EDITORIAL POLICY

The objectives of this publication are:

(1) to augment the means of communication between the Association and the membership and between the members of the Association;

(2) to publicize the work of the Standing Committees;

(3) to keep the membership abreast of the profession of Land Surveying and to follow the activities of other professional survey associations;

(4) to report on the activities and news of members of the Association, which may be of interest generally;

(5) to publish the views and opinions of the membership on topics of particular and general interest;

(6) to accept advertising to help defray expenses.

To accomplish this purpose, an Editorial Board is proposed, made up of the President, Secretary-Treasurer and the Chairmen of the Committees on Drainage, Education, Land Surveying, Legislation, Mining, Town Planning, Publications and Publicity;

Reporters:	Queen's Park	R. G. CODE, O.L.S.
	Toronto	L. D. JACKSON, O.L.S.
	Western Ontario	ROBERT R. SMITH, O.L.S.
	Eastern Ontario	DONALD W. BAIRD, O.L.S.
	Niagara Peninsula	J. A. COPELAND, O.L.S.
	Northern Ontario	
	Northwestern Ontario	

and the Editor, C. E. STAUFFER, O.L.S.

The Reporters mentioned have volunteered their services. Volunteers for the other districts are requested to contact the Editor.

It is expected that a bright and interesting publication will result if each member of this Board will submit, in turn, articles and ideas for publication.

Furthermore, to fulfil the objective of publishing the views and opinions of the membership, letters from the members are a must. May we therefore request your co-operation in this important objective.

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THE EDUCATION OF THE LAND SURVEYOR

by C. E. Stauffer

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The fact that so much active work regarding education of the Land Surveyor is being done by certain provincial Survey Associations, by the Canadian Institute of Surveying at Ottawa and by the American Congress on Surveying and Mapping at Washington, has led the Education Committee to study this subject as it affects Ontario.

The Education Committee believes that this subject warrants serious consideration by every practicing land surveyor in the Association. It is proposed, therefore, to present a series of articles on the subject of Education for the Land Surveyor in this and future issues so that, we hope, all sides of the question can be presented.

In this way, our membership will be acquainted with the problems involved.

This first article, by the Editor, does not necessarily reflect the views of the Committee. It is a general discussion of the subject of Education. We hope to discuss in subsequent issues, special aspects of education such as the Canadian Institute's proposal for a university course leading to a degree in Surveying, the possibility of instituting a co-operative system between a university and the Association, and the thinking of other associations on this important matter.

The Need for Education

Professor S. H. DeJong, at the January, 1958, meeting of the Canadian Institute of Surveying, in his paper "Education for Surveyors," prefaced his remarks by saying: "The need for education of surveyors at the professional level has been well-presented to this Institute by Dr. L. E. Howlett (1) and Mr. T. J. Blackutt (2) in the past year at its annual meeting and through its journal. It will be accepted by the writer that the case for the need has been established and this audience is substantially in agreement."

In 1957, a combined panel from the Property and Education Divisions of the A.C.S.M., discussed the subject of The Education of the Surveyor, which is published in the January-March, 1958, issue of Surveying and Mapping. Mr. J. L. Bell said "In approaching this subject of Education, I believe that it is first necessary to establish the need for education of land surveyors and to establish the fact that education for land surveyors is not now being adequately provided." He said further "In terms of the need of this education, I suggest that the public itself is in need of it and deserves it."

Much of the discussion regarding higher education of the land surveyor has come from the national level. How much more so then is it needed at the grass roots of the surveying profession, where it is closely related to the public, at the Provincial level.

A Sense of Values

Of what use is education? Let us discuss this for a moment. Here our sense of values must be applied. We must guard against ignorance, not merely the lack of knowledge, but the ignorance that consists in not knowing that there are better things, better ways of doing things, and a social responsibility to try to see and do these better things. A better education will help us to think clearly and reach good judgments, two things much needed in a profession such as ours.

This Changing World

Our changing world is evolving techniques in the science of surveying faster than most of us can even comprehend. We cannot estimate what changes will come in the future, but it is certain we cannot face these prospective changes with intelligence and serenity if we have only an education that was adequate a quarter century ago.

What is a Surveyor's Education?

We should ask, what is education? It must be useful, more useful than adeptness in the use of instruments and techniques. The aim of education should be to give give students a living fund of knowledge from which they may generate ideas. When they can bring relevent background to bear on a problem, assemble pertinent data, grasp relationships, appraise the values involved, and make a judgment - only then can it said that they are educated. What of those successful men who lacked a formal higher education? It will usually be found that such men have had a vital energy which drove them on to learn and study. Who can say that Winston Churchill is not a successful man? He says of himself, "I have no technical and no university education, and have just had to pick up a few things as I went along." An apt churchillianism.

Special Training is Required.

In the past, surveying has been akin to a trade, a highly specialized trade, requiring special skills and a certain degree of specialized knowledge. What of surveying today? A look at our present syllabus, or the proposed National Standard Syllabus might frighten off many of us older surveyors, if we were required to re-write our exams. Yet, our present standards are not high enough, as more and more employers of land surveyors are coming to realize.

What is Needed?

