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## GENERAL TOPICS.

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### TWO AMERICAN TRADE SCHOOLS.

By FRANK W. CIENEY.

The Williamson Free School of Mechanical Trades is located near Philadelphia and the Baron de Hirsch Trade School is in New York City. As both of these institutions have been in operation for twenty-five years, they have worked out a good many problems and have arrived at some very definite conclusions as to the best methods of handling the trade school proposition. In a few respects their methods have been paralleled in the Philippine trade schools, while in certain details they differ so widely as to form an interesting illustration of how different means may be employed to arrive at the same end.

The Williamson Free School was founded by endowment, the money being a bequest of the man whose name it bears. This endowment was so generous that its students are supported and provided for in every way from the time they enroll until their graduation three years later. In fact, after passing a physical, mental, and moral examination, the students are bound over to the trustees of the school as indentured apprentices for a period of three years, and during this time the authorities assume parental control.

By the terms of the endowment, residents of Philadelphia are given preference in admission, applicants for which must be between the ages of 15 and 18 and must be mentally, morally, and physically sound. The board of trustees decides what trade shall be taken and reserves the right to drop any student who demonstrates his unfitness to continue in the school. The following trades are taught: Carpentry, pattern making, bricklaying, machine-shop practice, operative engineering (both steam and electrical), and agriculture.

In location and equipment the school has all that could be desired. It is located in the middle of a 40-hectare farm about 25 kilometers from Philadelphia. It has its own railroad station and post office and is far enough removed from other towns so that there are few outside attractions for the students. The buildings stand on a low hill and are spacious and modern.

The student body, about 300 in number, is divided in the dormitories into families of about 24. These groups have their own sections of the dormitory or cottage for one of the married teachers, whose wife acts as matron for the family, every student doing his share of the housekeeping. The boys eat in a common mess hall.

Although the school is nonsectarian each student, upon matriculation, must declare himself in favor of some church and attend it thereafter.

The produce of the school farm contributes in a large measure toward the support of the school mess, reducing the per capita cost of maintenance for three years to about \$400.

The shops make nothing for sale and do no work of any description outside of the school premises. In fact, the regulations of the school prohibit commercial work of all kinds, or the hiring out of any students prior to graduation. Thus far the needs of the school itself have furnished unlimited practice for its students. Several of its brick buildings two and three stories high have been erected by student labor. A small brick building is under construction. Enough work of a similar nature already in the form of projects will relieve the present generation of all worry as to what will happen when the school is finished. The members of the faculty condemn the idea of a trade school doing commercial work, and yet they point with pride to at least \$200,000 worth of buildings erected by student labor.

The school runs continuously throughout the year, vacations being allowed to juniors and seniors on what is termed a "bonus system." The following is quoted from the school catalogue:

"About 50 per cent of their shop exercises, both abstract and concrete, are worked on an estimated time basis based on a journeyman's time. When the pupil is assigned a task, the estimated time allowance for the operation is stated.

"During the first six months of his junior year he is allowed 20 per cent more than journeyman's rate.

"During the second six months of his junior year he is allowed 10 per cent.

"During the first six months of his senior year he is allowed but 5 per cent.

"During the last six months of his senior year he must equal young journeyman's time.

"When he falls within the estimated time he is given a bonus credit. If he works to the even estimate he stands even. If he exceeds the time he is given a deficit grade.

"If he comes out even in the majority of his estimated time

exercises, he is allowed the regular time for the holidays. If he makes a bonus credit in the majority of exercises, he is allowed an extra half day to each of the short holidays and a full day to the long ones. If he makes a deficit grade he is detained a period corresponding to the one allowed for bonus."

A similar system is used for academic work and also for department.

The length of the daily program is eight hours of which shop work occupies four hours. During the first two years the weekly program includes 13 hours of academic instruction, 1 hour of vocal music, 6 hours of mechanical drawing, and 20 hours of shop.

During the first four months of the third year the weekly program includes 11 hours of academic instruction, 1 hour of commercial instruction, 8 hours of drawing, and 23 hours of shop work. During the last eight months of the third year the weekly program includes 43 hours of shop work and 3 hours of evening recitations.

The problem of finding employment for graduates of the school has solved itself. Twenty-three graduating classes have given the school a body of alumni that includes among its number many successful men. Their feeling of loyalty to their alma mater naturally makes them look upon Williamson men as very desirable, and the demand exceeds the supply. Williamson graduates are immediately admitted into the trades unions, and statistics compiled by the trustees show that out of 700 men who reported several years after graduation, 84 per cent were engaged in industrial pursuits at an average yearly earning of \$1,516.45.

The Baron de Hirsch School in many respects presents a marked contrast to the Williamson Free School. Like the latter it was founded by endowment but for a more restricted purpose; namely, that of bettering the condition of Jewish immigrants.

Applicants for admission must be of Jewish descent and at least 16 years of age. They must be able to speak, read, and write English and must show that they will be able to support themselves for the full period of enrollment, five and one-half months.

Unlike the Williamson Free School, the Baron de Hirsch School neither supports its students nor holds itself responsible for their conduct outside of school hours. Its students are much more mature in years and experience, as a rule, and enter the school with a more definite purpose. Upon graduation they

are classed as "first-class helpers" and are given a set of tools that goes with the trade, the cost to be repaid later.

