piers, Halifax, N. S.
 Herbert Martell, Sydney River, Cape Breton Co., N. S.
 John A. McElmon, Halifax, N. S.
 W. C. Coolen, Rockingham, Halifax County, N. S.
 J. Allan Ingarfield, Halifax, N. S.
 T. E. Hollingum, Halifax, N. S.
 F. Lyndon Gray, Truro, N. S.
 Chester Keen, Marshalltown, Digby County, N. S.
 W. S. Crooker, Port Wallis, Halifax County, N. S.
 D. L. Eldridge, Truro, N. S.
 Paul Wendt, Ellershouse, Hants County, N. S.
 K. W. Robb, Dartmouth, N. S.
 A. F. Chisholm, Halifax, N. S.
 Errol B. Hebb, Bridgewater, N. S.
 Angus MacMillan, Antigonish, N. S.
 Millan MacDonald, New Glasgow, N. S.
 Robert Hunt, Liverpool, N. S.
 G. W. I. Creighton, Halifax, N. S.
 Oliver H. Manuel, Lunenburg, N. S.
 R. M. Schofield, Dartmouth, N. S.

GUESTS REGISTERED:

James Canning, Secretary-Treasurer, Association of Newfoundland Land Surveyors, St. John's, Nfld.
 Llewellyn T. Schofield, President, Massachusetts Association of Land Surveyors and Civil Engineers, Framingham, Mass.
 S. G. Gamble, President, Canadian Institute of Surveying, Ottawa, Ontario
 Ralph Brown, President, Association of New Brunswick Land Surveyors, Fredericton, N. B.
 C. F. Cook, Past President, Association of New Brunswick Land Surveyors, Fredericton, N. B.
 J. B. O'Neill, Past Chairman, Ottawa Branch, Canadian Institute of Surveying, Ottawa.
 Lester C. Higbee, Past President, American Congress on Surveying & Mapping, Troy, N. Y.
 W. F. Roberts, Assistant Director of Surveys, Department of Lands and Mines, Fredericton,
 R. F. Muckleston, Vice President, Association of Ontario Land Surveyors, Brockville, Ontario
 Harold E. Tait, Director of Planning, Province of New Brunswick, Fredericton, New Brunswick
 A. B. Grant, Topographical Survey, Dept. Mines and Technical Surveys, Ottawa, Ontario
 W. L. MacLellan, Topographical Survey, Dept. Mines and Technical Surveys, Ottawa, Ontario
 A. Phillips Bill, Chairman, Property Surveys Division, American Congress on Surveying and Mapping, South Deerfield, Mass.
 S. E. Daykin, Photographic Survey Corporation, Montreal, P. Q.

EXHIBITORS REGISTERED:

Keith Rosebrugh, Tellurometer (Canada) Limited, Ottawa, Ontario
 J. Blair Erskine, Tellurometer (Canada) Limited, Ottawa, Ontario.
 R. F. Paul, Carsen Instruments Limited, Toronto, Ontario.
 L. A. Garnett, Garnett Scientific Sales Limited, Halifax, N. S.
 D. W. Wright, Garnett Scientific Sales Limited, Halifax, N. S.
 Stuart S. Carver, Hughes Owens Company Limited, Halifax, N. S.
 Gordon Mitchell, Hughes Owens Company Limited, Halifax, N. S.
 Murray Lyon, Norman Wade Company Limited, Saint John, N. B.
 Capt. H. L. Henriksen, Kelvin & Hughes (Canada) Limited, Halifax, N. S.
 Murdoch Hattie, Eastward Industries Limited, Halifax, N. S.
 Ed Pelle'ier, Keuffel & Esser of Canada, Limited, Montreal, P. Q.
 W. C. Kitchen, Seaman-Cross Limited, Halifax,
 H. G. Hartling, Seaman-Cross Limited, Halifax,
 Jack Northover, Block & Anderson Canada Limited, Halifax, N. S.
 T. D. Beresford, Atlantic Aviation, Halifax, N. S.

CONTROL FOR URBAN PLANS

FROM AERIAL SURVEY

Presented at the 7th Annual Meeting of the Association of Provincial Land Surveyors of Nova Scotia

J. R. H. Church, P. L. S.

For the past few years there has been a tripartite agreement between the Department of Municipal Affairs, the Department of Mines, and certain Incorporated Cities and Towns.

Department of Municipal Affairs paid part of the cost, Department of Mines does the bulk of the technical work, Incorporated Towns need the accurate plans and will probably pay some of the cost. (Note: This has since been discontinued. — R. E. M.)

The desired end is the production of accurate contoured plans, scale 200 feet to the inch, of all Incorporated Cities and Towns.

