

MECHANICAL ENGINEERING

Want to build planes? Cranes? Trains? Or perhaps you would like to play around with gadgets and gears. In either case you can get a good start here at U.N.B. The Civil and Electrical departments have been joined by a younger brother, the department of Mechanical Engineering.

It has been less than a hundred years since engineering first began to sub-divide into branches. Since the middle of the last century, tremendous strides have been taken in the fields of science and engineering. Engineering a hundred years ago was concerned mainly with projects which are today looked after by civil engineers. Electricity was being tinkered with, and the industrial revolution was bringing forth the ingenuity of a few men. In general, however, the surface was just being scratched.

Increasing scientific development has led to a breaking up of the engineering. In a sense, men working in one particular field of engineering are specialists. They are not technicians however, since each field requires a fair knowledge of allied fields.

The history of mechanical engineering as a field in itself goes back little more than half a century. This was the beginning of the age of machines. It was also the peak of the British Industrial Revolution which set the pace for industrial expansion throughout the world. This industrial expansion has even resulted in sub-division of Mechanical Engineering. A few of these branches are the automotive, aeronautical, marine, refrigeration, combustion and industrial fields of engineering. These have sprung up to meet an increasing demand for specialists in fields which are becoming continually more specialized. In most cases, mechanical engineering provides a good background for any of these fields.

The period before and during World War I was a time of great industrial growth in the United States. A very similar condition existed in Canada just before and especially during World War II. Both have resulted in a large demand in North America for trained Mechanical Engineers. This demand has been greatly increased by the present post-war

rearmament programs. Canada is still undergoing an industrial expansion akin to that which took place in the United States earlier in this century. This expansion is so rapid, in fact, that it is impossible for the supply of engineers to keep up with the demand.

Canadian mechanical engineers have often initiated new designs and in many cases have led the world in original research. They have developed aircraft gas turbines second to none in the world, all welded warships with all aluminum superstructures, and new, more efficient methods of production in factories. These are a very small sample of the work being carried on by Canadian Engineers in the mechanical and related fields.

Many Canadian universities have had engineering for some time. It has been from these universities that the Canadian demand for mechanical engineers has largely been met. Now, for the first time, the University of New Brunswick is offering a full five year course leading to a B. C., degree in mechanical engineering. Organized in 1950 by professor E. E. Wheatley, this course now has forty students enrolled in the first four years. These include four in the fourth year, eight in the third year, and fourteen in each of the first two years. Courses offered include Kinematics of machines, Heat engineering, Heat engines, Power plant design and two courses each in Machine design, Machine shop and Mechanical Engineering laboratory. These are combined with courses from the civil and electrical departments, as well as several arts and science subjects. Altogether, these courses are intended to provide a well balanced background for the future mechanical engineer.

In line with the new faculty of engineering, the existing facilities of the mechanical department at U.N.B. are being enlarged. A small scale wind tunnel has been built, and equipment is being added to the engine testing laboratory. Apparatus for additional experiments is also being constructed. With graduation of the first class in mechanical engineering in 1953, U.N.B. will begin to contribute trained men to a branch of engineering which appears to hold unlimited opportunities for the future.

Cotton Mill Visit

On November 23 a group of twenty-five engineering students visited the Marysville Cotton Mill. The trip was made by bus from downtown Fredericton to Marysville. The students were received at the plant by the superintendent, Mr. Robinson, who organized parties that were directed through the plant by several members of the business staff.

The manufacture of cotton fabrics and the operation of the machinery was thoroughly explained and demonstrated to the students. Starting at the lower floor of the plant, where the bales of raw cotton are placed in the ginning machines to be cleaned, the process was followed along to the very last department where the cloth is stored and made ready for shipping to local and foreign markets.

Nearly all of the raw cotton is purchased in South America and is shipped by rail in five hundred pound bales. These bales are wrapped with coarse bagging and bound with bands of iron.

After the cotton is cleaned it is carried by large conveyor belts to the carding machines. These machines have large rollers covered with fine wires anchored into a firm backing, like the bristles of a wire brush. The carding untangles and strengthens the fibres, which may be further strengthened or made parallel by a machine called a comb. The fibres come from the carding and combining machines in a long, soft, untwisted rope called a silver. The silvers are passed through a series of rollers, in which each roller goes around at a faster speed than the one before. This stretches the silver into a smaller and smaller yarn, until the desired fineness is reached.

