



Miss Science for '62, Pauline Robinson, a second year arts student from Moncton, N.B. Crowning will take place this Saturday evening in the students centre at the science dance.

CHEMISTRY AT UNB

The University of New Brunswick was founded in 1785 and arose out of the Paine Memorial which petitioned the King for the "early establishment in this infant province of an academy or school in liberal arts and sciences". Not only, then, is our University the oldest in the country, but its foundations coincided with the origin of scientific chemistry and the beginning of modern science. In 1785 Lavoisier was at work in Paris; in 1808 Dalton published the "New System of Chemical Philosophy". The founders might therefore have looked for the University to grow into one of the great centres of higher learning in North America.

For many reasons this hope proved illusory and during the succeeding century and a half the meagre resources of the Province have been dispersed among not less than six "universities" in addition to several "colleges". For most of this time the University remained a respectable but small institution, inadequately supported by the government and largely out of sympathy with many of the inhabitants of New Brunswick. In 1930 the faculty of the University numbered about 17 professors who were thinly spread over the usual arts and science departments in addition to engineering and forestry. Most of these departments consisted of a single professor.

The study of chemistry was formally commenced when James Robb, M.D., became Professor of Chemistry and Natural Science in 1837. He established a chemistry laboratory and gave regular courses in chemistry, biology and geology. Since, however, opportunities for practising chemistry in New Brunswick in those days

were few indeed, he devoted most of his scientific work to botany and geology; the chair of Chemistry and Natural Science became a chair of Natural Science only. Robb's successor, Loring Bailey, was appointed in 1861 to the vacant chair and began a career of remarkable scientific achievement which lasted well into the twentieth century. He also, however, had little opportunity to practise chemistry and confine himself to undergraduate courses. On the other hand, his work in geology and biology was extensive and constituted an important contribution to the science of his time. In the latter years of his professorship he relinquished the teaching of chemistry which was actually taken over by the professor of Civil Engineering. Chemistry became a separate department in 1907 but it was not possible even then to pursue the study of the new rapidly growing science in a way typical of a modern university. Graduate students were very rare birds indeed in those days. In 1932 the Chemistry Department consisted of two professors, offering nine full courses together with laboratories but without the help of even a storeman or a stenographer.

The Second World War presented the first opportunity that the University had ever had to engage in scientific research; during the war years help from the National Research Council allowed the Department to undertake chemical research connected with the war effort.

Research in the physical sciences is an expensive business and the professors at the University in pre-war days had no resources to expend. The first real period of prosperity experienced by the University since its founding came in 1946 when the student population nearly fourfold by the entry of returning soldiers who were subsidized by the federal government, some of us were able to use the increased income of the University to expand scientific studies. At the same time the National Research Council increased its support program

for scientific research throughout Canada.

In 1948 the Chemistry Department was fortunate enough to appoint in the person of Professor Karel Wiesner a brilliant scientist, educated in modern theory and practice, who proceeded to revolutionize the Chemistry Department and to make a deep mark on chemistry in Canada. He stayed with us 14 years, in the course of which time the graduate school in chemistry produced 40 Ph.D.'s and 100 outstanding papers and won for itself a respectable place in the opinion of organic chemists throughout the world. Professor Wiesner's immediate interests were concerned with organic chemistry which up to the time of his arrival in 1945, had been largely neglected in Canada. His researches in the difficult field of structural chemistry and in particular the elucidation of the structure of complicated organic molecules have not only made the name of New Brunswick known throughout the world, but have also strongly affected the development of organic chemistry in all parts of Canada.

A similar, but smaller, development took place in the department of Physical Chemistry under Dr. J. M. Los and the support of the National Research Council has increased yearly; equipment valued at many thousands of dollars, including a nuclear magnetic resonance spectrometer, spectrographs of several kinds, as chromatographs and many other instruments are now in use in the department, which is as well equipped as any other in Canada. All this time also, the department has been able to attract competent graduate students and post-doctoral fellows from many parts of the world.

At the present time the Chemistry Department, while performing its duties to the undergraduate school, practises research into the fundamental aspects of organic, inorganic and analytical chemistry with the help of 18 graduate students and 5 post-doctorate fellows.

Science Social

Friday 26th was no ordinary day for the Science Faculty because it was on that day that the students of this faculty were called upon to put away momentarily the burdens of Calculus, the frustrations of Chemistry labs, the despair of Geology and the monotony of Physics and to turn to something of aesthetic value—namely casting of ballots for the Science Queen '62-'63. The life of the Science Student is by no means a pleasant one and despite the fact that this latter task superficially appeared to be a pleasant one it proved to be most disconcerting to say the

least. The contestants Pauline Gibson, Pauline Robinson, Gay Franklin and Sheila Hutchinson all could have been Queens had they not vied against each other.