Specification for Control.

1. Closed traverses within the urban boundaries, lineal closure 1/10,000.
2. Elevations of all traverse stations, determined vertical closure. Permissible discrepancy 0.1 multiplied by the square root of number of miles.
3. Traverses to be tied into a Permanent Monument if such be within the urban area, otherwise governing traverse should be between 2 such monuments.
4. Elevation to be referred to Geodetic Bench Mark.
5. Individual traverse stations to be referred to objects, identified on large scale photos, measurement, and plotted on each photo.
6. All original field notes to be furnished, together with traverse computations, showing total Co-ordinates on the Plane Rectangular Projections, using a Permanent Monument as origin.
7. As a corollary two Permanent Monuments must be found, or an Astronomic Observation made to determine Azimuth.
8. Particulars of Permanent Monuments and Bench Marks are obtainable from Mines Branch, Halifax.

These are exacting specifications for Nova Scotia, although commonplace in more advanced provinces.

Equipment Available

1. One T1 Wild Optical Transit.
2. One No Wild Level (by preference).
3. One 200 foot tape and one 100 foot.

The work had to be done without benefit of temperature correction which was an almost unjustifiable risk, but no such equipment was available.

Personnel Available

Students who had put in 6 months at the Nova Scotia Land Survey School — several had two years experience in woodland survey with the magnetic compass but all green at Transit, especially optical, and tape traverses.

Results Obtained

Control work at 4 Towns has been done with satisfactory closures:—

	Closures	Total
	1/10,000 or better	1/9850
Closed Traverses	39	1 40

There was one discrepancy at a station, common to 2 traverses, (18666 feet station E and 0.303 feet station N.) but this was on a Railway right of way and when adjusted to what constituted the control traverse of the Town, the closure of the faulty traverse was changed from 1/11,000 to 1/30,000. This was attributed to lack of experience on the part of the Instrument man.

Triangulation

	No.	Angular Closures
Triangles	1	03"
	1	08"
Total	2	

Level Circuits

To specification	Below specification	Total
45	x2	47
0.05 feet in 1.25 miles and 0.03 feet in 0.83 miles		

Traverse between Permanent Monuments

Distance Measured	Linear	Angular
39,000	1/14,700	06"
Method Employed		

Transit:

Reliance was placed on the Double Deflection Angle method carrying the double Azimuth on the plate — truly it is a time consuming method, but it very definitely does eliminate accidental errors and permits of a field check at each station before it is abandoned.

Chaining:

Two crews of chain men were employed, the front and rear chain men each keeping a field note book, which must tally at each station. Each crew worked independently and were required to agree to .01 foot per chain length. This is, of course, a council of perfection, there is a tendency to slur the check due to the indiscipline of the rising generation.

Slope Measurements:

On gradual slopes reliance was put on measurements with Topographic Hand Level, on steep slopes intermediate pegs were lined in by transit at less than chain length (200 feet), angles read on the V. C. measurements from top of peg to trunion, and corrected for slope and sag. Lack of field judgement and the tendency towards indiscipline militated against the proper use of this precaution.

Appreciation of the Method

Judging by results the method was adequate and one must admit a large element of luck, but it requires too much time and is too expensive. In the writers opinion the proper equipment would be:—

1. A T2 Wild reading to seconds with 2 subtense bars and 3 sets of legs.
2. The work should be done at night — minimum traffic.
3. By suitable arrangement traverse and levelling can be done in the one operation.
4. Survey crew — 4 men in lieu of the 8 we employed.

Wild instruments are specified because those are the only ones with which the writer is at all conversant, and he is greatly beholden to Mr. D. H. Peden of Wild Canada who, on hearing of our difficulties, expressed a T2 and subtense bar, on loan from Ottawa.

A word of caution seems required — a man trained in handling the engineer's transit can not substitute an optical instrument and be accurate and fast — he must have a lot of practice to attain good results. The students could not make time or get results with the T2 and subtense, this is not the fault of the optical instrument but is merely evidence of lack of experience.

Azimuth Determination

If Azimuth determination be necessary nothing less than an Optical Transit reading to seconds should be used, because an Angular discrepancy of 01" at a mile amounts to a departure of 0.3 inches, so to meet the specification of 1/10,000 one must determine Azimuth to a tolerance of 21". I would suggest that 10" should be the criterion. At one Town this had to be done. The job was not clean cut due to unfamiliarity with the Wild T2, and experience of the observer, but the mean of 3 observations on stars near the Prime Vertical East and West with one on Polaris gave a mean within 03" of the mean of two observations one on Polaris, one on the Prime Vertical West, which agreed to within a second of arc.

