and of the laws of tree growth is infinitely more needed.

The field of botany, indeed, requires an extension in the University, if silviculture, which is applied ecology, is to be placed on a sure foundation. The development of methods of silviculture applicable to our special flora and special conditions is dependent upon a thorough knowledge of "silvics"—a linguistic crime perpetrated by our neighbors, but an expressive short term to denote the special ecological characteristics and behaviour of our timber trees—and hence we hope to have the Botanical Department develop in that direction.

The pathology of trees also needs special consideration, at least the commoner diseases should be recognized, and their progress understood as well as the insect pests which some day will play a more important role in the forester's operations than they will at the beginning, when other more potent causes of forest destruction require attention.

Of geology, petrography and mineralogy, there is likely to be offered too much detail for the necessarily limited time. This knowledge is to lead to an understanding of soil conditions, of soil physics and soil chemistry, and in connection with meteorology and climatology, is to explain the relationship between the plant and its performance.

Now, turning to the other side of forestry, namely the business side, there are two branches which contribute towards building out the subject of forest economy or "forest regulation," namely, mathematics and political economy. There is needed a certain amount of mathematical instinct, if not elaborate knowledge, to understand the relationships of the laws of accretion.

To measure the quantity of production, which must form the basis of business calculations, a more elaborate use of, and familiarity with, mathematical operations is necessary; forest mensuration has, therefore, developed into a special branch of mathematics, and many methods have been developed by which not only the volume of the single tree, but the volume and rate of growth of whole stands or acres of trees can be more or less accurately determined.

One of the most important mathematical problems for the forester to settle is, when his crop is ripe. This is not as with agricultural crops and fruits determined by a natural period, but by the judgment of the harvester based upon mathematical calculations. There are various principles which may be followed in determining the maturity of a stand or in determining what is technically called the rotation, that is, the time within which a forest managed as a unit shall be cut over and reproduced. Either the largest average volume production, or the largest average value production, the largest "forest rent," or the largest "soil rent" may be the aim.

In either case a complicated measurement and calculations are required to form the basis.