The Brunswickan

THE WEEKLY NEWS AND LITERARY JOURNAL OF THE UNIVERSITY OF NEW BRUNSWICK
Est. 1880
Member, Canadian University Press

SPECIAL EDITION
Editor-in-Chief
DAVE PLUMMER '45

BUSINESS MANAGER - - - - - - Fred Davidson '45

EDITORIAL STAFF

MANAGING EDITOR - - - - - - Arnie Gerrish '45
NEWS EDITOR - - - - - - - - Ottis Logue '46
NEWS EDITOR - - - - - - - - Ron Gibson '46
FEATURE EDITOR - - - - - - - Charlie Weaman '46
SPORTS EDITOR - - - - - - - - Jack Scovil '47
SPORTS EDITOR - - - - - - - - Bud Stewart '47

Contributors: Dr. John Stephens, Dr. M. F. Gregg, Mr. C. McN. Steeves, Dave Stothart, Chester Wade, Harry McCleave, Rheo McDonald, John Bell, Carl Poss, Bill Tremayne, Jim MacKenzie, Dick Mallory, Elmer Scott, Helen Baxter, Al Cameron, Don Green, John Hough, Sol. Lassman, Reno Cyr, Murray MacLean, Bob Evans, Aubrey Lewis, Art O'Connor. George Bond, Frank Horyan, John Gandy.

VOL. 64 Fredericton, N. B., March 7, 1945. No. 18

In presenting the fourth in a series of bigger and increasingly better annual editions of the Engineering Brunswickan, the engineers on the campus deem it a high privilege in being afforded an opportunity for which man has been struggling so long a time, and indeed, in many parts of the world, is still striving under the oppression of dictatorial powers. The unrestricted expression of truth in the press is the only way of ensuring the healthy growth of our country, which, still in unsettled youth, could so very easily become more entangled within itself amid false whisperings, rumors and prejudices, and some day find open hatred and even internal strife more than a mere possibility. And so, even though this one edition with its small circulation, contains nothing of a startling nature and pulls but insignificantly on the strings that guide the destiny of a nation, it does seem of importance, nevertheless, for it is proof of the good faith which has been placed in us, and at the same time, evidence of our faith in what we should like to think of as a free and unbiased publication.

This year, due to the additional space allotted to feature articles, there has been given a more representative cross-sectional view of engineering activities and thoughts at U. N. B., and with blue paper, newly-draughted heads, more pictures, and all the regular attractions amalgamated into a single issue, we feel that the Engineering Brunswickan '45 will meet with general approval.

The graduate engineer going out on his own today does so with a different, even a distorted outlook on life, as it is seen through the eyes of the average youth who has been bearing responsibilities and burdens right along. But it could hardly be otherwise, when you stop to consider the portion of his life devoted almost entirely to "book learning." And that it why he may find it difficult to locate himself amid strange surroundings and conditions. Upon beginning this new phase of life, he is at the bottom of the hill, looking up, and debating with himself as to the [illegible] the long steady climb required to reach [illegible]. It might be well to recall the advice given by Monsieur de Gaspe Beaubien, who, upon addressing a gathering here last spring, said in effect: "Don't start out in this new life with the idea that you know it all." That's a primary point, and the graduate should understand and recognize his own shortcomings, and be willing to spend time to absorb the practical knowledge of the daily routine which a university life could not give him.

Another way in which this distorted outlook might appear, is in the graduate's general outlook on life and on the role he thinks he, as an engineer, is destined to play. For it is a sad truth that the engineering profession has been influenced by the growing greed of a lusty world, and as a result, has failed to recognize its obligations to society. This may be due, in part, to the absence in an engineering course of a study of social problems. Such a study would undoubtedly guide the student in the decisions he must necessarily make later on as a responsible engineer. In looking then for a solution to this matter of selfishness and greed, consider the words of Dean McKay, who said to us: "Fundamentally a new order is not needed, but rather a better grasp on our Christianity. Then only, perhaps we will have a fit world in which to live." Therein lies the very meat of the matter, for as to the solution of differential equations, for example, where the entire solution can be found by the application of a general procedure to each problem, so can the general embodiment of Christianity — "Do unto others as you would have them do unto you" be applied to the solution of each human problem as it is faced.

Then with a firm grasp on such virtues as honesty, dependability, consideration, and willingness to work, along with a full appreciation of his obligations to society and a sense of pride in his work, the young engineer can go on, assured of gaining the respect of his fellow man, and confident of at least some measure of success.

