

*by F.J.S. Pearce**

The Philosophy Recently two concepts have so impressed me that they have become a part of my philosophy and are used as the basis of this talk. The first is "the wealth and strength of a nation depends upon the breadth and vitality of its educational system". The second is that "self-governing bodies exist only for the protection of the public". The latter quotation comes from the third volume of a recent Royal Commission Enquiry into Civil Rights. This Commission, among other things, investigated the self-governing professional bodies, of which the Association of Ontario Land Surveyors was one.

Educational Jurisdiction Traditionally, and by our very constitution, matters of education are within the provincial jurisdiction. This does not suggest that we should be reluctant to request, and plead, for federal funds to support our educational system. When such funds are provided, however, we usually resent any conditions being attached to the grants. A few years ago the federal government offered financial assistance to the provincial governments, and there were conditions attached to the use of the funds. This assistance was deemed urgent, as the study of the national picture indicated that the provinces were not providing adequate training in the vocational or technical fields. A fifty percent grant was paid by the federal government on all vocational classrooms built throughout the nation. This was a great blessing for education, but also it was an indictment of the provincial educational departments for their lack of foresight.

Technical Training It has been recognized for many years that the surveyor's support team must contain technically trained men, yet not one survey course was introduced in the Province of Ontario during the period when federal grants were available. If we criticize the provincial government for poor planning, we should also chide the survey association. As a defence for our lack of action, we can always state that the present technician and technologist concept was only an embryo at that time and not fully identified.

Recently, in Ontario, we have established Colleges of Applied Arts and Technology (Community Colleges) which fully recognize the technician. At the present time there is one three-year survey technology course and five two-year technician courses in existence. It is interesting to note that the curriculum and the location of these courses have been determined mainly by the efforts of the survey association.

Certification and the Technician Corporation Within three years the survey technician has been identified; - he has been certified by a profession body, and he has membership in a corporate association. Those certified now outnumber the members of the Association of Ontario Land Surveyors.

The constitution of the technical group does not confine membership to those employed by land surveyors. A number of members are employed in the related survey fields, but there is not a sufficient number to state that they represent the broad fields of survey. Representation to join has been made to other smaller groups and they reply that they see no value in such an affiliation. The desire for self-autonomy by the smaller groups appears to be the reason for not developing the broad survey organization. An integrated survey society is bound to appear at the technician level, but the technician group may have to establish a departmental approach in its structure in order to woo the cartographers and photogrammetrists.

Technician
Leadership

The technicians have been blessed by strong leadership with a professional orientation rather than a union approach. Their earliest efforts have been to establish a highly qualified membership. Initially they have applied the grandfather clause for membership, but very shortly the new members must complete a minimum of two years in a survey course and have two years of experience for full membership.

In collaboration with an international correspondence school the technicians have arranged that all requisite survey subjects for certification are available by correspondence. Very shortly these courses will be available for every prospective student in the country.

Liaison

In all the steps of the formation of the technician association, and the corresponding survey technician courses the Association of Ontario Land Surveyors has been an ardent supporter. By by-law we have established a joint liaison committee and it meets regularly to discuss matters of mutual interest and concern.

Future for the
Technician

The future for the technician and technologist and their contribution to the economy of our province will depend upon the leadership of the group and the recognition by those providing leadership in the Association of Ontario Land Surveyors. The strength of the association of technicians lies in the early development of a philosophy. Will it take upon itself the Royal Commission approach that it exists only for the benefit of the public, or will it narrow its viewpoint and be mainly concerned with salary adjustments, and working conditions--taking on a union-like approach. One of the objects entered in the incorporation papers of the corporation is "to increase the knowledge, skill and proficiency of the members of the corporation". This makes for a sound guide to the future.

The Surveyor
in Transition

Some may question whether the surveyor in Ontario, or in other parts of Canada, has really been in transition. It is true that the changes and advances have not been as spectacular as in the technician area, or as in other professions, but do not be deceived that the surveyor's course is not now charted. Great changes have not occurred but then the surveyor has not been in an atmosphere which generates change.

Land Surveyor's
Background

Land surveyors in Ontario are regarded as a professional group by the labour laws of the province as well as being considered by statute to be a self-governing body. Yet, in many ways they do not enjoy the status of other professions due to their small numbers and lack of strong formal education. In the past the association has obtained its university graduates mostly from engineering and forestry departments. Over the years these departments have deleted more and more survey from the course content and proportionately we have been receiving fewer and fewer graduates into our association.

A number of years ago our association attempted to have passed a new surveyors act in which a prerequisite to membership in the association was a university degree. At that time self-governing bodies were not in favour and there was a lobby against a method of membership which recognized only the university graduate. We were frustrated in defeat. Last year we again introduced a new act, but this time we made no change in the basic educational requirement. This time our act was not accepted as it

was not in conformity with the recommendations of the Royal Commission Report on Civil Rights. Still undaunted we proceeded immediately with the study of the Royal Commission Report, drew up a new act in conformity with the report, and presented it to our Minister two days ago.

The new act, if adopted by the legislature, will establish a much improved method of administrative procedure, but it does nothing for an advanced academic standard. We now recognize that the statutes are not the place for the establishment of educational standards. Last year the Council of our Association directed the committee on education and the Board of Examiners to jointly draft a by-law which would establish our survey examinations at the baccalaureate degree level. Further, a new commission course was to be drawn which would assure competency by the surveyor in the legal aspects of his work. This course would involve approximately 137 hours of lecture and seminar time. This by-law was enacted last month and it will be before our membership for ratification next week.