Because different patterns of finished fabric are required, it is necessary to dye the spools of cotton different colors. The full spools are placed in cylinders of hot dye and lightly covered. The dye is forced into the core of the spool and allowed to penetrate out through small openings into the yarn for several hours. After a sufficient time has elapsed the spools are removed and allowed to dry for several days.

The looms are a fine display of precision-made machinery on which are stretched a number of parallel threads to make up the desired width of cloth. This forms what is called the warp of the fabric. The weft, or crosswise threads in the finished cloth, is formed by passing a shuttle filled with thread over and under the warp threads. The hardness which is attached to the loom lifts whole groups of warp threads at a time, so that the shuttle may pass through between them.

Among the many other interesting features that were brought to the attention of the students were the recently installed sanforizing machine, the electric control panels and the steam operated electric generators which are used at times of power interruptions.

This visit was of great interest to students of every different department of engineering and will long be remembered by those who made the trip.

Mr. William Barrett, president of the Engineering Society, thanked Mr. Robinson on behalf of the visiting students, and the boys joined to travel back to Fredericton, well satisfied that their minds had been broadened by this visit.

Slabs and Edgings

Ed's Note: This column will be a weekly attempt to acquaint students in other faculties with some of the features of Forestry.

The man who said "Go West, young man" could never have seen Paul Provencher's films or heard him talk. Folks at the Teachers' College Auditorium last Friday evening received more than their money's worth in 2½ hours of an interesting, and sometimes amusing or thought provoking program.

Paul Provencher, Chief Forester of the Quebec North Shore Paper Co., showed these films dealing with the life and country found in Northern Quebec accompanied with lively running commentary given by himself. His excellent photography was exhibited on all scenes but his pictures of one of the gray-green waterfalls dropping into a misty cloud topped by a rainbow which in turn seemed to end in a bank of perpetual snow were ones which will not be too, that there was more than one person a bit envious of the seven and eight pound rainbow trout that were caught. I don't mind admitting that I was.

The evening ended on a sober note that really brought home the effects of forest fires. The discouraging results of one careless match were well brought out and it is to be hoped that a lesson was learned.

A note of thanks is in order to Ian Sewell for his efforts in arranging for this film, the proceeds of which will go into the Videto-Hadley Memorial Reading Room in the Forestry building.

It's rumored that some members of the less enlightened faculties are under the impression that the duty of a scaler is to chip the scales off spruces logs. . . could be.

Did you know that moose's antlers grow out from the side of his head, while those of a deer grow from the top? Mule, deer, and coyotes run with their tails down; white-tail deer and wolves hold them high.

Here's wishing Dr. Gibson a speedy recovery. We hope to see him around again soon.

HOW TRUE!
Senator: Did you hear that the Big Four got together, yesterday?
Representative: No, who?
Senator: Dagmar and Jane Russell.

For your dancing pleasure . . .

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INSP

Dots, Dashes and Whistles

If you are fortunate to live along a certain portion of Street, in the Residence or near W. you will probably have heard of hearing you radio program dissolved and agonizing squeals, dashes, etc. You probably observed the erections of wire strung tops, chimneys and other supports. No doubt you were by a few obvious characters muttering little such as "Why can't I get WNEW anyone else", and "that guy get rid of his snow".

In case you don't remember, you are interested in the members of the club. This select group of fifteen members is on the campus assisting engineering besides the Society. The club is to a vague date in when a small group Marconi's met to themselves into a club their interests in radio. Since then they prospered and is the kind in a Maritime Members of the club amateurs, a few unsavory who would like radio amateurs, and who are just interested and similar monstrous.

Activities of the club meetings about once which talks are given shown. Tours are made radio installations. The club have facilities morse code with readers will already mentioned above. The club's only claim to fame which has two Since its formation, possessed a club room der College. With the closing of Alex how has had to look for Thanks to the kind Electrical engineering the club now has room in the electrical which will be its future club possesses its own receiver and associated receiver and associated together with tools, of course a junk box coils, condensers, bro similar paraphernalia.

Perhaps the prece have aroused your club. If so, why not the next meeting of the club room in building some after more members the better it will become who is interested in of radio is urged to acquainted.

Football coach "you that you were a er?"
Freshman: "When my father looked at "This is the end". —Y

The farmer, with tucked in the crook opened the door to office.
"Are you the doctor?"
"Yes. What can it's not me". Th wider to reveal a yo my son-in-law, Doc him and I want y up."
When the doctor all the buckshot he farmer and scold ought to be ashamed Abner, shooting yo "Well," replied wasn't my son-in-law him."