

# ENG. SOCIETY SPONSORS TOURS TO BEECHWOOD, CAMP GAGETOWN

## Gagetown Proves Interesting

The afternoon of November 23rd was a gay day for some sixty 4th year engineering students as they embarked on an educational tour of Camp Gagetown. As the two bus loads of happy tenors left the Civil Engineering building the chant of the "Engineers Song" could be heard across the camp. With hoarse throats, the tribe soon arrived at their destination. Colonel Akerly, army liaison officer at Camp Gagetown and an engineer himself, was on hand to welcome the boys, and distributed miniature site maps of the camp. With Colonel Akerly and Professor Stevens taking the lead in an army panel truck, we were off on a nineteen minute tour which took us across newly constructed roads. Many stages of building construction were noted and very good commentaries were given by John Abernethy and Bill Sears as we rumbled along the streets.

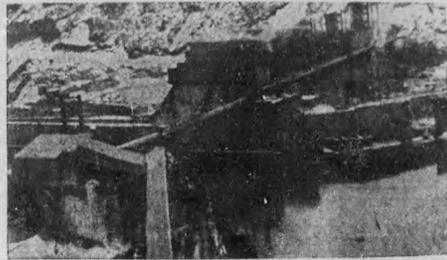
The buses soon came to a halt and we disembarked. There before us stood the Central Heating Plant which was found to be most impressive. The huge building is 100 feet tall and towering above it a 175 foot smoke stack. A large area on the right of the plant was reserved for storage of coal. This coal is then taken to a storage room located in the plant itself. The room is large enough to hold four carloads and is used to thaw the coal. The fuel is then delivered by automatic conveyors to the hoppers.

The eight enormous coal hoppers are located in the upper storeys of the building of which six are to be used upon completion and the remaining two hoppers to be kept as spares. Bulk Minto coal will be placed into the hoppers, then dropped through shutters into a pulverizer, which is located in the basement. From here the pulverized coal is conveyed through an eight-inch pipe to one of the three boilers where it is consumed.

A vacant spot was left for the construction of an additional boiler should the need arise. At the time of the tour, one boiler was in operation using oil as fuel until January 1st, at which time coal would be used.

Four men are required to operate the plant, all of which are civilians. These include a chief, shift engineer, and two firemen.

Two hundred and ten tons of coal are consumed by the plant daily giving it an output of 70,000,000 BTU/hour. It is estimated that about 20% of the coal would remain as ash. This amounts to about 40 tons a day.



## Seniors Visit Power Site

A gay gathering of some thirty five senior engineers and three guards (engineering professors) toured the Beechwood Project last November 24th. The tour included a glimpse of the Muniac Road diversion scheme and a further diversion . . . at Muniac a crew was busy blasting bedrock some thirty feet thick. Large quantities of fill made the existing road hard to find but only the bus driver seemed perturbed.

The lunch time whistle was calling the crews back to work when the bus stopped in front of the cafeteria for food. The Engineers in charge of Beechwood were on hand to welcome the group and shortly after lunch the row divided party set forth to seek out the secrets of Beechwood. The picture above shows a complete view of the west section of the project. The work was divided into the construction of the cofferdams and

A neat vacuum system would be used to clean the boiler of such ash, and piling it so that it may be trucked away.

From the heating plant spread twenty-two miles of heating lines with pipe reduction from 10 to 2 inches. Six circulators and two standbys are also used in the lines. Water leaves the plant at 366 degrees fahrenheit and returns at 180 degrees fahrenheit with a constant pressure of 125 p.s.i. being maintained.

For a safety measure a 375 kilowatt mobile power plant is kept on location, in the possibility of power failure by the New Brunswick Power Commission.

Colonel Akerly later stated that by the end of 1956, the camp would accommodate 5500 troops permanently. This indicates the tremendous progress that is being made by the construction firms.

Professor Stevens thanked the Colonel for the splendid tour and the engineers halls of U.N.B.

## ENGINEERING AT UNB (Continued From Page One)

Brunswick was the first university in Canada to inaugurate instruction in engineering.