Computations

The triangulation was computed by 7 figure logs on G.S.G.S. form 12, co-ordinates from bearing and distance on G.S.G.S. form 10. Departures and latitudes were computed for all traverse stations by 8 figure natural functions to every second (special Publication No 231 U. S. Government Printing Office — a very handy book), and a 10 bank MONROE manually operated computing machine — all were entered to 3 places of decimals. Here again we ran into an experience which showed the advantages of modern equipment — Mr. Ted Martin, 83 Birmingham Street, Halifax, lent us on trial an electrically operated MERCHANT machine which cut the time by 2/3, as compared with the manually operated machine, good as that is.

Summary

Apart from handicaps due to inadequate equipment our main preoccupation was the destruction of Permanent Survey Monuments, consequent upon more recent highway improvements some 26 monuments in the vicinity of the four Towns were sought and only 7 found, 3 of these were mutilated by some vandals — percentage destroyed 73 — too high.

A question we must all ask ourselves is — how many Land Surveyors in private practice have the equipment to handle this type of work, or that required in the Mines Act Chapter 179 Revised Statutes 1954, both of which are based on the Plane Rectangular Projection and accurate Azimuth determination to say 10". The answer must be very few because the standard of work required in the Province, by virtue of the Provincial Land Surveyors Act, is so low as to make it financially impracticable for the private practitioner to equip himself adequately. The only organisations equipped to do work of a high standard are:

- Department of Lands and Forests.
- Departments of Highways.

Department of Mines, who are charged with the administration of the Mines Act and Aerial Surveys of incorporated Towns.

1. Department of Lands and Forests have adequate equipment and precise regulations governing the conduct of surveys.
2. Department of Highways — adequate equipment and their own problems about which I know little.
3. Department of Mines — adequate equipment but apparently the volume of work necessitated the calling in of outside help.

The private practitioner has no regulations to govern the conduct of his work, no standard for legal descriptions, plans, or registration of deeds, and the blame for this state of affairs lies wholly on the inadequate Provincial Land Surveyors Act.

Provincial Land Surveyors Act

The only executive body constituted by the Act is the Board of Examiners for Provincial Land Surveyors (Sect. 1).

Constitution of Board:

1 Chairman and 2 members.

Appointment:

By Lieutenant Governor in Council.

Meetings:

Statutory one per year — additional meeting at discretion of chairman.

Powers:

- (a) Granting of certificates of competency.
- (b) Appointment of one or more examiners.
- (c) Suspension or cancellation of certificates for certain statutory offenses.
- (d) Re-instatement of suspended or cancelled certificates.
- (e) Regulation for inspection of instruments.

It can be summed thus:

Sections of Act dealing with Board	Governor in Council	Surveyors	Total
14½	2½	5	25
66%	11%	23%	100%

What does that look like? One is asked why do you want to amend the Act? The answer is contained in the above table. It is nothing short of ludicrous to expect a 3 man board, as a part time occupation, to regulate and supervise the work of a Province wide organisation for the conduct of whose work there are no specific regulations or code. There is no intention of criticising the Board of Examiners — theirs is an impossible job which can not be done under the conditions laid down. The Nova Scotia statutory examination may be cited as an acid test of the functioning of the Board — it is without question the lowest standard of examination in Canada. No paper has been set yet on the Mines Act, Highway Act, Town Planning Act, to quote a few — British Columbia's examination has papers on 8 Acts other than survey.

This is no captious criticism — just think for a moment what would happen consequent on the discovery of minerals (a project dear to the heart of the Provincial Government), it would be chaos, we are not equipped to handle it.

One Provincial Government Department has introduced legislation requiring modern methods of survey which are common practise in more advanced provinces — we can best look to our sister provinces for guidance in our efforts to improve our conditions.

Remedy

In every Province west of the Bay of Fundy, the examination, regulation, discipline, and control of Land Surveyors, is delegated by Provincial Legislatures to the Provincial Corporation or Association of Land Surveyors — let no one think that the Provincial Government Survey Organisations do not work hand in glove with their respective Associations — Just have a talk with any of the Survey Officers.

The problems of surveys by unauthorised men is a headache in any man's province. Apparently in Nova Scotia the duty of laying information devolves on the individual who is loth to incur the loss of time, financial cost, and opprobrium which attaches to the informer. With a responsible body of Surveyors to whom power has been delegated for administration of the Act, the opprobrium attaches to an impersonal body, and malpractice is prevented.

It would appear that no professional organisation can be expected to function to the benefit of the public unless it be granted the power to discipline and regulate the actions of its members — instances the legal, medical, and nursing professions.