TELEVISION— Technical, Economic and Social Challenge

Many of you may have, at one time or another, listened with enrapture to a musical composition by Paul Ducas "The Sorcerer's Apprentice." It is based on an original poem by Goethe, and Mr. Ducas has resorted in his orchestration to the musical form of the Ton-Bild (Tone-picture). Walt Disney, the great experimenter and creator of many original innovations in the realm of movies, fired by imagination and with an enthusiasm kindled by the haunting melody of this little musical piece, created his unforgettable "Fantasia," a combination of theme in music, pictures, and narrative. The unique position of this experiment has been emphasized, because we, the audience, have apparently been treated to a tid-bit, and the purveyor, the motion picture industry, has been reluctant to offer other attractions of a related nature. The cause lies primarily in the little understood fact that an entirely new technique has outrun its form of presentation. It is in this critical and over-lapping territory where Arts and Science meet and become barely distinguishable, that a new medium, "Television," has made its appearance. All those with the knowledge of "a little Latin and less Greek" will readily volunteer the information that television stands for "distant-sight," and the word has come today to hold magic qualities judging by the popular response it arouses.

Television represents the crowning achievement of a series of discoveries in the field of communication engineering and applied science, extending over a period of time, and contributions of men from many nations, whose names tell an eloquent story.

An elaborate technical discussion is beyond the scope of this article, because many of the newest innovations are on the secret list, others in the blue-print stage, and indiscriminate use of technical concepts like converters, oscillators, video detectors, synchronic clippers, and deflection yokes (the mere A-B-C of the communication engineer) will stifle the general interest of the average reader. But since television has outgrown its technical limitations, since it is an established fact, since it is here to stay, and since it has emerged as a direct social and economic challenge, it is imperative for all of us to know part of its story, which for the last 10 years amounted to a struggle behind closed doors, full of intrigues, blocking, power-politics, and a constant shuffling of cards for the game of patent-policies which could bring but havoc to this infant industry.

Television is part of the radio-electronic field of production, and the promise it holds, that of bringing to our homes sight and sound in unison, is of a nature which will make established radio look pale in comparison. It is therefore not surprising to find that the problems encountered (and which still exist in part since new developments are constantly being devised) are of a much more complex nature, and can best be illustrated by comparison with the radio industry.

Our ordinary system of broadcasting (Amplitude Modulation) is based on the carrier wave as our medium of transmission. Early experiments showed the frequency of the carrier wave to be an important factor in its propagation, and the spectrum (the sum total of all the frequencies from the infinitely long to the short) was subdivided into frequency-bands. Since the frequency varies inversely with the wave-length, the product of both being the velocity of light, 300,000 km. per sec., we may express our results in terms of either wave length or frequency. The accepted definition is, that for a medium radio frequency, the range extends from 100-1500 kc./sec. from 1500-1400 kc./sec. for medium high frequencies, from 6,000-30,000 kc./sec. for high frequencies and beyond that, very high frequencies. The medium frequency waves travel distances up to several thousands of miles at night, and a few hundred in the day time. It is this range that is employed for ordinary broadcasting.

Those waves serve merely as the carrier of our radio system, and it is the audio-wave, varying in frequency from 0 to 10 kc./sec. which contains the message to be transmitted. This audio modulates the carrier frequency in the transmitter at the broadcasting studio, and our receivers separate them. Since a frequency of 10 kc./sec. is required to send intelligent sound patterns, every station must be separated from another by at least that amount, if we are to have reception without interference. At the present time there are 900 licensed commercial broadcasting stations between 550-1560 kc./sec. operating in the United States, indicating that this frequency band is completely utilized. This is at least one point of controversy, because a policy of "first come, first served" had to be adopted, and wave-bands varying in length were handed out to various services in need of communication facilities. (Aeronautical communication, military, police, aid to navigation, etc.). It has not been done on a systematic scale (nobody with even the fondest dream could predict such a momentous rise in wireless communication) though by no fault of anyone in particular, merely lack of foresight, and the individual services take their place in a senseless pattern, that will be further complicated by post-war developments in the field of tele-communication and wireless. Traffic in this congested field offers great opportunities for irresponsible elements, alternating their policies by constant shift of gears.

SOLOMAN H. LASSMAN.

(Note: For those interested, additional information may be obtained by contacting the writer.—Editor.)

Most of you will recognize in this group of nature's children, familiar faces, but as portrayed here, they represent that cultured class, cream of the Beersmen—yea verily—the Senior Civils. The cast:—

BILL TREMAYNE, our red thatched narrator of tall tales, and faithful reader of Dorothy Dix's advice to the love-lorn, hails from Toronto. His ready wit and good nature establish him as a favorite with everyone.