It wasn't until 1873 that the third school of engineering was established. This was at L'Ecole Polytechnique. Other Canadian Engineering schools that have been established are: University of Toronto (1878), Queen's University (1893), University of Manitoba (1907), Nova Scotia Technical College (1908), University of Alberta (1909), University of Saskatchewan (1912), University of British Columbia (1915) and Laval University (1937).

Following its infancy, engineering at the University of New Brunswick grew slowly. It was not until August 15, 1889 that a Chair in Civil Engineering and Surveying was established. Even then there were insufficient funds for the required instruments and equipment.

Electrical Engineering was the next to be recognized and in 1893 George M. Downing was made Professor of Physics and Electrical Engineering.

In 1900 the graduates in engineering were still receiving certificates of graduation similar to that given to Henry Ketchum in 1862. However, at the graduation exercises in the spring of 1900 the first degree in engineering was conferred.

It is worthy of note that the first degree in electrical engineering may be seen in the electrical building where it is prominently displayed. It was conferred to Kenneth Chestnut in 1904.

1900 also saw the construction of the civil engineering building. The University had to build its own power line from Charlotte Street to the new building. The wiring in the building itself was done by the students and the professors.

In 1902 the Engineering Society was formed and in 1907 the degree in engineering was changed to a B.Sc. in Civil and Electrical Engineering with provision made for an M.Sc.

Lectures in Mechanical Engineering were first given in 1908 but it was not until 1953 that the

pouring of concrete for the sluice gates.

The mixing plant at Beechwood supplied all the concrete needed for the project. The cement was shipped by railway car to the site where it was stored in large tanks next to the mixing plant. The aggregate supply pile was quite an engineering achievement. What looked like a huge pile of stones and sand had beneath it a large metal tube with a conveyor belt. Inspection of the inside of this tube revealed numerous traps through which specified aggregate sizes could be obtained and conveyed to the plant. The plant was mechanically operated and a handful of men produced large quantities of concrete merely by pushing the right button. The concrete was carried by a conveyor belt (see foreground of picture) where it was then pumped through pipes across a specially constructed suspension bridge, and then poured into the forms of the sluice gates. Good concrete was essential to the project and every effort was made to produce the best mixture. The sieving of the aggregate was carried out by a processing machine obtained from California. This was the first use of this process in Canada. The usual crushing and preliminary breakdown of the aggregate was noted, but an additional treatment for obtaining aggregate of proper density was used when the aggregate was transported to a large mixer. The mixer was filled with a heterogeneous mixture of aggregate, water and magnetite. Agitation of the mixture causes the separation of the material in the mixer into two constituents; that which is more dense than the magnetite and water mixture and that which is lighter in weight. The desired mixture was easily removed, graded and shipped to the concrete plant. The magnetite was recovered by a large worm gear and electromagnetic roller.

The tour was completed with the inspection of the offices, machine shop, boiler house and stores. Due to the location, the Beechwood Project was self-sufficient. All work on the proposed dam is being done at the location. A chat with the working staff revealed experienced and skilled men were being used. One of the men had previously laid sheet piling in Africa.

## LIFE

Man comes into the world without his consent and leaves it against his will. During his stay on earth his time is spent in one continuous round of contraries and misunderstandings. In his infancy he is a devil; in his manhood he is everything from a lizard up. In his duties he is a damn fool; if he raises a family he is a chump; if he raises a cheque he is a thief and the law raises hell with him. If he is a poor man, he's a poor manager and has no sense; if he is rich, he is dishonest but considered smart; if he is in politics he is a graffer and a crook; if he is out of politics you can't place him—he is an undesirable citizen. If he goes to church he is a hypocrite; if he stays away from church he is a sinner. If he donates to foreign missions he does it for show; if he doesn't he is a tightwad. When he first comes into the world everyone wants to kiss him—before he goes out everyone wants to kick him. If he dies young, there was a great future in front of him; if he lives to a ripe old age, he is in the way.

Life is a funny proposition after all.

respectively. The history of engineering at the University of New Brunswick has been a long and outstanding one. Even now, with such a great demand for engineers, facilities must be enlarged. Teachers will be called late this winter on the additional structure which will connect our two present buildings.

