

But to return to the questions: what shall our students learn, and how shall they learn? The latter question is easily answered. How shall they learn? If men for the past two hundred years or more in England, without any guidance, but a determination to succeed, have succeeded in raising our youths can do the same. If they will not learn, nothing on earth will make them. Young fellows are sometimes found sighing, "If I only knew what to study." Why, study anything; surely you can use your eyes; surely you know how to read. But they are most of them now-a-days in such a hurry to be earning a small weekly wage that they think it best to wait till some one will show them the shortest way of putting themselves into a position to earn a salary, rather than that it is best to make themselves proficient. I like to see young fellows anxious to support themselves, but if they are not content to give up all ideas of supporting themselves for some time to come, a profession is no calling for them. If they would be architects, they must be patient. Now they are apt to feel aggrieved that when employed in an architect's office they have to do tracings or copy letters when they think that they ought to be engaged on drawings that will give them perhaps more direct instruction, forgetting that in everything they do they will find something to learn, and that they are not at school. At school they have got accustomed to being taught—in an architect's office opportunities for learning are given to them. It is for them to take advantage of these opportunities if they want to learn.

The Students' Association here is doing good work, but it seems necessary also to force some of the members to attend the classes that are arranged solely with the view of helping them. I need not, however, dwell longer on these points, but it is a serious thing for students in Canada to consider, and if they fail to perfect themselves in their calling, they will find too late that draughtsmen from a distance occupy the places that should have been theirs.

When a boy comes as a pupil to an architect, he should possess some knowledge of the work he is about to take up. He must at least have developed some taste for drawing, and have shown that he takes some interest in building operations. He must have had a fair education, which of course includes a grounding in mathematics, mechanics, chemistry, geology, and so on; and so much the better if his opportunities have enabled him to master the rudiments of geometry, and perspective and other mechanical drawing, and if he has done something in the way of sketching.

On leaving school and entering an office he must give up the idea that he is entering a higher branch of his school. Here it depends upon himself to keep up and improve his knowledge on many subjects of vital importance to him as an architect, but for the study of which he will have little of no opportunities given him in the office. He must draw, and draw constantly. He must read both in French and English, if not in German. His training must be both mechanical and mental, and his reading must be in the history of the art, on materials and their application. He must familiarize himself with the characteristics of the various styles of architecture, and he must practice design and devote some time to the study of planning. It has been said that the plan of a building provides the skill of the architect, rather than the elevations. When a man builds he generally prefers to have his home arranged to suit his comfort, rather than to attract the notice of passers-by by an elaborate edifice without the comforts of good planning.

In the study of planning, a student must know what are the requirements of the class of the man to which his supposed client belongs, or if he is planning a public building, he must find out what are the necessary contents, and he must have some idea of the pranks and freaks of sound before he can design a church or public hall. One sees young fellows planning houses, both mechanical and freehand, and his ranking must be on the history of the art, on materials and their application. He must familiarize himself with the characteristics of the various styles of architecture, and he must practice design and devote some time to the study of planning. It has been said that the plan of a building provides the skill of the architect, rather than the elevations. When a man builds he generally prefers to have his home arranged to suit his comfort, rather than to attract the notice of passers-by by an elaborate edifice without the comforts of good planning.

Drawing, as I have remarked, should be mechanical and freehand, but that is hardly definite enough. Freehand drawing consists of many kinds—drawing, from the point of view of the subject, of the human figure, of animals and vegetables in life. Ornament is an important study, but one that necessitates great freedom of pencil and a trained eye. Every style has ornaments peculiar to it, and therefore characteristic of it, and although it is easy to get a carver who has made a study of ornament to design and execute your caps and panels in proper character, yet so much at least of the work will not be your own if you do so.

Ornament certainly includes color decoration, but it can hardly be necessary to urge a certain amount of study in color, when there is nothing either natural or artificial that is without color, so that if a student thinks he can do without color, he must find some other world to practice in. All cannot be picture painters, neither is that necessary, but a knowledge of the proportions in color, exercise in the application of colors, tones and shades, is decidedly so. If you can get your colors to do what you want, you will not employ at the same time an army of specialists—heating and ventilating engineers, artists, iron workers and so on, as well,—and then employing them to do the various parts of your works for you, you need learn nothing at all.

It is quite true that supervision takes up so much of an architect's time that he cannot find time to work out his own schemes of decoration and so forth. This, however, is one of the evils that we hope time to have done away with, and perhaps when the students for whom we are suggesting a course of study come to practice for themselves, clients will have learned that it is for their own interests that their architects should have all the time they need to elaborate their designs entirely, and to employ a clerk of works to look after the mechanical work in execution.

