A Summer Experience with the Westinghouse Electric and Mfg. Company*

In looking for summer work the question of wages is more likely to appeal to a student who has nearly completed his college course than the question of experience, but with the present trend of electrical development it is exceedingly difficult for a man without experience to obtain more than enough to cover his living expenses, and a junior finds himself in just these circumstances. It is most beneficial for the student who has just completed three years of theory, to obtain some practical points in the application or construction of actual apparatus, and the methods most common in practice.

Of the large manufacturers of electrical machinery offering opportunities for summer practice to students, the General Electric Co and Westinghouse Electric and Mfg. Co. are most prominent. Although the wages which these companies pay are exceedingly small and not sufficient to cover the expenses of those who come from a distance, yet the course of practice which they offer is profitable enough to offset any deficiency in wages. The method of employment with the Westinghouse Co. is so carried on that in a little less than two years a student has covered all of the important departments of the manufacturing side of the electrical work, and has besides spent some time in the engineering offices.

When beginning employment with the company, the student is placed in some one department of the shops and works under the direction of a journeyman, actually doing the work in process in that department. He is kept in this department long enough to become familiar with the methods and constructional points which come before him, and is then changed to another department. Opportunities are given him for inspection of the work throughout the

shops, so that many "pointers" may be obtained outside of the department in which he is working.

Briefly looking over the experiences of a junior student the past summer, at the Pittsburgh works of the Westinghouse Electric and Mfg. Co., you will find him first employed in the coil department, which is one of the largest in the shops. Eight weeks were spent in this department winding and testing transformer coils, winding and insulating armature coils and field coils, and preparing insulation for the many purposes for which it is used throughout the shops. Having spent enough time in this department to obtain a fair idea of the work carried on there, a transfer is given him to the railway motor department.

Here we find him placed with a wiring crew, wiring up some of all the types then under construction. He is next placed with assemblers and worked with them for some time, and then given motors to assemble by himself. This latter work gives him more experience than any other that he does during the summer, as it places him upon his own resources, and gives him a chance to study thoroughly the construction of the motor which he assembles.

It might well be added that the experience one obtains not only in the Westinghouse shops but also in visiting the many large manufacturing industries of the city of Pittsburgh is well worth while.

Even in the daily walks of business there is frequent temptation to obscure the truth. But the man who passes his life in contests with nature is not apt to be a sophist. The engineer can have no object in concealing the truth or in misusing it. His work is a material fact; it is not an impression upon the minds of other men. No ingenuity of argument, no power of rhetoric will save one ounce of coal per horse-power-hour. We all know in some vague and abstract way that we must yoke our wagon to a star, but the engineer must do it.—*Henry G. Prout.*

*A paper read by P. C. Smith at a meeting of the Worcester Polytechnic Institute branch of the A.I.E.E., November 12, 1906.