## WOMAN

She's an angel for truth, a demon in fiction—  
A woman's the greatest of all contradictions;  
She's afraid of a cockroach, she'll scream at a mouse.  
But she'll tackle a husband as big as a house.  
She'll take him for better, she'll take him for worse;  
She'll split his head open and then be his nurse.  
And when he is well and can get out of bed,  
She'll pick up a teapot and throw it at his head.  
She's faithful, deceitful, keen sighted and blind;  
She's crafty, she's simple, she's cruel, she's kind.  
She'll lift a man up, she'll cast a man down.  
She'll make him a hero, her ruler, her crown.

You'll fancy she's this, but you'll find that she's that,  
For she'll play like a kitten, and fight like a cat.  
In the morning she will, in the evening she won't;  
And you're always expecting she will, but she won't.

## JOKES

A forester knocked at the heavenly gate,  
His face was scarred and old;  
He stood before the man of fate  
For admission to the fold.  
"What have you done?" St. Peter asked,  
"To gain admission here?"  
"I have been a forester sir,  
For many and many a year."  
The pearly gates swung open wide;  
St. Peter rang the bell;  
"Come in and choose your harp," he said,  
"You had your share of hell".

Two men slightly under the weather were asking the desk clerk in a hotel for a bed with two rooms.

"You mean a room with two beds", he replied.  
"Yash, thash what we want", said one, and very shortly they found themselves in the same bed.

"Shay", said one of the men, "there's someone in my bed".  
"Now that you mention it", said the other, "there's someone in my bed too".

A terrific struggle took place for several minutes.  
"I got mine out", said one finally. How did you make out?"  
"Not so good", replied the other, "he threw me out".

"That's all right", said the first, "come and sleep with me".

A box has been placed in the Students' Centre and all students are asked to submit photos. The photos should be glossy prints (not negatives) and at least 2" by 2". Please submit only photos that are reproducible. A caption may be included if so desired.

## Why Worry?

We wonder why folks worry . . .  
There are only two reasons for worry—either you are successful or you are not.  
If you are successful there is nothing to worry about. If you are a failure there are two things to worry about. Your health is good or you are sick.  
If your health is good there is nothing to worry about. If you are sick there are two things to worry about. You are going to get well or you are going to pass on.  
If you are going to pass on there are two things to worry about. You are either going to Heaven or you are not.  
If you are going to Heaven there is nothing to worry about, but if you don't, you'll be so busy shaking hands with old friends, you won't have time to WORRY.

## SUCCESSFUL WILL

The following is what one would call a successful will.  
A merchant who was told that he had only a month to live, called a lawyer to have his Will drawn up.

"Fix it so that my overdraft at the bank goes to my wife—she can explain it. The debt on my car goes to my son—he will then have to go to work to keep up the payments. Give my goodwill to the supply houses—they took some awful chances on me and are entitled to something. My equipment you can give to the junk man—he has had his eye on it for several years. I would like six of my creditors to be pallbearers—they have carried me for so long they might as well finish the job."

## The Heir of the Ages

Dating back to utmost antiquity, Engineering was an Art for long centuries before it became a Science.

Tubal Cain, legendary father of the young Engineer, and placed by Genesis, seven generations after Adam, was described as the instructor of every artificer in brass and iron.

The heir of a great tradition, one which has recognized no aristocracy but genius—the primitive smelters of iron and copper; the ancient workers in bronze and forgers of steel; the discoverers of the lever, the wheel, and the screw; the daring builders who first used the column, the arch, the beam, the dome, and the truss; the military pioneers who contrived the battering ram and the catapult; the early Egyptians who channeled water to irrigate the land; the Romans who built great roads, bridges, and aqueducts; the craftsmen who reared the Gothic cathedrals—these are his forebears. —(From, "A Professional Guide for Junior Engineers", by William E. Wickenden.)

A canny Scot was engaged in an argument with the conductor as to whether the fare was to be five or ten ten cents. Finally the disgruntled conductor picked up the Scot's suitcase and tossed it off the train just as they were crossing a long bridge.

"Hoot man", screamed Sandy, "first you try to rob me and now you've drowned my boy".

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