Nova Scotia has given the laissez-faire system an exhaustive trial — we are now the only province on the main land living in the dark ages of Survey Land Tenure, and Registration. As a final, and it is hoped clenching, comparison:

Province or Colony	Area Sq. Miles	Population	Term of Apprenticeship or experience
Nova Scotia	20,743	600,000.	12 months
Newfoundland	43,000	400,000.	24 months
Grenada B.W.I.	133	75,000.	36 months

How do you like that? the richest, most populous of the 3 political divisions quoted requires the least time of training as a Land Surveyor — and yet there are a number of people who appear to think our Land Survey Act is adequate to our needs.

If this appreciation of our Land Surveyors Act, cursory and incomplete as it is, has helped to show that drastic amendment is required, you will make it your business to interview your member in the House of Assembly with the purpose of interesting him in the idea of amendment. It won't do to "leave it to George". What is left to George never gets done.

James A. H. Church, P. L. S.

November 4th, 1957

The Topographical Survey

By S. G. Gamble, Director, Surveying and Mapping Branch, Department of Mines and Technical Surveys, Ottawa.

Mr. President, honoured guests and members of The Association of Land Surveyors of the Province of Nova Scotia:

First, I should like to convey to your Association greetings and best wishes for a successful meeting from the Honourable Paul Comtois, Minister of Mines and Technical Surveys, and also the greeting of your sister association, the Canadian Institute of Surveying. During the course of your meeting I hope to have an opportunity of saying something of the work of our Canadian Institute of Surveying, yours and mine. I have been looking forward to attending your Annual Meeting, and am very pleased you invited me this year and hope you will invite me to attend other meetings.

My good friend and predecessor as President of The Canadian Institute of Surveying, Rusty March, suggested that I speak to you today about the tellurometer, since I had the good fortune to be associated with the first trials made of it in Canada.

However, the tellurometer success story is getting longer and much has been spoken and printed about it this past year — I therefore mildly protested, went ahead and started a paper on the tellurometer at the same time suggesting to Rusty that I speak about the Topographical Survey instead.

A few days ago I received a copy of your program and was surprised and pleased to see that I was scheduled to speak on the Topographical Survey. My original paper has, therefore, been drastically changed although I must confess that towards the end of it there is the odor of the tellurometer.

The function of the Topographical Survey Division of the Surveys and Mapping Branch is to compile topographical maps of Canada. At the present time the main emphasis is on mapping the whole country at 1:250,000 scale, and the more important areas at 1:50,000. In addition to these scales a small amount of mapping at large scales is undertaken for other government agencies. Mapping is primarily for resource development purposes, and, consequently, many of the maps of the more settled areas are out of date. Many of you must have noticed that the new development areas around Halifax, Truro and other centres are conspicuous by their absence on our maps. You would be insulted if we called such areas under-developed, and hence we have not put the same emphasis on revising these maps as we do on preparing maps for the development of our natural resources. However, we hope to be able to make a start on a map revision program in the next year or so.

Besides compiling maps the Topographical Survey administers the National Air Photo Library,

which contains a print of each air photograph taken by or for the federal government, and which arranges for the supply of air photos to private and public agencies. It also administers the Canadian Board on Geographical Names, the agency responsible for ruling on names and especially those used on our maps. We were privileged to have Mr. J. P. Messervey for a number of years as the member for your province.

Since the Topographical Survey depends upon the support of other divisions of the Surveys and Mapping Branch, I shall briefly describe their functions. The Geodetic Survey is responsible for the main network of control both vertical and horizontal in the country. The Hydrographical Service charts the coast lines and navigable inland waterways. The Legal Surveys and Aeronautical Charts Division is responsible for legal surveys in the Northwest Territories and the Yukon, as well as those carried out in federal parks and Indian Reserves within the provincial boundaries. This division also prepares the electoral maps, aeronautical charts and the Canada Air Pilot.

The fifth division is the Map Compilation and Reproduction, which does the final drafting of our maps and the printing of charts and maps prepared by other divisions of the Branch, as well as for several other government agencies. The Topographical Survey depends upon the Geodetic Survey for primary control, and the Map Compilation and Reproduction Division for the publication of its finished product, the printed map. Much information is also exchanged with the other two divisions.

To a group of surveyors, I am going to make a rather startling statement. If it were possible to make accurate maps without ground surveys, the Topographical Survey would not have a field staff. Personally, I am very pleased that such cannot be accomplished; so we have our field staff—almost fifty field officers who staff twenty-five to thirty field parties each year in various parts of Canada using many types of equipment and transport. Over the past few years, there have been great changes in the work and the same party today can obtain map control for many times the number of map sheets or for a much larger area than it could — say twenty years ago. It would be difficult to give the reasons for this in their order of importance, but they are transport including improved communications, air photography, new instruments, and a staff that can use these to advantage. Not that the present staff are any more capable or less capable than their predecessors, but do have the advantage of these developments, and have learned how to use them.

