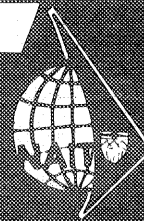


The duke of
Oregon (director of
Student Services
on

NUGGET



NORTHERN ALBERTA INSTITUTE OF TECHNOLOGY

Vol. 1, No. 2



Edmonton, Alberta

30 day
injured list
after bruising leg
on football field

September 17, 1971



Photo Tom Wood

"Innocence Is Bliss"

Letter to the editor

The NAIT school calendar states, "Any student who is persistently late or absent from classes may be suspended." This is rather vague and probably intended to give department administrations a free hand in disciplining students whose school work isn't up to par. There hasn't been any significant amount of complaint about this rule being used unfairly but it is possible to imagine situations where it could be. Before any possible hardship does occur the rule should be made more specific.

Fay Yakemchuk

Disgusted vet CIVILIZED



President: Jack Pawluk
Treasurer: Don Trohimchuk
Social Convenor: Rob Block
Sports Rep: David Woodley
Secretary: Margret Ledingham

An organizational meeting will be held on Wednesday 24, at 4:10 p.m. If you're interested in acting, lighting, stage, or make-up please drop and give a listen. This club is open to the whole school and we need the whole school to back us. The meeting will be held in J26. For further information, please contact me at CHNR Radio.



On the second floor Downtown and the main floor in the new Southgate Mall.

President's Message



May I extend to each of you who are attending NAIT, my best wishes for an enriching and rewarding year ahead.

Your success in attaining your vocational goal will be a measure of how well NAIT is fulfilling one of its major functions, which is that of serving the individual and, thus, the community at large.

Every effort has been made to provide the best facilities and equipment possible to help you reach your objective. The extent to which you take advantage of these facilities will depend upon how much you choose to become involved in the Institute's various activities.

Although NAIT's primary func-

tion is to prepare you for a position in business or industry, it also provides the opportunity to develop socially.

I hope that the pressure of your studies will not prevent you from taking full advantage of the extra curricular activities which might well be as important to you in the final analysis as the acquisition of an academic record and practical skills.

I hope, too, that your life at NAIT will result in associations and friendships that will endure long after course content is forgotten.

G.W. CARTER
President

Operation Placement

A Student Employment Program

In the summer months of 1970 the provincial Department of Culture, Youth and Recreation granted sums of money to most post-secondary institutes in Alberta. The money was to be used in hiring students on their campus to work for their fellow students. The program was backed by the provincial Government, the Chamber of Commerce and the Canada Manpower Centre. At NAIT \$2000 was granted and NAITSA added another \$2000 making a total of \$4000. This covered costs of printing and stationery, wages, mileage, and public relations. At the end of the summer there was an estimated \$70,000 return through the students placed by Operation Placement. In the summer of 1970 the program was worked on an individual placement system.

Operation Placement was in force again during the summer of 1971. Again the Dept. of Culture, Youth and Recreation granted us, as well as other post-secondary and high school institutes, monies for running the program. This year NAIT received a \$3000 grant, up from last year through the request of NAITSA as they were unable to contribute financially to the program.

In 1971 the Operation Placement program was set up differently as the Federal and Provincial Governments had provided funds for setting up student self-

help groups. The money was again used to hire two NAIT students to work for their fellow students. In the 1971 summer they were to concentrate on assisting the self-help groups on their campus, to help high school students, do business and community public relations work, and placement work. The two Operation Placement students worked mainly for NAIT, the high school student (mostly grade XII students who planned on continuing their education) and for the university student. The U. of A. and NAIT worked closely together for the summer.

Due to different facts—the student self-help groups, a rise in our economy, the ecology corps, Canada Census, better public and business awareness, all round support from the City of Edmonton, and an effort on behalf of all institutes. A summary of high employment was obtained for students.

Through the work at NAIT the estimated dollar return value to students placed by NAIT was \$170,000 to \$200,000.

The job opportunity situation for the 1972 summer period looks even more promising than in the past. We are hoping the Dept. of Culture, Youth, and Recreation will find it possible to support this type of program during the next summer break.

J. Stimson,
Vice-President, NAITSA.

I.E.E. Student Association

This year the Institute of Electrical and Electronic Engineers student branch is looking forward to another year of active membership in many projects and papers.

