Faculty of Applied Science

The necessity for a strong college of Applied Science in a province with the industrial possibilities of British Columbia is apparent, for this supplies the training necessary for the intelligent and economical development of natural resources and the management of the industries based upon them. But while the need was recognized, it was the last of the three faculties of the University of British Columbia to be organized, due to the effects of the War. Until male students returned, money was available, and laboratories were in prospect, little could be done.

When the equipment of the laboratories at Point Grey is completed, as it will be shortly, the University will have a college of Applied Science that will compare favourably with any other. The equipment is new and therefore better adapted to present day needs than that of older institutions and Vancouver from its location and diversity of industries is an exceptionally favourable locality for such a college.

Recognizing that graduates in Applied Science have been too narrowly specialized and have lacked a sufficiently broad education, this University made one year in Arts an entrance requirement. The older colleges are gradually introducing this standard. The first two years in Applied Science are devoted to mathematics and all the basal sciences. In the third year some specialization is begun, though the courses are still kept broad. In the fourth year, the student specializes in his chosen course. Courses are now offered in Chemical, Civil, Electrical, Forest, Geological, Mechanical, Metallurgical and Mining Engineering. There is also a five-year degree course in Nursing and Health. This University was the first in Canada to offer this course.

Physics and Chemistry are taken in laboratories in the magnificent Science Building. The Applied Science class rooms, large, well lighted, draughting rooms, and the Forestry department are in the Applied Science building. Here also, in the excellent geological laboratories and museum the students study their geology. The power plant, with three types of 250 H.P. boilers, mechanical stokers, recording instruments, etc., is so designed as to be available as a testing plant and laboratory.

Mechanical Engineering occupies a building with class rooms, draughting room, machine shop, calorimeter room and large laboratory equipped with all types of engines, compressor, refrigerating plant, etc.

Electrical Engineering has a building with two excellently equipped electrical laboratories, battery room, photometer room, meter standardizing room, etc.

Mining and Metallurgy occupy a building thoroughly equipped for ore - dressing and metallurgical work. In the same building is the Hydraulic laboratory designed for demonstrations and tests covering the main field of hydraulic principles and machinery.

The Forest Products Laboratory in its own buildings furnishes a testing laboratory for timber, steel and cement. It is equipped with testing machines ranging from a 200,000 pound compression and tension machine, down to delicate balances. Of particular value to Forestry students are the experimental kiln-drying laboratory, pathological laboratory and exhibit room.

It may justly be said that in equipment and staff in Applied Science this University now ranks with the best eastern institutions. Further, the courses given are designed to meet the special conditions obtaining in this Province. There is no longer any reason for a British Columbian going outside the Province for an Applied Science education. The Faculty is still too young for its influence and effect on the industrial life of the Province to be manifest, but research work by the Faculty has already returned to the Province the cost of the University.

An Applied Science Faculty is no longer simply a professional school turning out graduates who will enter some branch of professional engineering. A majority of its graduates are destined for industry, commerce and administration, for it is becoming generally recognized by those at the head of affairs that the Applied Science training is the best yet devised for administrative and supervisory as well as for technical positions in the industries.

Few realize the sudden change that has taken place in industry. We have entered upon a new age in Man's history—a mineral age. To illustrate from United States statistics, since their last census returns are available. Canadian statistics will show the same relative change, and will be much the same on a per capita basis.

1880 mineral production 367 million dollars, $7 per capita.

1918 mineral production 5500 million dollars, $52 per capita.

More coal was used between 1905 and 1920 than in all preceding history.

More coal was used between 1906 and 1920 than in all preceding history.

More oil was used between 1908 and 1920 than in all preceding history.

Already in this century we have used more mineral than in all the rest of man's history.

Truly we have entered upon a mineral age.

This change is indicated as strikingly by the sudden increase in the use of mechanical power.

1869, 7 million horsepower, equivalent to one slave per family.

1919, 500 million horsepower equivalent to 250 slaves per family.

In the 50 years to 1919 the percentage of agriculturists fell from one half to one quarter of the population, but notwithstanding this, agricultural production increased 80 per cent. faster than the total population.

Mineral output increased 7 times as fast as total population.

Manufactures increased 3½ times as fast as total population.

This great increase in wealth production per capita has raised the standard of living all round. The skilled worker who got 2 or 3 bushels of grain for a week's work, now gets 20 or 30 for fewer hours work.

All this is due to the trained intelligence that has harnessed the powers of nature.

But this new and huge use of inanimate force makes a new and huge demand on trained intelligence for its direction and control and that of the industries based upon it. The industries of the United States are alarmed. While the Applied Science colleges are turning out nearly 500,000 graduates a year, this is not enough to supply the existing needs.

While it has made fewer men necessary for a farm or a factory, it