The Science Social will be held in the Student Centre on Saturday, November 10th, at 9 p.m. is a fitting climax to all recent activities on campus associated with this Faculty. The music will be supplied by Radio U.N.B. The feature event will be the crowning of Pauline Robinson this year's Queen by Debbie MacKay, who now relinquishes that position. Unlike last year, the social has been planned for a week-end when social life would otherwise be dull. Despite the fact that last year it was exclusively for the Science Faculty the organizers have shown a great deal of foresight by making it open to all. The cost, 25c each is not prohibitive so why not plan to make this a must.

Open House

The importance of science in the world today is readily recognized by all. It is time you realized where U.N.B. stands in this respect.

Science graduates from U.N.B. enter such fields as medical research, medicine, geophysics, advanced organic chemistry, and industrial research, to mention just a few. With this in mind, we, the science students, have taken the initiative and are holding an open house in all four departments for the first time.

Furthermore, it is hoped that a project as this will serve as a precedent for future science classes by uniting all Science departments in a common effort.

This year's small senior class has demonstrated great enthusiasm and spirit in organizing and managing this project. Among those who have devoted considerable time and effort, is the President of the Science Guild, Peter Breuckner.

To satisfy your curiosity, come see things actually happening in the lab.

To our new Science Queen, bouquets of roses, and may you enjoy the benefits which are associated with this position. Looking ahead we hope the ride on our float during Winter Carnival may be memorable in that you might even be riding on the winning float, a feat which was associated with last year's Queen.

To the runners-up, we express much gratitude we are only sorry that we are allowed only one queen, otherwise we would have had four of whom we would be pretty proud.

He: How about some old-fashioned loving?

She (cooly): Wait, I'll call down grandma.

No man can understand looking at a clothes line why it costs a woman so much to dress.

Elementary Particles

It was discovered in the year 1947 that the nuclear forces have the property of saturation, i.e. to say a given nucleon is able to interact with only a limited number of others. This is apparent from the fact that the mean binding energy per nucleon after rising rapidly among the very lightest nuclei remains almost constant for all further increases of the atomic weight, A.

When such a number of nuclei are placed in a magnetic field of a high intensity H the saturation, S, reaches its maximum value.

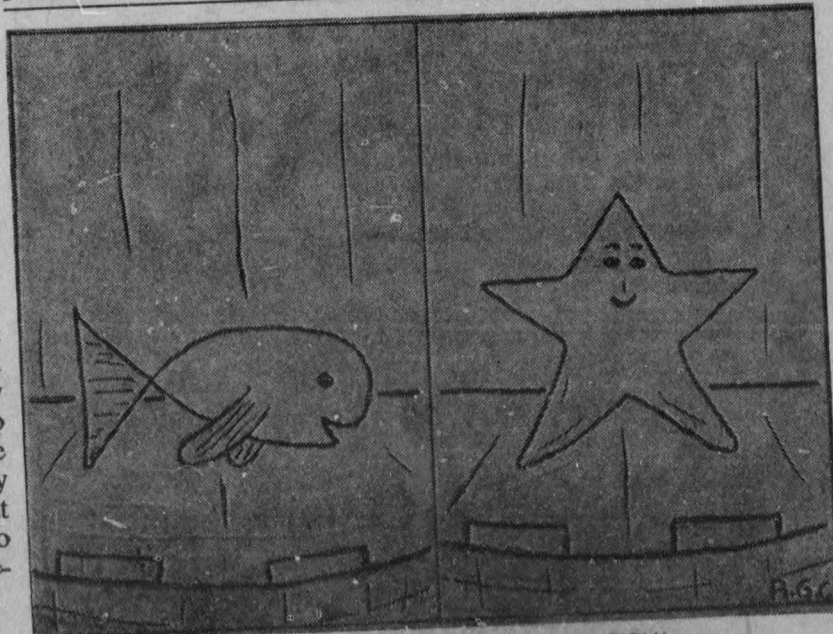
However upon removal of the field the saturation value does not fall back to its normal level, due to the emission of π mesons. This emission of π mesons gives rise to the exponential decay of the energy level of the nucleon. The nucleon disintegrates into a proton and a neutron which result from the interacting magnetic field H. Conversely the proton and nucleon recombine with the π meson to reproduce under the action of the electric field E, a magnetic field H to produce a nucleon which is of less energy than the preceding one, due to oscillation of the electron of the nucleon in its orbit, caused by the interchange the spin moment of the electron from positive to negative which consequently results in the equation:

$$A \quad \frac{5}{16} \quad E_x + e_s = \frac{d 4\pi r^2}{dq}$$

Brain Teaser

A man wanted to run water into a barrel until it was exactly half full. He had no measuring instruments, but he was able to fill the barrel exactly half full. What was his solution to the problem?

Answer: As he ran the water in to the barrel, he kept the barrel tipped. He watched carefully until the water in the barrel just reached the lip of the barrel, and at the same time just covered the bottom of the barrel. Then he shut off the water. The water now filled exactly half the volume of the barrel and the problem was solved.



And now, ladies and gentlemen, our Star . . .

FISH!