The branch in previous years, working on various projects and papers, has been particularly successful:-

1970 three groups of students built electrical and electronics equipment for a radio telemetered model aircraft to be used in making atmospheric measurements.

1968 student branch paper competition winner—Mr. K Bronten, "Light Amplification by Stimulated Emission of Radiation"—won 2nd prize for Region 7 (this includes all of Canada) (1st prize went to SAIT).

1968 design of a winch, winch control and mobile atmospheric temperature indicating device for the study of air pollution control in Edmonton and Calgary. This equipment has been in use almost 4,000 hours without any maintenance being required.

1965 NAIT student chapter received its charter, the third

institute of technology in Canada to be granted a charter. At that time the other two branches were at SAIT and Ryerson Institute in Toronto.

The NAIT student branch has always had a most active membership, enthusiastic branch counsellors, and receives considerable help in its various projects from other staff members and a few senior members in Edmonton.

During their final year, many of the electrical, electronic, telecom and instrumentation students query their instructors with many questions about their future. Basically, these questions fall into two categories: (1) what type of work is available in the seven main engineering areas?

- product design engineering
 - research and development engineering
 - manufacturing engineering
 - installation engineering
 - consultancy engineering
 - maintenance engineering
 - sales engineering
- and (2) what positions, commensurate with their training and experience, should they apply for?

The I.E.E.E. offers some an-

swers to these questions through their monthly magazine the Spectrum and through the cassette and film services available. Articles in the Spectrum range from tutorial papers on electrical and electronic circuits, and descriptions of power systems to analysis of the changes occurring in the electrical and electronic industries, and to changes in society. In addition, the student is encouraged to join one or more of the groups in I.E.E.E. These groups are organized around the basic interest areas in industry; for example, the power group, the computer group or the communication technology group. Membership in the group brings a copy of the transactions several times a year. Articles here keep the student abreast of current problems in that area in industry.

During the year the student is encouraged to participate in one of the project groups or on the executive or both. The projects enable the student to apply theoretical ideas to practical problems. Experience gained in these groups and on the executive has been an asset when employers have come around. Many students in the past have been able to obtain better salaries as a result of it than they would have otherwise.

Membership is open to students in the Electrical Technology, Electronics Technology, Instrumentation Technology and the Telecommunication Technology. Please feel free to come and attend the opening meeting, or contact Mr. Campbell in E114L if you are interested.

How to study

The Counselling Department will be offering a six hour course on study techniques during the first two weeks of October. Starting October the fourth classes will be held at the following dates and times:

- October 4, 6 & 12 - 4:10 p.m. - 6:10 p.m.
- October 7, 11 & 13 - 4:10 p.m. - 6:10 p.m.
- October 4, 6, 8, 11, 13 & 15 - 11:10 a.m. - 12:10 p.m.
- October 4, 6, 8, 11, 13 & 15 - 12:10 p.m. - 1:10 p.m.

Contact the Counselling Department Secretary in room E121 to register. Classes will be limited to 25 students each and students will be accepted on a first come first serve basis.

Topics to be discussed will include the following:

- Part One
 - Analyzing Your Study Habits
- Part Two
 - Improving Your Study Habits
- I. Planning Your Work
 - A. Keep a Trial Record for a Week
 - B. Map Out a Permanent Weekly Schedule
 - C. Follow Schedule
- II. Improving Your Reading Abilities
 - A. Know When and How to Vary Your Reading
 - B. Increasing Your Speed of Reading
 - C. Getting the Writer's Meaning and Finding his Organization
 - D. Getting the Meaning of each Unfamiliar Word
- III. How to Study Textbook Assignments
 - SQ3R
- IV. Improving Your Memory
 - Taking Notes
- V. Concentration
- VI. Preparing For and Taking Examinations
 - A. Overcoming Nervousness Prior to Exams
 - B. Preparing Systematically for Your Exams
 - C. How to Write Objective Exams
 - D. How to Write Essay Exams
- VII. Improving Your Capacity to Study
 - A. Importance of Health
 - B. Making Vocational Plans
 - C. Importance of Personal and Social Problems
 - D. Importance of Prerequisites
- VIII. Part Three
 - Re-evaluation of Study Habits

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Laudenklos**



Valdy—a farmer from Head Acres

VALDY

Well, I had originally planned on writing an article on Delany, Bonnie and Friends but something better turned up at the concert. It isn't often that the headliner is out done by the warmup act but such was the case last Wednesday night at the Jubilee Auditorium. The warm up act came as a big and unexpected surprise to most of the people. I came into the auditorium not knowing there would be a warm up act and left wondering why an entertainer and fine musician like VALDY should have second rating to Delany, Bonnie and Friends.