Let us now consider the effect on our work of improved communications including better roads and possibly better vehicles. We take advantage of the better roads and in the prairies use trailer camps, which can be moved frequently with a minimum of time off the job. Aircraft, particularly the float equipped Beaver, and the two or three man helicopter, have been a tremendous boon to our northern work. The problem of establishing survey control in the Ungava Peninsula or northwest Yukon area by ground travel would be formidable—not impossible, but time consuming and, consequently, very costly. Using a helicopter an observer is able to observe from five or six miles apart each working day, whereas by ground methods it might take him two or three days to get to and occupy one hill.

About twenty years ago I had the good fortune to be sent to the Yukon—the Mayo district. We spent 3½ days on the train, 1 day in Vancouver, 3½ days on the coastal steamer, 1 day on the Whitehorse pass and Yukon railroad, 1 day in Whitehorse and 3 days going down the Yukon River to Pelly farm in small boats, a couple of days more getting the pack string ready, and then we moved off to the hills, almost three weeks after leaving headquarters. Now the unfortunate surveyors take the train to Edmonton, fly to Whitehorse, take a truck to Mayo, and within less than a week out of Ottawa find themselves on top of a hill. Progress I suppose, but it used to be a very pleasant trip, and it even took longer to return.

Air photography was first used in the territories, but aircraft could not fly high, and short focal length cameras were not available, so vertical photographs were unsuitable for mapping; not enough coverage per picture. However, the low oblique was useful, and much good mapping was done by the so-called Canadian oblique method. The ground control was either by stadia traverse along navigable waterways, using canoes, or by astro fixes. As suitable photographic aircraft flew higher, however, and lenses became better, the vertical photograph gradually displaced the oblique. Along with improved photography a great deal of photogrammetric plotting equipment has developed—Multiplex, Stereoplanograph, Kelsh, Ballplex and Autograph, just to mention a few. With good air photos and with 60 percent overlap and suitable ground control, remarkable things can be achieved with this equipment. For example with the best equipment we could take photographs from 15,000 feet and draw an accurate 10 foot contour, or from 1000 feet draw a pretty fair 6 inch contour or a good 1 foot contour. If we can draw a 10 foot contour from 15,000 feet and only require a 25 foot contour, then we can reduce our vertical control by using this precise equipment to bridge control over several overlaps. Also we can carry horizontal control over quite a few photographs, and for a map sheet say

17 x 22 miles covering approximately 400 square miles we may only require half a dozen horizontal ground control points. For vertical control, we may run three or four lines of elevations by precise barometer at right angles to the direction of flight. The vertical work may take 3 to 4 hours of flying.

This is surely a far cry from the days of plane-tableing when it would take a survey party a whole field season and furthermore the photogrammetric map should be a better map.

Until very recently the development in field instruments did not keep pace with those in transportation and photogrammetry. Certainly, the light interval reading transit has been a great improvement, and has cut down on the time of observing as has the self-levelling level, but they have had little influence on the survey techniques used.

Following the second world war, surveyors started to take an interest in the electronic equipment used by the airforce for detection and navigation. In Canada several notable developments took place, the first being the adaption of a narrow beam radar unit into a combination camera, radar, sensitive altimeter and continuous recording device called the air profile recorder. The National Research Council, the RCAF and the Legal Surveys and Aeronautical Charts Division worked on this equipment, and it has turned out to be very useful, not only for its original purpose of obtaining height information for small scale aeronautical charts, but also for medium scale maps where the contour interval is not too close. Under certain closely controlled conditions we have used it for 1:50,000 mapping with 50 foot contours. Another development which was undertaken by our Geodetic Survey was the application of shoran to the problem of extending a second order network of geodetic control over northern Canada including the Arctic Islands. Mr. J. E. R. Ross, former Dominion Geodesist, has written several excellent articles on this subject, and I can assure you that this work has been of inestimable value to Canada.

Another system I would like to mention, and which is being used extensively by our Hydrographic Service, is the two range Decca system for the location of their survey ships when undertaking sounding operations. This was a British not a Canadian development, and was first used along the Atlantic seaboard of Europe in the three range form in the navigation of ships and aircraft. All these methods of survey, however, require a considerable amount of complex equipment, and are only suited to large scale survey operations, such as are undertaken by national governments. Furthermore the surveyor has little direct control over many phases of the operation.

