

portunity of acquiring such knowledge, and foresters, especially, who become administrators of properties away from civilization, cannot dispense with it.

Some of these courses of accessory subjects which are desirable, do not as yet exist in the curriculum of the University, and such knowledge must be acquired by well directed reading.

In the end, not everything can be taught or learned at a University, and life's continuous school must be relied upon to eke out the deficiencies. This is especially true with that part of the education of a devotee to an applied science, which we call the practical work, the manner of applying his science, what the engineer calls shopwork, or as we would call it in forestry, the fieldwork. It should not be forgotten that practice, the facility of applying knowledge, is acquired only by practicing, and the skill acquired is a direct function of time, during which the student has applied himself to the practicing. So is experience a function of time and circumstances as well as of mental ability to form judgments. It would be futile to attempt to secure in the short time of school sessions either of these two qualities, needful to the finished efficient practitioner.

All the fieldwork that it is practically possible to give in a University course is merely to illustrate the theoretical teaching, to stimulate observation, to fix in the mind of the student the methods and principles which are to be applied, and make him familiar at least with the possible applications in actual practice.

The academic training, in other words, must be mainly theoretical, and the presentation of the theory should be such as to awaken the faculties of the student, to give him a first grasp of the practical side, and to open his mind so that he may learn to form correct judgments.

To secure at least general insight into practical work, there are provided excursions to the woods, to logging camps, wood-working establishments, etc., and finally a continuous sojourn of six weeks in the woods for practice work in forest survey, forest mensuration, forest description, silviculture, and whatever the opportunities of the location may offer.

For the rest the students are encouraged to find employment for the summer in lumber camps, forest surveys or other actual practical work.

And what is it that a practical forester must finally know and be able to do? He must, of course, know his trees, where and how they grow, their life history, how much they produce. He must be able to survey, to describe, to measure and estimate timber. He must know the character and use of the wood and byproducts in the various industries. He must be a consummate logger, he must know what the sawmiller can produce from his logs, what the manufacturer does with his products. He must know how to market it and be familiar with transportation