

ENGINEERING OPEN HOUSE TONITE

GOOD TIME TO GRADUATE

(Continued from Page 1)

Most of the firms said there were still too few trained men. The universities were slowly catching up with the nation's demand for graduates, but they still have some way to go. This factor is expected to become less and less important in the future as supply meets demand more or less on an equal footing.

A small number of the firms—about 3%—said they were preparing for a drop in business and had, in fact, already experienced a decrease during 1952 and 1953. The report points out that only a very few firms were affected and generally they were small, employing 50 or less. Any men put out of work by these trends would have no difficulty in finding new jobs in the next few years. The report emphasizes that it deals with the demands of private industry and not government or institutional agencies.

On the whole, it is Canada's expansion that is creating the new jobs. Asked what was the main cause of the new jobs becoming available to professionals, most of the firms replied that they were expanding and needed more staff. Other reasons listed were the expansion of research activities and defense orders.

Some firms took the view that technological innovations had gone far enough for the time being and there was less immediate need for highly trained researchers.

So with few exceptions it remains the same story: employers competing for available trained men. They found it difficult to get enough men or women in any profession.

The chemical and petroleum products industries had the hardest time filling their ranks and had to turn away a number of professional men who applied for jobs. The reason for this, the report explains, is that further specialized training is necessary

in the work, and facilities available for such training are limited. A brief analysis of the outlook by professions shows:

Chemical Eng., Chemistry
There are between 3,000 and 4,000 chemical engineers and between 5,000 and 6,000 chemists employed in Canada. Every branch of industry reported a demand for more. A steady increase in jobs can be expected in the years to come.

Companies working mines, oil wells and quarries expect to increase their professional staff on an average 20% each year until 1956.

Civil Eng.
There are between 8,000 and 9,000 civil engineers working now. The demand for these men is less great than for other branches of engineering. The report says that there should be an average increase of about 4% while other engineers can expect around 7½%. This is explained again by supply and demand. There has been no great shortage of trained civil engineers and so no backlogs have built up to be filled later. New staff taken on here represents new jobs created.

But despite this reduced demand there are still jobs vacant for any civil engineers who want them.

Electrical Eng.
There are between 6,500 and 7,500 in the country. They are still in great demand and can expect an average annual 8% increase in jobs available.

Because of the difficulties in predicting future requirements in the electrical apparatus industries some of them have made conservative estimates of staff requirements for 1956. If, of course, new business comes their way the demand will be stepped up again.

Mechanical Engineers
Between 7,000 and 8,000 mechanical engineers are employed in Canada. They too can look forward to the next few years with an average increase of 9% in jobs available.

ENGINEERS ARRIVING AT CANADA CEMENT



ISN'T IT THE TRUTH!!

(Read when you have time)

INTERPRETATION:

The plans and specifications are to be taken together. Anything shown on the plans and not mentioned in the specifications, and anything mentioned in the specifications and not shown on the plans, is to be considered as both shown and specified. Anything wanted by the Engineer, or any of his friends, or anybody else, except the Contractor, shall be considered as shown and specified, implied and required, and shall be provided by the Contractor, without expense to anybody but himself.

If the work has been done without expense to the Contractor, the work shall be taken down and done over again, until the expense is satisfactory to the Engineer.

PLANS:

The plans are to be considered diagrammatic and disgraceful, and are to be followed only where space conditions make it impossible to do otherwise.

Anything that is forgotten or left out of the plans and specifications but which is necessary and required for the comfort and convenience of the Owner, whether he thought of it before or after the execution of the contract, shall be provided by the Contractor to the satisfaction of everybody—but the Contractor—and in full accord with the evident intent and meaning of the specifications and without extra cost to anybody but the Contractor.

Anything that is right on the plans is to be considered right; anything that is wrong shall be discovered by the Contractor, and shall be made right without telling on the Engineer or indicating it on the bills.