First of all, I would imagine Bonnie and Delany take along what friends they can afford to take along. For their Edmonton concert and the rest of this tour they didn't have many of the people who recorded with them on the albums I am familiar with. As a result, some of the music was quite different from what I had expected, and some of the musicians were slightly inadequate considering the standard of the group as a whole. I will point out the accompanying guitar player and the organist in particular. Neither the organist or the spare guitarist belonged in the group. The guitarist did unbelievably repetitive three note guitar solos and what the organist did, anyone with no music ability whatsoever could have done with only a fifteen minute session on a keyboard.

What about the rest of the group? The drummer and the conga player were excellent, always varied but never off time. The bassist was quite adequate and added a bit of show to the whole thing with his excellent dancing technique. What I heard of the horn section was good, especially the solos done by the saxophonist and trombonist. The P.A. detracted a lot from the horn section, which was a bad loss for the friends as a whole.

The person or people who set up the P.A. were next to being clueless about the acoustics of the auditorium. The people sitting near the middle received a full

blast from the musical instruments, but missed hearing the horns and voices of Bonnie and Delany almost entirely. Bonnie was the raunchiest looking wench I've ever seen, with her hair done up in a bun, a skin tight black sweater, weird riding pants of unknown origin and alligator skin boots that went above the knees. Delany had an afro-electric hair style, a T shirt, multi colored pants and a Mae West fringed guitar band. Together, they really put themselves into their music. I only wish I could have heard them better because their singing probably was good but then what can be expected from a poor amplification arrangement.

I should mention that Delany was quite impressive with his guitar mastery. He changed guitars several times (he used three). Delany is a truly fine musician on bottle neck guitar playing. Bottle neck style guitar is similar to Hawaiian or steel guitar playing except a small bottle is placed over one finger and a regular guitar is used. His guitar playing was the most outstanding feature of the group except for possibly the drums and congas.

The unexpected appearance of a truly fine entertainer, singer and musician by the name of VALDY showed the Delany, Bonnie and Friends crew up to no end. Like Country Joe MacDonald being the most outstanding feature of the TEN YEARS AFTER show, VALDY took control of the audience right from the start, but what VALDY took control of the audience right from the start, but what VALDY lacked by not having an equivalent to the fish cheer he made up for ten times over with personality, vocal ability and musicianship. VALDY does more than just his own songs. What songs he borrows from other people, he improves on them to no end. An example of this might be a song called Rainmaker, which he took and developed a good story around. By the end of rainmaker, he had everyone singing and clapping

ping their hands until they were almost blue in the face and their hands were almost blistered. Then he did it again with another song about his electric guitar and wanting to play in a rock band.

Valdy puts across a very peaceful feeling as he performs and when I met him in person I found him just as peaceful. A description of "very together" could easily apply to this fine man. Maybe he reminds me of Santa Claus.

VALDY is 26 years old and has been playing the guitar for thirteen years, eight of those years have been as a professional. He started off his musical career playing Irish Folk music while attending St. Pats University. He has gone through Rhythm and Blues and Rock music, playing base with a six by six foot stack of amplifiers behind him. After leaving St. Pats University he worked for the city of Victoria designing sewage and drainage systems. I'm afraid he didn't get off on that very well so he has taken up farming.

VALDY lives on a five acre hideaway farm on Vancouver Island just outside of Victoria. He grows vegetables and raises chickens and cats. At this time of year, he can catch fresh salmon in front of his home for breakfast every day. His only problem in life seems to be having a dual personality, the dual personality being two pairs of shoes; one pair being his work boots which he wears while farming and the other pair being a pair of blue sneakers that he wears while going on concert tours.

Having done concerts in: Winnipeg, Medicine Hat, Calgary, Edmonton, Vancouver and Victoria, Valdy is now on to recording and will have an album out someday I'm sure, but he says just a single in the near future. I'll expect to see more of Valdy in Edmonton again soon. As far as TV appearances go I only know he is to appear on DIANNE, (Mondays at 7:30 p.m. on Channel 5) but which week it will be I don't know, so keep on watching.