"BOOG" YOUNG—he of the Barrymore profile and the southern drawl—is the senior member of the class, and thus is able to offer parental guidance to the others, less versed in the ways and wiles of the world.

FRASER MACKENZIE, fittingly dubbed "Pop", was the first of the class of '45 to be "fenced in", and as a result has added a potential heart throb to the class of 1960.

CHARLIE GALE helps to maintain for us a certain degree of sobriety in the midst of ever threatening pandemonium. A good student, Charlie shows the way when it comes to scholarship.

PAUL ROBINSON, or "P. G.," is an active participant in all class athletics. Of late he has been missing few of the social functions, credit being due to a certain siren downtown.

JIM MacKENZIE, weaned on western milk (Winnipeg Blue Blend his favorite), gave up punching cows around Regina long enough to spend three years at U. N. B. He possesses a generous nature—just try to bum a cigarette sometime. (We're only kidding, Jim.)

CONNIE MULHERIN fills a number of positions, being Engineering representative to the S. R. C., and Bowling League president, to mention a couple. Connie's vocal qualities have earned for him the name "Frankie," bestowed by his envious class-members.

WENDELL RITCHIE, another victim of the leap year bug, is a native son of Fredericton. Wendell's marriage came as a surprise to us all, but we have heard no complaints from either he or "Pop" thus far.

"JUD" ADAMS, the Campbellton Romeo, is a constant source of witticism sometimes. Then there are the other times. 'Tis rumored that he possesses great affinity for a certain downtown apartment, and uses a clever disguise to come and go incognito.

This would not be complete without a word about our genial guiding light, PROFESSOR HARRY MOORE. He has consented to play basketball one of these afternoons, so for a real BANG-UP game, be on hand.

That's all,
J. MacG. Mackenzie,
R. F. Mallory.

Role of the D. L. S.

Perhaps it is not generally known that Civil Engineering graduates of this or of any other university may not act as land surveyors without first passing additional examinations. An Act of the New Brunswick Legislature requires that any person desiring to enter this profession must write examinations in Algebra, Geometry, Trigonometry, and Mensuration. Under the candidate is successful in passing these, he is questioned by a member of the Department of Lands and Mines on the use of surveying instruments, and on general surveying practice.

Experience also is necessary before a person may practice by himself. If he holds a degree, only a three-month period under a competent land surveyor is required. If he does not hold a degree, a full year's experience is necessary.

After the candidate has fulfilled these requirements, and has posted a bond of one thousand dollars with the provincial government, he is given the title of Deputy Land Surveyor. This title is commonly abbreviated to D. L. S. The bond required is used to make good damages suffered by anyone through the negligence of the surveyor. A penalty of forty dollars is provided by the Act for anyone who violates its provisions by assuming the duties of a surveyor without the authority to do so.

It is of interest, also, to note that the Act requires that ". . . there shall be laid down and properly marked, at Fredericton, the exact length of a standard chain, and the direction of the true meridian . . ." One wonders where these markings are to be found in this city.

To be a Deputy Land Surveyor may not seem important to a person who plans to enter another of the many branches of Civil Engineering. However, it is well worth the time and effort spent while one is in college to attain this qualification.

R. T. Gibson, '46.

POST-WAR PLANNING

A great many engineering students are wondering what the future holds for them after they receive their parchments and venture forth into the wide, wide world to try and sell the knowledge they have accumulated during their four years' sojourn here. At present this is a relatively simple question, for in most cases it will be answered by the Government. Those who do not go into the armed services will be in the perhaps fortunate position of being snapped up by our manufacturing industries. The next question that arises is, "After I'm discharged, what?" To try and answer this, several members of the faculty, who are well informed on economic trends and industrial development in Canada, were interviewed.

Very shortly after the war terminates, there will be a vast Government works program for the construction of networks of new and improved highways. Of course a program of this nature will involve the building of a great many bridges. One may also expect development of housing projects.

Industry will have to retool and convert from high pressure war time, to more leisurely peace-time manufacturing. It is obvious that a time lag is involved here. Unfortunately it is not believed that industry can quickly absorb the number of engineers available. This would indicate that a great many men with technical training will find their way into executive or semi-technical positions. The trend in the past has been that the engineering graduate was reluctant to go out into the shops and learn the ins and outs of the business and administrative organization. More and more, employers are realizing that a man is not necessarily limited to the comparatively narrow field of endeavor generally connected with engineering.