RULES AND REGULATIONS:

The work throughout shall comply with all the rules and regulations, caprices and whims of all City, County, Provincial and National and International Departments, Bureaus and Officials, having or not having jurisdiction over the same.

MATERIALS:

All materials shall be of the best of their several kind and the Contractor is expected to know and provide the best, irrespective of what is specified in the details.

The Engineer reserves the right to change his mind about what is best. Any change necessary to make the work and the materials fit the mind of the Engineer, shall be made by the Contractor without extra cost.

PERMITS:

The Contractor shall obtain all permits and shall pay all fees, dues, assessments, subscriptions to masked balls, organizations, outings, and all hat and dinner checks.

DAMAGE:

Any damage done by the Contractor shall be paid by the Contractor as liquidated damages and not as a penalty.

GUARANTEE:

The Contractor shall guarantee, and does hereby guarantee that he will keep in complete and perfect working order, anything that the Engineer asks him to attend to, as long as there is no more work in sight in the Engineer's Office.

ARBITER:

In case of any dispute arising as to the nature, character or extent of the work done, specified, or implied, the matter shall be decided by referendum and recall, after which the decision may be set aside and reversed by the Engineer. The Engineer's decision shall be final.

PAYMENTS:

Payments, if any, shall be made as the work progresses in the amount of 85 percent of the value of the work done, as judged by the Engineer.

In any case shall the judgement of the Engineer cover more than enough to cover the payroll every Saturday night. The material men must take their customary chances.

The final payment, if any, shall be made only when everybody is satisfied, except the Contractor.

Any evidences of satisfaction on the part of the Contractor shall be considered as just and sufficient cause for withholding final payment.

FINALLY:

The Contractor shall accept and thereby does accept the conditions hereinafter appearing for himself, his ancestors and progenitors, his family, his heirs, executors his ox, and his ass, and any stranger that is within his gates.

Compliments of Bulldozer

CEMENT KILN



Shown above is a kiln used in the manufacture of Portland Cement by Canada Cement Company at Havelock, N.B.

ON BINAURAL PERCEPTION . . .

Once upon a time there was a great dungeon deep under Deannora Castle. It often had been used for the medieval purpose of corrective politics, but now it was populated only with mice—many, many mice. The dungeon was pitch black, with not a single gleam of light, and in order to survive, the mice had to perceive binaurally the direction of approach of the castle cats. Wherever the cats would go in the inky pit, the prey would have just departed, leaving the smell of mice, but no audible mice.

Above, in the castle rooms there was a remarkable cat, the pet of a noble duke and his duchess. Tommy was not like other cats, for he was the re-incarnation of Prof. Kamstak Lodov, the great Russian scientist, well-known to have discovered the principles of depth perception and stereo several centuries ago.

One day the mice in the dungeon became a problem to the noble duke because he wished gently to incarcerate a noble enemy gently since he well knew that possibly some day the noble enemy might instead be incarcerating him. So the Duke of Dannemora called to his footman, and directed that Tommy be placed in the dungeon in an unframed frame of mine. But Tommy refused at first to be led down the wet stony steps to the creaky iron dungeon door, and called first for the sharpest pair of scissors in the kingdom. When these were found and brought to him, he sat down and cut off all the tips from all his claws—an odd procedure indeed for a cat about to enter into predatory activities. But remember, Tommy was the re-incarnation of Francois Popoy, world famous Russian binaural scientist.

Tommy then allowed himself to be led down the wet stony steps to the creaky iron door, and while in transit, please note, he made no clicking sound with his claws, no transient noise—only a dull padding centering around 250 cps, as he had no doubt planned.

For all of three weeks and three days the great iron door was left closed and locked, but finally there came the predestined hour, and as the hinges groaned open, Tommy staggered out, replete and bursting with masticated mice, the product of 4 and 20 days of using low-pass filters. As Tommy recuperated on his pillow he began to reflect. The cloying taste of mice fingered overlong, and he yearned insatiably for other fare, even if only as a chaser. Well knowing by experience with mice that the ability of potential prey to perceive direction of approach depended upon keeping the sounds of his approach below 1,000 cps, he again clipped his claws to prevent the clicking, and set out across the moat on a black moonless night to find his fortune. Suddenly a strange and exciting scent was in the air, and as he followed it along well-filtered in his 250-cps way, Tommy was abruptly trampled to death by an old lady in a wheel chair with an ear-trumpet, who was binaurally astute down as low as 80 cps with a 9-inch ear spacing.