By Howard Harlton

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SITTING BY THE ROADSIDE
WAITING FOR A RIDE
I TOOK A LOOK AROUND ME
AT THE WONDERS THAT COULD BE

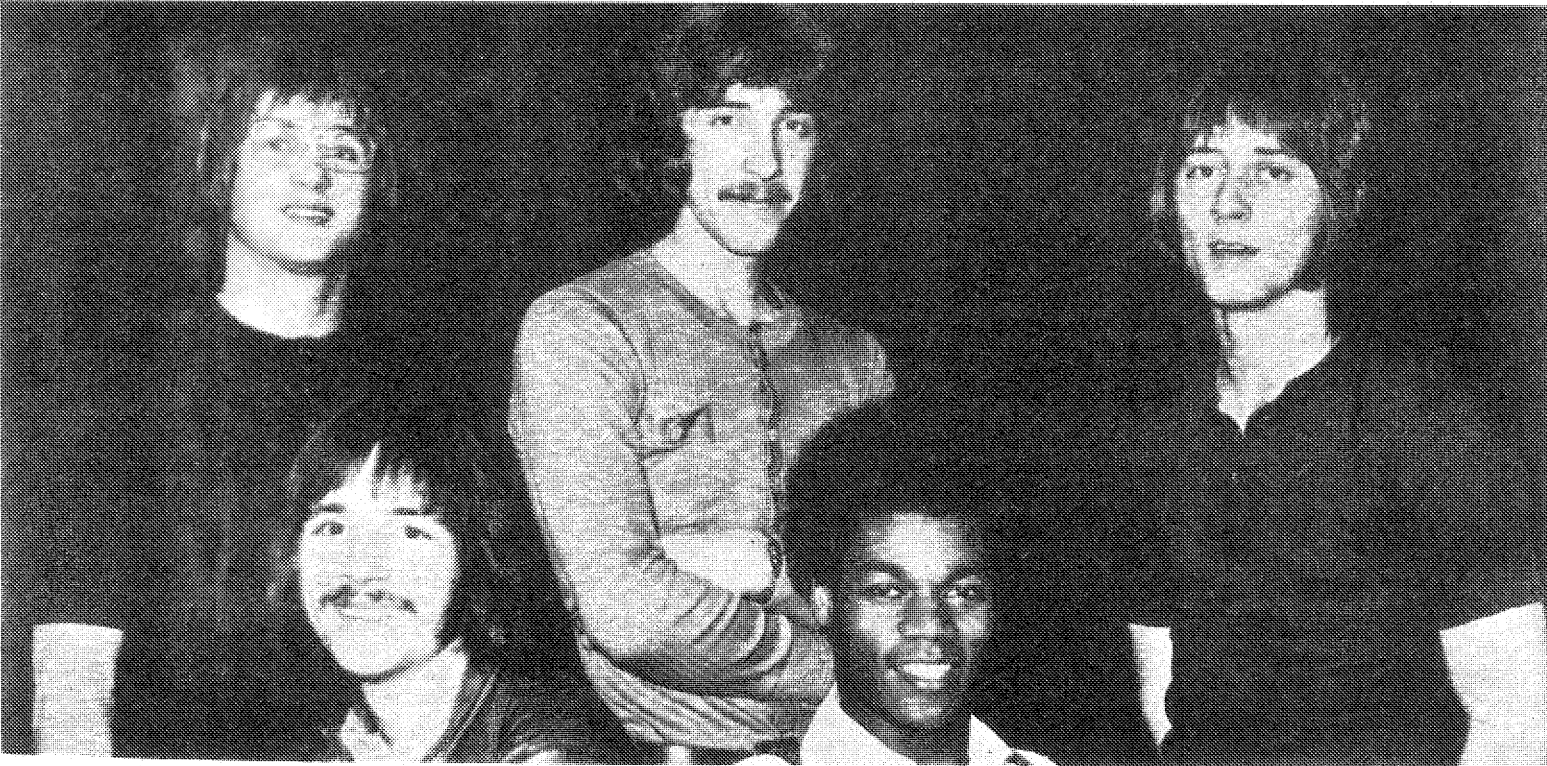
LOOK AT NATURE AND ITS SPLENDER
OR AT A PASSING FENDER
NATURE IS VERY BEAUTIFUL
AND CARS ARE VERY PLENTIFUL