A few years ago a Swedish Scientist, D. Erik Bergstrand — invented an ingenious electronic distance measuring device which he called the geodi-

meler. The purpose of this instrument was to give accurate distance measurements for geodetic work eliminating both the tedious and time consuming process of measuring bases by the tape method, and expanding these bases into a triangulation net. Our Geodetic Survey has been using a geodimeter successfully for the past three field seasons. Unfortunately the equipment has some limitations: since it depends upon the time taken for light waves to travel from the master unit to the other end of the line, and be reflected back to the master, it can only be operated on fine nights. Furthermore it is quite cumbersome, weighing about 500 lbs., requires care in handling and should only be operated by experts.

Last but by no means least of the instruments I shall mention is the tellurometer, and since I understand that a demonstration will be given this afternoon, I need not describe it nor its method of operation. We in the Topographical Survey had been looking for just such a device for several years, and had in fact entered into contract with a Canadian manufacturer to develop a microwave measuring instrument.

On hearing about the tellurometer, our Director, Mr. W. H. Miller and Dr. L. E. Howlett, Director of Applied Physics, National Research Council, visited South Africa in May 1956 in order to assess its value for our work and to advise whether work should be continued on the Canadian microwave instrument. They were so impressed with the demonstration given by the South Africans that orders were immediately placed for several sets of instruments out of first production, and they pointed out to the officers of the Telecommunications Laboratory of the South African Council for Industrial Research that the tellurometer had a much wider application than they envisaged.

On receipt of the first sets in April 1957 we immediately started a series of trials and amongst other things found they could be moved without difficulty by helicopter.

The Topographical Survey used tellurometers on several surveys in 1957 with unqualified success. In the Ungava peninsula operation we managed to complete in one season, work, which would normally have taken two seasons, at a saving of over \$200,000. In the prairies one of our surveyors completed 1300 miles of traverse, whereas a good season's work using the chain would be 600 miles. In a test around Ottawa a traverse of 30 odd miles of about 25 courses closed exactly, no adjustment being possible to the consternation of our computing staff. This same traverse was extended a further 45 miles, and the closing error this time was 4 feet — still well within the acceptable limits. The tellurometer was also used on several other surveys, and we were so pleased with the results obtained that

more tellurometers were ordered for use by the various divisions of our Branch in the 1958 field season. I will not attempt to tell you of the work performed with them this year, but shall merely say that they have rapidly won for themselves a prominent place amongst the survey equipment used by the Surveys and Mapping Branch. Now I would like to speak about the people who do our field work. Each summer we send a number of field parties to the mountains, the prairies, the northern woods and tundra, and the Maritimes. For technical assistants we employ university students and have done so for many years. In the 1920's and 30's much of our work was in the Maritimes, and it is not surprising to find that many of our permanent staff are graduates from the Engineering Schools of New Brunswick and Nova Scotia; in fact a former Chief Topographical Engineer, Mr. K. C. Chipman and my successor Mr. A. C. Tuttle are two examples of this method of recruiting. Mr. P. E. Palmer also came from the east, although he initially worked in the Surveyor General's office on Dominion Land surveys.

In the past we considered Civil Engineering as being excellent training for our work, but unfortunately less and less surveying is being taught on most civil courses, and more and more complex equipment is being introduced into surveying. In Europe where land values are high much emphasis is placed on university education for surveyors and many excellent degree and post graduate courses are given in surveying which they call geodesy and photogrammetry. I think most of you will agree that there is a great deal of survey work to be done in Canada.

I do not wish to detract from the excellent work that the Nova Scotia Land Survey School and similar schools have done and will continue to do. We are pleased to have a number of Major Church's graduates in the Topographical Survey. They have been given good basic survey training, and have applied themselves diligently to their work. There is room, however, for at least one full time degree course in surveying, and the value of such a course to Canada would be out of all proportion to the cost involved.

There must be several amongst you who wish to see your sons follow in your footsteps, and at the same time have the benefit of a university education. Would a degree course in surveying not be the answer?

I am sure that if the Nova Scotia Land Surveyors Association along with other provincial land survey associations would consider this problem and give the Canadian Institute of Surveying the benefit of their views and their support we can rest assured that a degree course in surveying will be given by a Canadian university before very long.

"Advice From a Father Of a Four Year Old"

By Willis F. Roberts, Assistant Director of Surveys, Department of Lands and Mines,
Fredericton, N. B.

I have taken the responsibility of changing the title of this paper to conform more closely to the impression I received from a member of your Program Committee. "Advice from the Father of a Four Year Old".

My understanding is that your Association is now showing definite signs of conception, no faltering this time, with the expected time of arrival the middle of February or early March; the Doctors in attendance, your Provincial Legislative Assembly and the God-father, His Honour Major General E. C. Plow, Lieutenant Governor of your Province. I, being the father of a four year old Association and one of the only two living fathers in Canada (the other, I could stand corrected, is Sid Willett of Newfoundland, father of their five year old Association), felt honoured at this opportunity to be asked to offer advice to you as expected parents of a new born Association.