The following trades are taught: House painting, sign painting, electrical work, operative engineering, printing, sheet-metal work, woodworking, machine-shop practice, mechanical drawing, and shop mathematics. The last two items are taught only as accessories to trades. No academic instruction is given, the student spending his full time in the shops, eight hours daily for four days and seven hours on Friday. The school is closed on Saturdays, Sundays, and all Jewish holidays.

In equipment the school is very complete; but being located in a crowded city it has been necessary to build up in order to get the requisite floor space, and the school is housed in a seven-story building. There is a great inequality in the size of the different classes. Only three students were enrolled in carpentry while the classes in several other trades were crowded. This disparity seems to have prevailed throughout the whole history of the school, as a record of its graduates shows that up to the present time 1,075 have graduated as electricians, 1,110 as plumbers, 715 as machinists, 504 as painters, 393 as woodworkers, 90 as printers, 56 as sheet-metal workers, and 51 as engineers.

Nothing whatever is done to secure employment for graduates. When requests come to the superintendent graduates are recommended, but the school management does not take the initiative. The idea seems to be that since the school is free, the students cannot reasonably expect to be provided for after leaving it.

A very interesting book of information is kept in the superintendent's office. By a system of records obtained when students enroll, and by correspondence after graduation, a history is kept of the progress of each man. The records of about twenty graduates selected at random, show one unvarying fact: In every instance the man had increased his earnings an appreciable amount, and he had changed his status to that of a skilled worker. A majority of students prior to enrollment in the school, occupied positions as messengers, laborers, or workers at other unskilled occupations. A short course of five and one-half months in the school, gave them a start at a skilled trade with increased wages at the very beginning and prospects of something much better within a year or two. Statistics compiled by the school from data obtained in the manner described, show the average weekly earnings of its students to have been increased from ₪10.78 to ₪15.08, immediately after graduation.

Like the Williamson school, nothing is made for sale. Occupying a completed plant, and lacking the advantages of environment, the Baron de Hirsch School has been obliged to build and destroy with each successive class. In a large room of the wood-working department, the carpentry students erect a model house, the painters decorate it within and without, the plumbers install the plumbing, and the electricians do the wiring. When complete, it is torn down to make ready for the next classes. The construction of this house is only a small part of the work of each class, every department having a specially equipped space, but it is an example of the means used for teaching practical work.

There is little in common upon which to base a comparison between the Williamson School and the Baron de Hirsch School; there is still less similarity between either of these schools and the trade schools of the Philippines. The Williamson School takes its pupils at the age when the son of the average working-man quits school and goes to work. It teaches him a trade in about the same time as is required for him to learn it on the outside and it also looks after his mental and moral welfare.

The Baron de Hirsch School takes a Jewish working boy who knows enough English, gives him a fair start in his trade, and sends him on his way.

Both schools are accomplishing their object and both decry the use of commercial work as a means of instruction; but each of them is giving instruction in a way that differs from commercial work only in the fact that no income is derived from it. Many of their ideas could be applied advantageously in the Philippine trade schools, and it is suggested that the following points are worthy of consideration for use here in a modified way:

A physical examination as an entrance requirement.

The "family system" in the dormitories.

The "trades bonus" plan insofar as it requires a student to continue through vacations until he brings his work up to standard.

The dropping of academic instruction during the last part of the course and specializing in shop work. (This will be incorporated in the building course at the Philippine School of Arts and Trades next school year.)

Lengthening the day's work, and reducing the number of years to complete the course.

An efficiency test, giving estimated journeyman's time in advance on each job.

The keeping of an accurate record of students for at least two years after graduation.

Providing each graduate with a kit of tools. This proved successful when tried at the Iloilo Trade School several years ago. It will be made a permanent practice in the wood working courses at the Philippine School of Arts and Trades beginning with next year. The tools will be earned by each student, a percentage of his pay for commercial work being deposited with the office each month.

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#### VOCATIONAL GUIDANCE IN THE PHILIPPINE PUBLIC SCHOOLS.

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In determining the vocation for which the industrial training of a Filipino pupil should aim to prepare him, the principal matters to consider are natural aptitude and the economic circumstances of the individual.

A consideration of the occupations of the Filipinos of long ago, may be worth while to those who presume to guide the youth of this country in the choice of their life work, since these indicate the general aptitude of the people. In the earliest European accounts of the Filipinos, mention is made of the pursuits of agriculture, stock raising, mining, fishing, hunting, and trading; also handicrafts such as hat and mat making, the weaving of cloth, and ironworking. The metal worker or "panday" was held in high esteem throughout the Archipelago at the time of the conquest, and one of these, Panday Pira, a Pampangan, was chief cannon founder for the rulers of Manila in Legaspi's time. The quality of the Menangcabau kris made the Malay conquest of the Islands possible. The builder who, without nails, put together large boats that were known in many Oriental ports long before the conquest, was one of the chief factors in the settlement of the Archipelago, since his labor made navigation possible.

The carpenter was indispensable; and the work of the painter remains to us on coffins from prehistoric burial caves. The painter was also the carver, and he engraved the native syllabary on bamboo—a syllabary that bears internal evidence of having been handed down through the early Malayan ancestors of the Filipinos from the literature of India.

Weaving was an important employment, and the names of the parts of the primitive loom also give evidence of an Indian origin. The rich embroidery of the Chinese was known in the