Tommy had made a miscalculation.
Tommy even today is again being re-incarnated.
From Audio Engineering Journal.

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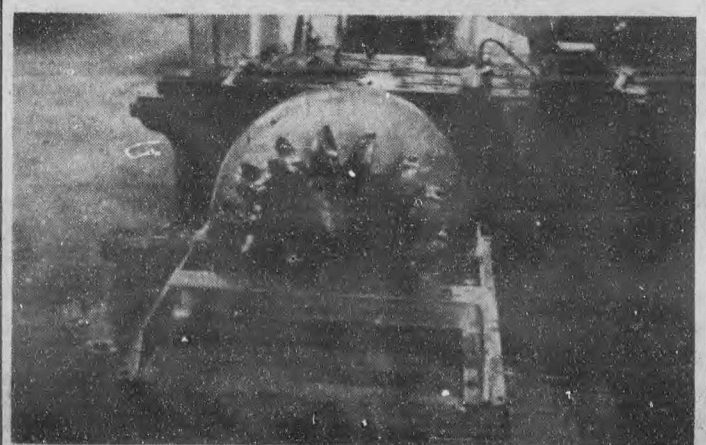
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WASSAIL SAT. NIGHT

PELTON WHEEL CONSTRUCTED IN MACHINE SHOP



Shown above is a Pelton wheel during assembly. All the work done on the wheel—designing, machining and assembly—was done by the senior mechanicals. It will be on display for open house this evening in the hydraulics lab.

EXPECTED TO BE ONE OF THE BIGGEST EVER

This year as in the past, the engineering buildings will be open to the public. A number of very interesting displays are on hand including a model of a 52,000 h.p. hydro electric set sent by English Electric. Events get under way at 7:30 with the programme listed below.

FIELD AND OFFISH FABLES

One day last summer, I was seized by that diabolical urge to go fishing. Since one must satisfy his natural urges where socially possible, or suffer frustration, I strapped by trusty slide-rule to my side, grabbed my rod, tied a leash to Cuthbert, by faithful measuring worm, kissed my transit a fond farewell and headed for a stream where fish might be had.

After extensive stream gauging and water velocity tests, I located a lovely spot—a veritable fisherman's paradise where the water flowed clear, deep and rippled over dirty brown sand. In the water, the trout could be seen playing at their little games such as Black Jack, button, button, who's got the button, shiny and baseball. Dizzy Trout was pitching his finest game of the season. I paused a moment to rest and prepare my tackle. I need not have bothered for the play was around right end and failed to reach the secondary.

After tying a plump line to my rod, and selecting from my wallet a 4" x 4" angle for attachment to the line, I cast around for bait. However, so out of practice was I that my casts were extremely inaccurate, and at last I was forced to secure a young python from a nearby Sikh colony. Then, I dropped my line into the water and waited.

I awoke with a sinking feeling. Indeed, I was sinking into the water. As I was about to go under, so it seemed, I succeeded in seizing a tree which grew conveniently by the water's edge. Now, great numbers of trout were pulling at my feet and the tree continued to bend until finally I was clinging tenaciously to its very top. But resolutely, I refused to play hide-and-seek with them. I have detested the game since infancy. Finally, angered by their frequent illegal use of fins, and obvious off-side infractions, I gave a last Herculean twist. At the same instant, the fish released their respective vice like grips and I flew homeward through the air at a speed proportional to the resonant frequency of the tree.