But besides all that is contained under the heading of design and construction, there are other things to be learned of no less importance. An architect has to write specifications, reports of all kinds, to make up statements of the cost of various schemes. He must be a man of address, with a polish of manners. Reading and writing are essential studies—not mere penmanship, but composition—to be concise needs practice. Fluency of speech is also of great importance, but that there are so few really good speakers shows that it is an accomplishment not easily attained. Spelling and dictation should be practiced; writing essays should be encouraged, and the student must not overlook the importance of grammar, both for writing and speaking. These may appear to be elementary, but does not every kind of success depend upon the kind of foundation that is laid for it? If a man's rank in life does not provide him with a polish of manner, education will do a great deal for him.

In regard to examinations, I would urge that the preliminary one at any rate should not be too severe at first, although the final one, which is no good at all unless it is one that will thoroughly test a man's qualifica-

tions for practice, must be fairly searching and complete. We do not want to frighten our students or to trouble them about matters that present students have little or no opportunity to study. Periodical examinations should be by encouragement—they should be mixed in the way to the final, by which the knowledge acquired in the intermediate periods can be tested; they should be arranged with a view to showing a student what he should accomplish at each stage, and they should therefore be no harder than necessary. They should be an assistance rather than deterrents.

Our Council has wisely arranged an "Honor Course," by which it is meant that certain subjects should be taken up only at the final examination, and only by those who are specially interested in them, and desire to qualify therein. These subjects are especially levelling, quantities, acoustics and modelling; but they should, I think, be extended to include special subjects of design, construction and decoration. As in France and Germany, the best work will only be entrusted to those who attained distinction through passing the most complete tests, so it should be with us; but there should be some special attraction, such as a valuable prize and diploma, which should mark the successful candidate and give him a distinction above others.

If we make our examinations too severe, we shall fall into the error other architectural associations have fallen into, of discouraging students, and this to an extent that will nullify the benefit of our Association and leave room for the formation in the future of a rival society that will more nearly meet the necessities of would-be architects, and which will take the wind out of our sails.

In conclusion, let me say that in my endeavors to bring this matter particularly before this congress, I am conscious that I have given it a very cursory treatment, and that it deserves more than it has now received, but I trust that the inadequacies of my paper may be in some way made up for by the discussion that I hope will follow.

#### DISCUSSION.

Mr. Gordon: In rising to move a vote of thanks to Mr. Bousfield for his excellent paper, in opening up this subject, I would like to ask you if the Council have arranged the curriculum of study and examination for the various students in the various years? What has been done in that?

The President: I am hardly prepared to answer that question.

The Secretary: The question has been taken up to some extent, and what has been done was published a month or six weeks ago. Although the matter has not been fully determined upon by the Council, they have published this as the statement of what has been done so far, with a view of ascertaining the feeling of the other members of the profession upon the subject. (Reads outline of studies, etc.)

The President: Does that meet your requirements, Mr. Gordon?

Mr. Gordon: Yes, that is what I wanted placed before the meeting.

The President: That was the course Mr. Bousfield mentioned in his paper; it has been fully determined upon.

Mr. Darling: I decidedly think the question of design should come into that honor course. It is very much higher than levelling and such things, which only touch on our profession, but are not a part of it. (Applause.)

Mr. Billings: Has this outline been determined upon by the Council, and is it to be considered by this meeting?

The President: These have not been finally determined upon. The whole subject is in the hands of the Council, and will be further discussed by them.

Mr. Billings: Is any discussion allowed at present on the subject?

The President: Oh, yes.

Mr. Billings: Many of the members of the Institute at Ottawa did not understand why two languages should be required of a student. In Ottawa, though we have both English and French people, none of the architects write specifications in French, nor do they use two languages at all. Even French contractors find it easier to read the specifications in English. The Ottawa architects thought French might be a very good thing for a student to know, but wanted to know what the ideas of the Council were in placing it on the list as a necessary subject for students to pass on. Another thing that they did not understand was why these particular kinds of architecture should be specified for intermediate examination; they thought it was rather old-fashioned kind of work, and that almost any examples from any architectural work, that had been carefully measured or copied, would probably do just as well, as long as they were chosen well. They thought Norman might do as well as Decorative, and Byzantine would do as well as Perpendicular. Then, again, "one set detail construction of roof, truss, with joints and iron work drawn to large scale." Now, iron roofs are things that a student, as a rule, in his second intermediate, is hardly up to.

A delegate: It is a wood roof.

Mr. Billings: It says "with joints and iron work drawn to large scale."

The President: There is a certain amount of iron work—bolts and straps.

Mr. Billings: Still, a man might have a roof without any iron in it at all. (Laughter.) There is one thing the Institute are very anxious to learn about—

Mr. Curry (interrupting): How does it come that two members of the Council in Ottawa are members of that Institute, and this matter was settled when those members were present, and they know as much about this question as we do? There is an impression that the Toronto members have done something without consulting the Ottawa members. Now, there has been nothing done whatever as far as I know. (Order, order.)

The President: When one gentleman has the floor he must