BUT AS I LOOK AROUND ME
I SEE A PASSING TRAIN
JUST SITTING MAKES ME FEEL
LIKE LIFE COULD BE A PAIN

BUT LIFE IS NOT SO PAINFUL
AND THINGS ARE NOT TOO DRAB
LOVE IS VERY JOYFUL
AND LOVE IS WHAT I HAVE

By
HOWARD HARLTON

P
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The two things which determine the prosperity of any rock group are: (1) the price they demand for playing and (2) how often the group makes an appearance. Multiply these two together then subtract expenses to see if a group is making a living. In the city of Edmonton there are very few groups making a living at it, but not necessarily a good living.

To find out about where the rock music is at in Edmonton I will be talking to a great many

musicians around town. To get things started, I contacted Carol Dakus of Spine International.

She will be assisting me a great deal in contacting rock bands for interviews. Many thanks to Carol.

I decided to interview a group with a great deal of experience and success behind them. In Edmonton right now, what better band to start with than the Freeway. The Freeway have been in existence for six years and have enjoyed increasing success year

after year. They are on the upper plateau of rock music in Edmonton. I asked the bass playing leader of the group what he attributed the success of the Freeway to. In return he said, "in rock, you have to play what the kids want or you don't eat. The main purpose of the Freeway's music is to get the kids participating and having a good time."

Another thing I feel is important to mention here is the amount of work the Freeway put into their

music. Sometimes the group has sixty hours of work divided between practicing, playing, recording and traveling to their gigs each week. It's a full time job with very irregular hours, and a musician has to be dedicated or he can't make a living.

Wondering about the Freeway's success I looked around and found out they aren't starving. Their idea of making an enjoyable living at making music is to be in enough demand to ask a higher price so as

Freeway

The members of freeway,
clockwise
from top left are:

Richard Osepchuk—bass

Wayne Schneider
—piano & saxophone

Ken Kochaluk—drums

Bob Alexander—vocals

Dwanye Osepchuk—guitar

to leave them with more spare time to develop themselves musically. As a result, they can develop and improve new skills before some groups find time to. The Freeway are playing dance music for the younger generation and although they are not yet superstars or for that matter might never be, they are doing good things and enjoying doing them.

By HOWARD HARLTON

The Great Canadian River Race



Here is the group that will be playing for the Frosh Dance on Friday. They hail from Penticton B.C. and their name is "THE GREAT CANADIAN RIVER RACE". You may have been lucky enough to see them during the last couple of weeks at the Riveria Hotel. I can say without reservation that this is the best performing group I have ever seen in this city. From left to right, their names and occupations are: Duncan Meiklejohn, keyboards, rhythm guitar and lead vocalist; Marcus Redivo on bass and back up vocals; Darrell Quast as lead vocalist and percussionist; Lyle Sheppard on drums; and Selwyn Redivo on lead guitar, flute and back up vocals. By the time this paper is out, you will probably have seen the group at the Thursday Noon Sock Hop, so you will know they are good.

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YOUR PUBLIC RELATIONS DEPT.