I saw many interesting sights on that last mad flight. I passed through Rangoon at 4:31 a.m., A.S.T., nearly colliding with the Ocean Limited in the station, and arrived in Fredericton at 12:30 p.m. in spite of a heavy gale encountered at N30°, 60°13'W. After a hurried snack of filet mignon and toasted armadillo-sau gratin, I returned to my home and crawled wearily into my sack. I was asleep before you could say, "Engineers are relatively broadminded fellows who deserve greater financial remuneration and social prestige for their valuable work."

—Reprinted by request

PERSONAL NOTES

Prof. Stevens, one late evening on his way home noticed a motorist in trouble. Approaching, he said to the driver:
A: "Motor trouble?"
Driver: "None"
A: "Out of Gas?"
Driver: "None"
A: "Tire down?"
Driver: "None, didn't have to."

A bum approached Prof. E. E. Wheatley in the street and said, "How about 20 cents for a cup of coffee?"

To which Tiger replied, "What! What! Coffee is only 10 cents." The bum then answered, "Yeh, but I'm keeping a woman."

Civil and Mechanical engineering Buildings

Ground Floor:
Hallway:
Working scale model of 52,000 H.P. hydro electric set manufactured by English Electric Company of Canada for the government of India. Similar to installation at Beechwood.

Hydraulics Lab:
1½ H.P. Hydraulic Tubon-Generator manufactured by fifth year Mechanic Engineering Students.
Scale Model of spillway for Beechwood Power Project in New Brunswick.

Mechanical Lab:
Air flow measuring devices
Orsat gas Analyser
Calorimeter for measuring heat value of fuels
Torsion and Tensile testing equipment
Miscellaneous drawings done by the students in various years of the engineering course.

Basement:
Soils Lab:
Aggregate investigation for concrete structures lab.
Concrete specimen manufacture and testing Testing Machine.
100 Ton hydraulic testing machine. Testing of concrete samples for durability and cyanide modulus of elasticity.

Machine Shop:
Operations of lathe, planer, milling machine and shaper, heat treatments and welding.

Engines Room:
Diesel, steam and air operated engines
Air compressors and steam turbines.

Furnace Room:
Modern oil fired steam boiler, hot air engine, steam engine-generator sets.

Second Floor:
Model Building:
A scale model of a typical modern industrial building with overhead crane.

Detail drawings and design data, also various blue prints of building and bridge construction.
Proposed Extension to Civil and Electrical Buildings.

A scale model of the proposed extension to the Civil and Electrical Buildings built from the architects drawings by two senior Civil Engineering Students.
Electrical Engineering Building

Ground Floor
Dark Room:
X-Ray apparatus.

Electronics Lab:
Thyratron motor speed control meters built by students.
Wave analyzers.
Photo electric cell circuit.
Illustration of basic principles using cathode ray oscilloscope.

Counters Tube Display.
Measurements Lab:
Remote control circuits.
Mechanical illustration of the theory of electrical wave motion.

Circuits representing power and communications transmission line used for characteristic measurements.

Standards Lab:
Radio and audio frequency.
Standard Meters.
Meter Testing Panel.
Teletypewriters.
Telephone circuits.

Basement:
Power Lab:
New Test bench laboratory facilities.

Use and properties of transformers, alternating and direct current motor and generators. Rectification of alternating current to direct current by various methods.

Second Floor:
Servo Lab:
Radar Room.
Radio Room, containing transmitters and radio club apparatus.
D.C. metering.
Simple A.C. circuits.

The Student Engineer

I stood on the bridge at midnight,
A simple Pratt Truss span,
My fingers were held fixed end-

ed,
In the clasp of my dear love,
Ah,
While I there surveyed her
(Ah, but my love was fair),
A diagonal wind load suddenly
Caused tensile stress in her hair.
I said, "Willst thou measure with me
The chart of Life's unknown
road?"
And my heart by reciprocation
Set up an impact load.
"Thou art the illumination of my
life
I pray thee do not dim it."
The joy when she softly whispered
"Yeh"
Exceeded my elastic limit.
— Adapted from Minnesota
Technolog

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