The Extent
of Survey

When millions of dollars are spent each month on survey in the Province of Ontario, and I dare not guess how much across the nation, then I believe that we who are in the profession should take some steps to ensure that those who are the leaders and co-ordinators of the work performed should be sufficiently well trained to bring efficiency into the projects.

Objects Within
the Surveyors
Act

Within our proposed surveyors act are a set of objects which read as follows: 1. To regulate the practice of professional land surveying and to govern the profession in accordance with this act, the regulations, and the by-laws. 2. To establish and maintain standards of knowledge and skill among its members. 3. To establish and maintain standards of professional ethics among its members in order that the public interest may be served and protected. If a part of object (2) is read along with the general statement at the end of the objects, we have this "to establish standards of knowledge in order that the public interest may be served".

What is Expected
of the Survey
Profession

From the professions we expect advancements in techniques. The medical profession might be considered one of the leaders in developing new techniques. Many of the new scientific developments occur in a program of research at the University. How many universities have survey faculties or even survey courses, and how many carry on graduate studies in survey. Survey is the neglected profession--and to such an extent that it could be called a provincial disgrace, and possibly a national disgrace.

Mr. W. Roberts, a past president of C.I.S., stated in an address at the Ontario Educational Conference in 1967, that the geodimeter and tellurometer were not developed on the demands of the survey profession, nor within the survey industry. We were momentarily annoyed that we were being condemned for not inventing a distance measuring device. We had missed the point. Aren't the advances in medical science generated within the profession and from a research program?

Little Success
with Engineering

In the past we have relied upon the engineering faculty of the universities to provide us with the men of broad background. The engineering courses now offer so little survey in the curriculum that it would be of as great a benefit to us to commence wooing the graduates in home economics.

A few years ago one of our universities in Ontario offered a survey option for the third and fourth years of engineering. This option is still basically engineering in the last two years, and is inadequate for the future. Those surveyors within the faculty have tried to strengthen the course, but have not been successful. One can only feel deep gratitude towards the faculty of engineering for its contribution to surveying in the past, but we must recognize the fact that engineering also has a responsibility to the public, and it is to strengthen its program to meet the needs of to-day's society. It has been said in the past that the associating of surveying with engineering is the kiss of death for the surveyor. It should be said, in fairness, that without our past association with the engineering we would be already dead. To-morrow, however, surveying must find its own path, and not use engineering as its crutch.

The Identity of the Surveyor

It appears that the time is now right for the surveyor to identify himself, and he can only achieve this by an intensive study of his present and future role in the economy of the nation, as well as the province.

We must know who are the surveyors in this vast nation--not just the land surveyors. At the last colloquium on survey education in Ottawa there were a number of Deans from Canadian Universities who came here to help identify the Canadian Surveyor. At the conclusion of the conference the surveyor had still not been identified. Such identification is essential if the heads of universities and faculties are to provide the type of training in depth that will prepare the student for the staggering range of responsibilities he will have thrust upon him after he graduates.

The Analysis

Further, the profession must know how many surveyors there are, what are their present duties and responsibilities, and how many we may need in the future. We must know how many specialists we may need as well as the number of general practitioners. We must examine where they are presently being trained, and whether the training is adequate, not only for competence to-day but for leadership to-morrow.

Such a study, because of its national overtones, will require the assistance of many groups--the provincial survey organization, numerous government departments, the Canadian Institute of Surveying, the Department of Energy, Mines and Resources, the Department of Manpower and Immigration, and the educationalists presently involved in survey instruction. It must cover the broad field of survey, of which land surveying is only a part, but an important part. We must use proper research procedures and the report and the study must be one of statistics and facts and not of personal testimonies. One of the most important parts of an analysis of this nature would be clarification of the issue of whether survey is a separate and distinct discipline and at what educational level it should be taught.

Survey Instruction at the University

When we define the range of survey we will have created an entirely new discipline. Further, when we study the needs of the community and depth of the courses necessary to meet these needs adequately, we shall find the university level appropriate for the courses. If a survey department was created in a university in Ontario and survey courses now contained in the other disciplines were consolidated in the one new department, there would be greater effectiveness in the instruction of the other disciplines. It might be a hard pill for engineering to swallow if it was asked to give up survey, but maybe it should be so.

The building of a course of study, the range of subjects, and the suggested hours

of instruction should be documented initially, without pre-determining the faculty with which it should be associated. The final home of such a course might be decided by an affiliation with geography, or even law. Perhaps it should have a home all its own, and not be associated with anyone. It is interesting to note that optometry has been recognized as a separate discipline, is taught at a University, and is associated with science and not medicine. Maybe we could affiliate with home economics and graduate lady surveyors!

Involvement by
the Association
of Ontario Land
Surveyors

The period of transition is a time of problems, but it is also a time of promise. The members of the Association of Ontario Land Surveyors have had many problems over the past few years, and they are now in the mood to close the gap between surveying and the other professions. The membership is not apathetic, nor does it lack courage or ability. It has the initiative to create change and it is the group with the most interest in spearheading a study to determine its identity and its proper position in the community. The year 1969 should be the year of progress and promise.

My own enthusiasm and optimism for survey in Ontario is generated by my philosophy as expressed in my initial remarks. It is my belief that this philosophy is also the philosophy of my Association. The self-governing professional body exists only for the benefit of the public and that body is charged with establishing such standards as are in the interest of the public and "the wealth and strength of a nation depends upon the breadth and vitality of its educational system".

* Mr. Pearce delivered this paper to the Annual meeting of the Canadian Institute of Surveying, Ottawa, February, 1969. Mr. Pearce is Past President of the Association of Ontario Land Surveyors.

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