However, many new fields of pure engineering are beginning to open up and will be fully investigated in the post-war period. Of general interest, is the subject of Town Planning. The main principle is to design the residential community as a complete unit before construction is begun. Shopping centres, playgrounds, theatres, banks, churches, schools, community garages and car-parking lots, and even aeroparks, all must be allowed for. Those in the building industry will find ample room for the release of their talents through architectural and landscape design.

In addition to all this, the ordinary services must be arranged; water and sewage, light and power, and possibly, with new development, central heating.

In the electrical field, one of the first post-war jobs will be the supplying of power and telephone service to the rural dweller. Here at U. N. B. we have seen the beginning of this, through Dr. Turner and his connection with the Calvary Power Co. This company has constructed a 100-mile experimental rural line as a means of studying this problem in greater detail. It is obvious that this rural electrification program cannot be carried out economically, and therefore the increase in cost must be borne by the urban dweller.

One of the highest lights of the engineering future is in the field of electronics. The greatest field is in communications where new methods are being discerned daily.

Many other fields will see great post-war expansion. Synthetic chemistry, plastics and wood products are perhaps the foremost.

In view of all this we would conclude that the man with the technical background, supplemented by training in business and commerce, if he has the ability, initiative, and willingness to work, will have no difficulty finding his place in the sun in the post-war world.

R. E. Evans.

Minus 4f

All good things must end, they say,
The week's allowance, last summer's pay,
The empty bottle, the fall of Rome,
Are the proof of the sentiment of this pome.
And thus by process of eliminations,
By laws and rules and machinations,
In nineteen fifty in degrees and parts,
There was one lone student left in Arts.
And this poor soul in deadly fright
Badgered and hunted by day and night,
In the social scale a owly minion,
The target of critical public opinion,
Of the mighty faculty all that was left
Fell into category minus 4F.
He became so tired and worn and nervous
Dodging the National Selective Service,
That he got worn out and decided to chuck it,
So just before finals he kicked the bucket.
"Of deadly sins we are warned of seven,
Not one have I broken, I'm bound for heaven!"
In a rowboat propelled by three hoary Fates
Once the faithful sailed to the Pearly Gates.
But in modern times they're more urbane
And they use a converted Hurricane.
When our hero arrived the gates were locked,
But he lit up a Sweet Cap and timidly knocked.
But he almost keeled over when that was did,
For Peter appeared in an Air Warden's lid,
Benignity shone from his reverend brow,
As he opened his saintly mouth to howl,
"Put out that fag, you dumb little moron,
When will you guys learn there's a war on?
Well, what do you want and what can you do?
You look too stupid to make air crew.
The navy's desperate for men, I know,
But I don't think they've fallen quite this low.
The army—now that's a different story,
Say, but, what's your medical category?"
On his Adam's apple our hero choked,
Then, "Please, sir, 4F," at last he croaked.
Saint Peter started to say "Oh, hell!"
But remembered his cloth and changed to "Oh, well!"
Our hero ventured, "I know I'm not sharp,
But I thought in heaven you played a harp."
Saint Peter groaned, "Remember the war?
Well, dope, they're making harps no more.
To pay off our debts we're saving gold plate,
And the brass goes to make the P48.
You don't sit around in rose-covered arbor,
The motto now is, 'Remember Pearl Harbor.'
Well, what did you learn, you worthless rotter,
When you took a course at your Alma Mater?"
Our hero bowed his head in shame,
"Arts," mumbled he, and pale became.
"Good Godfrey!" loud the Saint did roar,
"I thought that was cut out in '44."
"That's the last straw," he loud did yell,
As far as I care you can go to hell."
So our poor hero, dear guys and ladies,
Wended his weary way to Hades. .
There, on the door, inscribed with decision,
Was a sign which read, "Out of Commission."
Our hero at this was greatly perplexed,
And beginning to get a little vexed,
When over the door he chanced to spy
The devil casting a wary eye.
Old Nick, of sinning mortals the bane,
Was a sorry sight as he tried to explain:
"I've used up all my hard coal ration,
So I've had to close for the duration.
Be good, and don't tell the Draft Board on me,
They're looking for stokers on the M43.
And by the by, the Earth, old dear,
Is a thousand times hotter, you'll find, than here."
So our poor little Arts man, as you can see,
Could find no haven on land or sea,
In heaven to sing or in hell to burn,
So to the war-torn earth he must return.
And to U. N. B. at last one day,
He found the end of his weary way.
Resolutely entered, bravely took a seat,
The fate that is worse than death to meet.
For if anything worse than Arts could be,
Then 'tis that ignoble course—forestry.

—GATEWAY.

(Ed.—With apologies to Gateway for the alterations of a few lines. The above article printed for the express benefit of Ted (Nymph of the Woods) Owens.)