Technician, technologist & terminology

I read with interest, the report of the Committee on Terminology of the Canadian Council of Forestry School Executives (Forest. Chron. 46/15: 368). The definition of Forestry Technologist as a graduate of a program of three or more years duration deserves some comment.

1/ Was the Committee aware of the fact that the Department of Manpower and Immigration lists all Community Colleges across Canada who give a post-secondary course in Forestry? This listing also itemizes the duration of the programs and breaks them down as follows: three years, three Colleges; two years, eleven colleges; one year, none listed.

Your Committee is therefore saying that only three Institutions in Canada are graduating Forestry Technologists.

2/ Your Committee states three years as the duration required for training. Would not a specific number of hours of training be a more appropriate criterion? For example, many three year programs are 900 hours per year in length, while most two year programs are 1200 hours duration per year.

Finally, I find it quite difficult to believe that any type of Technician (Engineering, Forestry, etc.) can be defined as a graduate of a "one or two year" program. Given the same entrance standard, the two year program, of necessity, must produce a higher quality graduate than a one year program, provided the number of hours of training per year and the level of training are the same. In any event, the Canada Manpower people are unaware of the existence of any one year programs in Forestry Technology. I understand that the Maritime Forest Ranger School offers a one-year Forest Ranger Training Program, but I did not know that a Diploma of Technology was awarded at the end of this period of training.

I think your Committee should study this matter a little further. I am not suggesting that they will come up with a "perfect" definition, since the terms "Technician" and "Technologist" have been used and abused to the point where much confusion exists, not only in Forestry, but in other branches of applied science as well. It is my personal opinion that the definitions in your publication confuse the issue even further.

I hope that your Committee will regard my comments as constructive ones. I can appreciate the difficulty of their task, and I congratulate them for having the courage to attempt to accomplish it.

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In response to Mr. O'Brien's letter, the Committee on Terminology (J. R. Mackey, P. J. Murphy and H. W. Blenis/Chairman) gladly offers the following amplification and commentary.

In its study, the Committee attempted first to draw a distinction between the product (technician or technologist) and the factory (program) and secondly to relate the two insofar as possible and practical. Thus the Committee first considered the **individual** in terms of what he does and is able to do; from this came the endorsement of both the generic definition of a technician and the more specific society of American Foresters Foresters description of a forest technician. It was then apparent that, in terms of these definitions, graduates of both one- and two-year programs do in fact practice as forest technicians. Indeed, there are some competent practicing forest technicians who have had little if any formal forestry education.

The Committee also looked outside the forestry profession in the belief that confusion is reduced by reasonably consistent terminology among professions; that it would be desirable if a forest technician were to forestry as an engineering technician is to engineering and as a medical technician is to medicine. In these professions the distinction between a technician and a technologist is quite consistent: the latter must have at least three years' post-secondary specialized education and must also have demonstrated competence in the field. Two of the clearest illustrations are the certification standards for engineering technicians and technologists in Ontario and New Brunswick.

Furthermore, in this era of improved worldwide communication and mobility, the Committee investigated terminology in the forestry profession outside Canada. Usage recommended in the

Report parallels that in the United States, Continental Europe, and the United Kingdom.

With reference to specific points raised in Mr. O'Brien's letter, the following is offered:

1/ The Committee was aware not only of the Canada Department of Manpower and Immigration listing of forestry programs at community colleges, but also of the six forest technician programs in Canada that operate outside community colleges.

The Committee most definitely does not say that three schools are graduating forestry (sic) technologists. In some "three-year" programs, the first year appears to be essentially grade 12, leaving two years for post-secondary forestry education. In at least one three-year program, the entire course is clearly post-secondary with the third year devoted to specialization in accordance with the concept in the next item.

2/ The Committee does not state three years as the duration required for training; it

finds that the term *technologist* is usually reserved for people who have had three or more years of formal post-secondary education in a specific field of technology and who in at least some instances must demonstrate competence in practice before they may be designated as technologists.

Use of hours instead of years to designate program length would be more precise provided that it were first agreed which hours would be counted; for example hours spent in study halls and hours spent on drawing which is done during the day at some schools and as evening assignments at others. The recommendations need not be repeated here; suffice it to say that they impose no requirements.

3/ Mr. O'Brien's paragraph beginning with "Finally" contains three propositions. The first, regarding short-comings of "year" designations for programs seems to agree with the Committee's stated belief that

the designation of a person as a forest technician should rest as much on what that individual does, and is able to do, as on the type and extent of formal education he has received.

The second proposition that "given the same entrance standard, the two year program, of necessity, must produce a higher quality graduate than a one-year program, provided the number of hours of training per year and the level of training are the same" reflects an assumption (the unfortunate reference to quality of people aside) based on incomplete criteria because it does not also specify the same variables of: aptitude as

demonstrated by previous employment experience; level of pre-technical school learning from previous employment experience; level of maturity and stability; motivation; numbers and qualifications of staff; facilities, including adequate forest land; curriculum content; and others. There is a large and sound body of educational research which establishes that these variables can profoundly affect the time needed to bring a person to his educational goal. It has been clearly demonstrated in many fields that experienced, strongly motivated adults reach educational goals and acceptable levels of competence in a shorter time than inexperienced adolescents.

The third proposition, referring to the Maritime Forest Ranger School, is partially correct. That school offers a technical forestry or forest technician program. It does not award a "Diploma of Technology" (the meaning of which depends upon the meaning ascribed to it by the issuing school) but over 85% of its approximately 1100 living graduates are employed as forest technicians across Canada, in the Northeastern States, and Overseas as per the preceding definition of a forest technician.

Appropos of all the foregoing, this Committee wishes to emphasize that it was attempting clarification and seeking consensus; not imposing requirements. The vote on the report indicates a strong consensus up to this time. It is felt that further refinement and more precise definition of terminology would best be ac-

complished when:

- a/ There are either more tangible and clearly demonstrated differences between **forest technicians** and **forest technologists** in practice and/or
- b/ Sections of the Canadian Institute of Forestry or Provincial Professional Forester's Associations establish certification of forest technicians and technologists.

The Committee's recommendations on the latter are a matter of record.

In conclusion, this country's post-secondary non-baccalaureate forestry programs appear to fall into three categories:

- 1/ One-year programs (including in-service schools) specifically designed for experienced adults.
- 2/ Two-year programs, most of which are departments of community colleges and are designed for young people just out of high school.
- 3/ Three-year programs designed to provide additional depth in a specialized area of forestry.

Without implying that all graduates of all programs are identical-

ly prepared for all positions, the first two apparently reach the same objective by different routes. The difference is not one of quality. The third is new upon the scene and will be watched with interest.

In a more philosophical vein, the value of any diploma or certificate rests upon what it represents. The profession can be expected to judge graduates on the basis of their demonstrated competence and to judge the schools on the basis of their graduates' performance. Regional, national and even international recognition of schools over a period of time will depend far more on demonstrated competence of graduates than on the label affixed at graduation.

Mr. O'Brien's interest in this matter is appreciated and it is hoped that the foregoing will provide clarification. He can rest assured that the Committee's report neither offered nor implied value judgements among programs and that there was no intent to dismay anyone. His congratulations on the Committee's courage are indeed appreciated. Their venture into the realm of terminology was undertaken with apprehension and the full realization that it could be a long while before they heard the last of it.

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