Our New Brunswick Association had a shot-gun wedding which needs no further explanation. Your Association has had long years of courtship, the past five years of married life marred at times by annual disappointments over not obtaining a Private Act, at times blaming each other, some running back home to their local politicians or lawyers for advice. At times being dormant knowing mutual silence is far better than open violence, all learning in one way or another mutual respect and now that the one main event in your Association's life is expected to arrive within a few months, I know you are planning several years ahead and my advice may only be to confirm your future plans.

Although our parental age and experience may be the direct opposite, our new Associations have to grow up and mature in the same environment and locality and I believe it is because of this and the fact that the New Brunswick Association has had a four year advantage that I have been asked and I will now attempt with full humility to advise your Association on its manner and responsibilities.

I should like to divide my advice into two phases, the first being advice to each individual member which I will dwell on; and secondly, advice to your Council. To each of you I would say be proud of your Association, your membership in the Association, attempt to understand the general public's view of your Association, understand the good points in each of your fellow members. You have to live as one happy family. There are a few don'ts which I feel are very pertinent and I will list them now:

Don't lean on the Association, have it lean on you.

Don't feel that the Association owes you a living.

Don't try to use the Association for your own financial gain at the expense of the Association or your fellow Surveyors.

Don't blame the Association for your own mistakes or wrong doings.

Don't instigate trouble or as the Army called it don't be a barrack room lawyer".

I know many of you in the years to come will find the line is very fine to draw between the do's and don't but keep your principles high and let off steam on this floor at your general meetings and not to each other or worse still, to the general public outside.

In giving advice to your Council, I can only list the bylaws necessary to efficiently control your Associations and a few words about each one. You all know it is the Council's responsibility to draw these up for presentation to you as soon as possible after the passing of your Act. I have not read the final draft of your Act so my suggested bylaws may not be all embracing and some may be superfluous.

Code of Ethics — There are two thoughts in drawing up your Code of Ethics, one being to be able to legislate or control your members under the code and the second is to set an aim or high ideal which everyone tries to live up to. I rather favour the last but in either case, keep it clear and precise and always in the singular; further, do not use such words as under supervision, under care of, which naturally gives two or more meanings to your ideas.

Examining Committee — A must from the very beginning and the one on which your Association will grow. Be very explicit in laying down your Standards but at the same time give your Board of Examiners considerable freedom for there is nothing more unfair than to have a candidate wait several months for an amendment to be made to this bylaw.

Minimum Standard Tariff — A bugbear in all Associations, not an immediate must and where it is a minimum tariff listen carefully to the little fellow, so called, who has a better perspective of what a dollar means than the more prosperous surveyors. I may not be appreciated for saying this but listen to the Civil Servant or the permanently employed member least of all.

Election of Officers — You all realize the necessity for this but put the responsibility for keeping the machinery going on your Secretary who will likely have many years experience and not on your annually elected officers who, although they have

the best of intentions, are bound to miss a certain nomination, ballot, etc. day.

Honorary and Junior Membership — It is better to set this bylaw up now and not become in a very embarrassing position of wishing to make an appointment, say in time for your annual dinner, and find yourself without a by-law.

Annual Budget — Some may argue that this should be a Committee and not a by-law but I think you will find it very necessary to gain a strong financial position and then to maintain this against members who become over enthused about some scheme and pass a quick motion causing a later financial embarrassment.

Standards of Survey Practice — This may take a few years to achieve but remember we have no Survey Act, few regulations and if you are to be an Association, you must set your own Standards of work, accuracy and recording of information and not let companies town planning commissions or other boards lay down your Standards or specifica-

tions but have them automatically accept your specifications not in a dictatorial way but with confidence that you will maintain as high or higher a standard of work than they themselves would lay down.

Lastly, your Council is responsible for establishing several committees along with their responsibilities. These committees may be administrative, educational or exploratory but definitely define their responsibilities. You may have any number of committees, some may run continually, others for one specific topic. Committees are the Council's workhorse. A few suggestions could be: PROGRAMME, EXHIBITS, REGISTRATION, PHOTOGRAMMETRY, CARTOGRAPHY, RECIPROCIITY.

In closing, my best advice will be for you to understand your past history yourselves and your objectives. I have dealt in general with the first two, you know your own objectives better than I do.

W. F. Roberts, N.B.L.S.

"The New School"

By President S. G. Gamble of the Canadian Institute of Surveying, Ottawa in the 1958 Report of the Nova Scotia Land Survey Institute at Lawrencetown, Annapolis County, N. S.