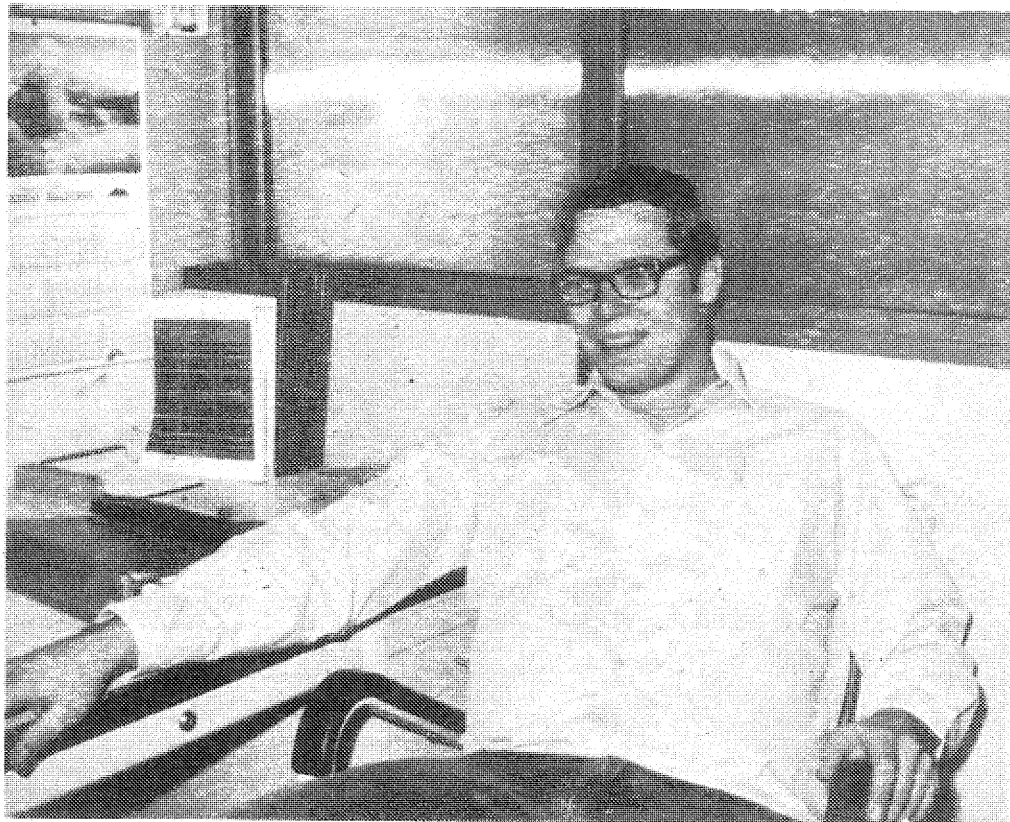
Last year The Public Relations Department under the guidance of Jim Stimson and his co-operating staff of Greg Elock, Ray Smith, and Ron Odowichuk, undertook and co-operated in a number of events in an effort to promote a greater understanding of NAIT by the public. The Department became involved in such projects as Santa's Anonymous, Shinerama, the Cancer Drive, and worked with the Klondike Association by coordinating and commentating the River Regata at Emily Murphy park. Last year the Department was also instrumental in organizing and promoting a guided tour service for rural students attending NAIT Open House.



Jim Stimson

This Year's new office personnel is headed by its director Ray Smith. Ray is a 2nd year Gas Technology student. The department is looking for a 2nd year student with the ability to step in as co-director and two first year students to be coordinating assistants who will take over the department next year. All interested persons can apply to the student executive.

The Public Relations office has the job of creating and or changing public and industrial thinking about a great institute, NAIT. This is a new department dealing with establishment problems and finding the best methods of achieving newly set goals. The main goal is communication between NAIT and Industry. The problem is finding the best and fastest way to create an image. This image must be commensurate with the thinking of students, school executive and Industry. Activities such as Shinerama, Santas Anonymous, Open House, Cancer Drive, making of pamphlets, Klondike Days, dealings with press, radio, and T.V. all help to enhance an image for our institute. All these programs require planning, organization and management. The Public Relations Department is actively involved in promoting and helping to carry out all these ventures.

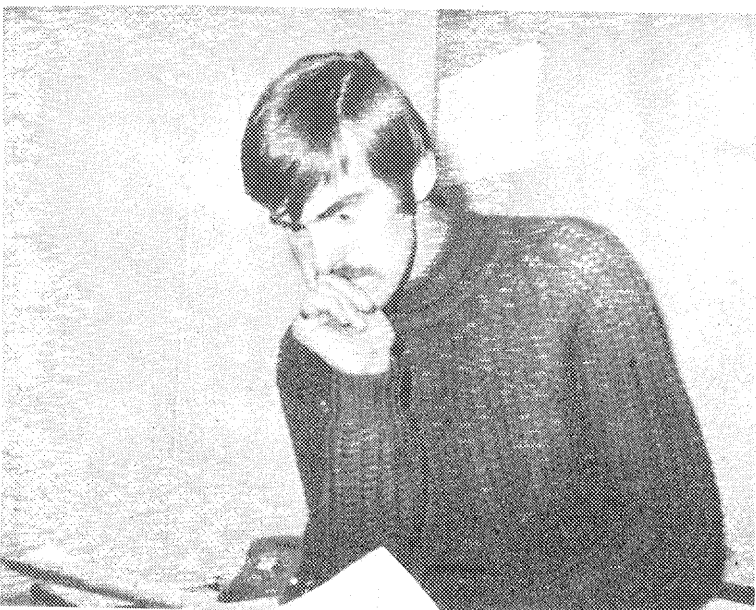


Ray Smith

Under new organization this year and using changing ideas as to purpose and value the workers in the Public Relations office look to a successful year. Co-operating with the Nugget, RTA people, NAIT radio, school administration, student executive and the student body the department feels its goals can and will be attained.

