

in the technical training of its students, would, nevertheless, supply a want in our educational system and afford a thoroughly practical education in Physical Science with a direct bearing on the professions or occupations which they might wish to follow.

The growth and usefulness of such institutions in Great Britain and the United States have long attracted the attention of practical educationalists. In 1853, in the speech from the Throne, Her Majesty stated that "the advancement of the Fine Arts and Practical Science will be readily recognized by you as worthy the attention of a great and enlightened nation. I have directed that a comprehensive scheme shall be laid before you, towards which I invite your attention and co-operation." This scheme, dated 15th March, 1853, provided for the establishment of Local Institutions for teaching Practical Science. The progress of these since that time is shown thus:—In 1862 there were 70 schools with 2,543 students; in 1872, 948 schools, with 36,782 students; in 1882, 1,403 schools, with 65,581 students.

As may be expected no nation has shown itself more keenly alive to the necessity of providing practical scientific instruction than the United States. In many of the larger States extensive sections of land have been set apart for the endowment of technical institutions. At present there are 86 schools of Science, with 15,957 students.

It is thus seen that there was good precedent for the establishment of the Toronto school, and results have proven that there was wisdom and foresight as well shown in its establishment.

Its progress has been rapid but none the less natural and genuine.

The engineering branch is the only one in which it is distinct from University College, and therefore the branch which we should look to for indication of its separate success. Up to 1884 twelve diplomas in Engineering had been granted. Last year there were five graduates and at the present time there are 59 students in the Engineering classes of the school.

Of the Schools graduates nearly all at the present time occupy responsible positions in the Public Works of the Province or the Dominion, and many gratifying testimonials have been received by the Professor of Engineering in confirmation of their ability and proficiency. They are taking the places of men whose work is only a mechanical performance of what a long practical experience has taught them, and whom ignorance of theory and want of technical instruction hold in the same old groove.

The Senate of the University have recently recognized the school work in the establishment of a degree of C.E., open only to those who hold the diploma of the School of Practical Science. This degree is granted under the condition that the candidate shall have spent three years in engineering work after leaving the institution. At the last University Convocation, Col. Gzowski presented, in the person of Mr. J. L. Morris, the first candidate to receive this distinction. The establishment of the degree supplies a want long felt by the profession in this Province. Hitherto the most general method of becoming a Civil Engineer in this country has been for the aspirant to begin on railway or other engineering work as a chain or rod man, and gradually to rise to the position of assistant engineer. At this stage it is usual for him to assume the designation of C.E., and to be so considered by his fellow professional men.

Meanwhile, the institution is sadly cramped for means. The Government's helping hand, drawn as it will be from a by no means ill-filled pocket, is badly needed. We are confident that this will not have to be an oft-reiterated cry. The Government, like all of us, know a good thing when they find it. That they have such in the School of Practical Science no one who knows its worth and work will deny.

Money spent to such a purpose is not spent unwisely. To our minds, and perhaps it is so as a question of fact, such education comes more properly within the State's duty than that of higher

University education of a literary kind. This is a practical age, and however we may shut our eyes to it, the fact remains,—what men want most, and what they prize most, is instruction that will have for them a face value.

The school is not as well known as it should be. Outside the city few are aware of its real character. Its supporters ought to come out from under their cloaks of modesty and let the people of the Province know that they have a greater institution in this Science School than they have yet realized.

Literature.

BIRCH AND PADDLE.

—
TO W. B. C.
—

Friend, the delights of ours
Under the sun and showers,

Althrough the noonday blue
Sliding our light canoe,

Or floating, hushed, at eve,
Where the dim pine-tops grieve!

What tonic days were they
Where shy streams dart and play,—

Where rivers brown and strong
As caribou bound along.

Break into angry parle
Where wild-cat rapids snarl,

Subside, and like a snake
Wind to the quiet lake!

We've paddled furtively
Where giant boughs hid the sky;

Have stol'n, and held our breath,
Thro' coverts still as death;

Have left with wing unstirred
The brooding phoebe bird,

And hardly caused a care
In the water-spider's lair.

For love of his clear pipe
We've flushed the zigzag snipe;

Have chased in wilful mood
The wood-duck's flapping brood;

Have spied the antlered moose
Cropping the young green spruce,

And watched him till betrayed
By the king-fisher's sharp tirade.

Quitting the bodeful shades,
We've run thro' summer glades,

And, dropping craft and heed,
Have bid our paddles speed.

Where the mad rapids chafe
We've shouted, steering safe,—

With sinew tense, nerve keen,
Shot thro' the roar, and seen,