On Wednesday afternoon, October 29th, 1958, the new school built for the Nova Scotia Land Survey Institute in Lawrencetown, Annapolis County, was officially opened. I was very pleased to be able to accept the invitation of the Honourable Malcolm Leonard Provincial Minister of Education, to be present on that occasion which was of special interest to Canadian surveyors.

Dr. H. P. Moffatt, Deputy Minister of Education, presided over the ceremony and an excellent account appears in the Oct. 30th issue of the Halifax Chronicle-Herald. Amongst the several hundred guests were officials of the Nova Scotia Government, graduates of the school, friends in Lawrencetown, and a number of surveyors and their wives, including official representatives from the survey associations of Newfoundland, Nova Scotia, New Brunswick, and Ontario, the American Congress on Surveying and Mapping, our own Institute, and its Ottawa Branch.

The new building is simple in design, attractive, bright and roomy and should provide ideal accommodation for the important work that is planned for the school. Of greater importance than the building, however, is the bold and progressive step taken by the Nova Scotia Department of Education in extending surveying training to a two-year course and adding two new courses cartographic drafting and photogrammetry. I am certain the demand for draftsmen and photogrammetric

technicians as well as surveyors trained at this school will be very great.

Most of our members will know about the school for land surveyors which started in Lawrencetown, N.S., thirteen years ago. The founder and chief instructor, Major J. A. H. Church, our Councillor for Nova Scotia, gave an informative talk on the school and its training at our Annual Meeting in 1948. The extension of the work of the Institute has been greatly assisted by funds bequeathed for the founding and maintenance of a vocational school in Annapolis Valley by the late Dr. J. Hall, a distinguished educator and native of Lawrencetown, and the donation of the land on which the school stands by the Lawrencetown Branch of the Canadian Legion. Memorial plaques were unveiled to both Dr. Hall and the Legion.

I have invited Mr. Darrell Mills, Associate Director of Vocational Education, to tell us more about the school at our Annual Meeting in January. Soon we shall have degree courses in surveying and we hope that Lawrencetown graduates will be given suitable credit for their course. Meanwhile we congratulate the Department of Education of Nova Scotia, the Lawrencetown Branch of the Canadian Legion, Major Church, and the many others who worked and planned for this fine building for the Nova Scotia Land Survey Institute.

S. G. Gamble,
President

Surveying & Drafting Instruments
White & Blueprinting Machines
Instruments (1951) Limited
4646 Decarie Blvd., Montreal, P. Q.
Montreal — Ottawa — Toronto — Regina

For particulars write or call:
Norman Wade Co.
LIMITED
88 Princess St. Saint John, N. B.
Exclusive Maritime distributors
**Wild Transits and
Levels**
For any requirement in:
Reproduction, Drafting, Surveying and
Engineering Equipment and Supplies

**GARNETT OPTICAL
CO. LTD.**

AND

**GARNETT
SCIENTIFIC SALES**

THS — Alpha — Fennel
Surveying and Drafting
Instruments and Supplies

BOX 1164 HALIFAX, N. S.

Eastward Industries Ltd.
exclusive representatives for the
KEUFFEL & ESSER COMPANY OF CANADA
K & E TRANSITS, LEVELS, RODS ETC.,
in stock.
293 Young Street Halifax, N. S.

Kelvin Hughes (Cam) Ltd.

HALIFAX: BRUNNING; SAINT JOHN

REPRODUCTION MACHINES
KERN SURVEYING INSTRUMENTS
ENGINEERING SUPPLIES

BETTER MEASURE WITH

LUFKIN

TAPES-RULES-PRECISION TOOLS

Send For Free Catalog

THE **LUFKIN RULE CO. OF CANADA, LTD.**
BARRIE, ONT.

A. E. SIMPSON LTD.



Aerial photography, for all purposes.
Photographic Mosaics for detailed
"surface" studies. Accurate and econom-
ical planimetric or contoured maps
or plans, at all scales, to meet your
layout, planning, location or other,
engineering needs.

1810 Laval Road

Montreal 9, Que.

**NOVA SCOTIA
LAND SURVEY SCHOOL**

Operated By

Vocational Education Division
Department of Education
Province of Nova Scotia

The Twelve Month Course Prepares One
To Sit For The **PROVINCIAL LAND
SURVEYOR'S CERTIFICATE**

Full particulars from:

J. A. H. CHURCH, P.L.S.
LAWRENCETOWN, NOVA SCOTIA

**The Hughes Owens Co.,
LIMITED**

A complete line of
Supplies for the Engineer, Surveyor and
Draftsman

Ozolid and Blueprinting
165-169 Hollis St., Halifax