The question therefore remains "what is needed?" Courage will be needed. Courage to learn more than facts. Facts might win quiz contests, but will they win the prize that is life? That is, our professional life. Work will be needed, as well as the need to learn to work. Work of the mind as well as the work of the body. Discipline is needed. A disciplined mind is needed for useful thought and creative ideas, to cheerfully undertake imposed tasks. Obedience to ethical rules and objectivity towards contentious matters is essential to professional standing.

How to Achieve this Special Education.

And, lastly, how is this education that we have been discussing to be achieved? Certainly not by any apprenticeship system. Professor Ralph Moore Berry, Professor of Geodesy and Surveying, University of Michigan, in the A.C.S.M. panel discussion previously mentioned, is very vocal and definite on this subject. He says, "The movement toward the apprentice system gives particular cause for concern. Although this system served in the past, it is not the present-day approach toward professional education. It serves admirably for the training (note that I have not used the word "education") of plumbers, but fails miserably as a means of inspiring original thinking which, in the final analysis, is the true product of a profession. The apprentice system makes no provision for extended instruction in such subjects as mathematics and basic science. The practitioner on whom falls the responsibility for training under the apprentice system is seldom qualified to instruct adequately in these abstract subjects, seldom has the time available to devote to adequate instruction, and is usually inclined to be scornful of any material not directly applicable to the techniques of practice in his own office. This produces an atmosphere that is conducive to the learning of techniques, "tricks,""short-cuts," etc., which, while essential to the assembly-line production of the modern surveying office, are not formative of the background and thinking habits to produce a new generation of professional men."

"A recent variation of the apprenticeship system, which is perhaps an improvement but subject to the same basic objection, is the trend toward the "technical institute." This is an educational institution where training is imparted by the professional teachers (thus overcoming some of the objections to the apprenticeship system) but the training extends over a shortened period, usually two years, instead of the four years (minimum) presently devoted to the bachelor's curriculum in engineering. The training is, of necessity, confined to an exposition of the techniques of surveying without being able to devote much time to background material. Thus, it is subject to the same deadly criticism as the apprentice system - that it is not productive of the inspiration to original, independent thinking but, instead, produces a "handbook" type of practice."

"The foregoing criticisms of both the apprentice system and the technical-institute idea would not be valid if both systems were directed solely to the training of surveying technicians, instrumentmen, computers, draftsmen, etc., who are sorely needed today. In modern practice, the principal practitioner of the firm does not make all measurements, compute his own data, and double as his own draftsman. He is increasingly dependent upon a large crew of technicians, each expert in his own specialty, to perform many of the operations essential to his practice. The final product, however, is the result of his personal interpretations of the data produced by the technicians and for which he, alone, is responsible. No amount of technical manipulative skill will stand as the equivalent of the judgment and creative thinking thus required. If it is realized that, in general, these systems will only produce the technicians who must not consider themselves as candidates for professional registration, a valid requirement for them will have been established without criticism."

"The practice of a profession requires an extensive technical background in a particular discipline and the exercise of considered judgment in the solution of its problems. The technical background is acquired through a prolonged course of study, usually at university level, enhanced by the cumulative experience of succeeding years of practical, applied, progressively-difficult work. In the exercise of judgment, there is no set of rules to guide its application, and the subject matter is so technical that it is not possible for the average client to judge the competency of the practitioner or the adequacy of his solution. It is probable that few will disagree with these principles or with the association of the practice of surveying with them. However, it is believed that many surveyors, while stoutly maintaining that surveying is a profession, are working towards its ultimate exclusion as such. If this should occur, the profession will have only its own members and their myopic thinking to blame."

(End of quote)

Present Methods Outmoded.

Because our profession is becoming so complex, and the education of our prospective new members is becoming more academic, we must review our ideas on apprenticeship and articleship. At one time the apprenticeship program provided the entire training of the young candidate with the result that the term apprenticeship today denotes only practical experience. The advantages of this form of qualification through a preceptorship which previously existed are almost forgotten today or are gone forever.

If then our present system of qualification by articleship is not the answer to today's professional educational needs, what is the alternative?

Some interesting practical alternatives are available. In future issues we will discuss some of these alternatives. In the meantime, please let us have your comments on this highly-important subject.

(1) The Canadian Surveyor,
Vol. XIII, Number 8,
Distance Measurement, L.E.Howlett.

(2) The Canadian Surveyor,
Vol. XIII, Number 8,
Is a Special Education for "Surveying" Necessary?
T. J. Blackutt.

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ASSOCIATION NOTES

WANTED by the Land Surveys Section of the Department of Highways, to complete its library of O.L.S. Annual Reports.

1 copy of each of the following Annual Reports - 1886, 1890, 1893 and 1896.

Members who may have copies to dispose of are requested to advise Mr. N.D.BENNETT, O.L.S., Chief Inspector of Surveys, Department of Highways, Parliament Buildings, Toronto.

WANTED by SIDNEY W. WOODS, O.L.S., 301-305 Lister Block, Hamilton, Ont.an Ontario Land Surveyor; someone with at least three years O.L.S. experience and preferably with some city or subdivision knowledge.

Anyone interested is requested to contact Mr. Woods.

MEMBERS are requested to advise the Association office of any permanent change of address.

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In a Lighter Vein (Scene - A Drug Store)

Customer: I want it some talcum powder.
Clerk: Mennens?
Customer: No, Vimmins.
Clerk: Do you want it scented?
Customer: No, I'll take it wid me.