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"The Column"

By Daniel Fraser

This is the first of a series of columns intended to inform the people at NAIT on the subject of stereo. To be more precise I mean high fidelity music reproduction.

To most people high fidelity is not a descriptive term. It is a noun. To them a record player does not have high fidelity, it is a hi-fi; and when the two channel record player came along, it became a stereo, simply to distinguish it from a hi-fi. Ask the average person how hi-fi his stereo is, and he'll give you a blank look, as though you had asked him why he doesn't stop beating his wife. John Q. Public learned all about stereo and hi-fi from advertisements in the Journal and his Simpson's or Eaton's Catalogue; so most people must be forgiven for their ignorance. The prevalence of misconceptions scarcely changes the fact that fidelity is faithfulness and a high fidelity reproduction is one that is highly faithful to the original.

I am highly prejudiced and opinionated on this point. I firmly believe that there is no excuse for a poor music reproduction system except financial, in which case the poor system would be merely for something to make sound while striving for a better system.

I believe that high fidelity is, by definition the pursuit of realistic sound reproduction - not

pretty, spectacular or effective sound reproduction but realistic! I feel it should be the aim of every electronic manufacturer, recording studio and music listener to produce the best possible semblance of a live musical performance as heard from a good seat in the auditorium or wherever the music may be performed.

To be able to judge the equipment sold for music reproduction we must know what must be expected of our equipment. Sound is basically a set of disturbances or vibrations, travelling through the air. The rate at which these vibrations occur is known as the frequency of the sound and is stated in vibrations or cycles per second, now called Hertz (Hz) after a German scientist who produced the first radio waves in the late 1800's. Most people can hear sounds ranging from less than 20 Hz to above 15,000 Hz with the upper figure decreasing with age. Range from 15Hz to 18,000 Hz being common for people in the teens, twenties and thirties.

Musical instruments on the other hand can produce notes from 30Hz for an organ to 5000 Hz for a flute. However, in music we have what is called overtones or harmonies, which are additional notes produced by the instrument which are exact multiples of the original note. For example, a flute putting out a frequency of 5000 Hz would also produce overtones of 10,000 Hz, 15,000 Hz, 20,000 Hz, 25,000 Hz,... To cover all hearable overtones, which determine much of the music's character, a music reproduction

system should respond to notes up to 20,000 Hz. At the other end of the spectrum, with 30 Hz the lowest note, the system should respond to frequencies as low as 20Hz to cover sound effects or anything else that today's pop music experimenter's will try next. This means that the frequency response should be at least from 20 Hz to 20,000 Hz for the entire system, but this is not possible for all sections of the system, at a reasonable cost, or a mildly unreasonable one. The electronic sections of a high fidelity music system can exceed this figure readily if properly designed but it is the electro-mechanical part where the problem lies. These sections are the phone cartridge, tape deck or microphone and the speaker but figures near this standard are possible at a reasonable price, with some exceeding it for a price. An acceptable figure for a speaker system would be 30 Hz to 18,000 Hz and 30 Hz to 16,000 Hz for a tape deck.

In the weeks ahead I plan to break the high fidelity music reproduction system into parts and explain each as well as I can without being excessively technical. I also intend to give instruction on reading a data sheet along with instructions on setting up a good and not excessively expensive high fidelity music reproduction system.

If anyone wishes help in setting up or improving a high fidelity system or has any questions or comments, good or bad, feel free to drop me a letter c/o The Nugget.

the sleeve of his jacket. Seams that Art Hooks still doesn't know Brian's first.

Jaro Polk



July 8, 3:00 p.m., a lost frosh was on her way to the student book store. Upon reaching her destination she found the book store was closed. She stepped over to the Nugget office, which is the immediate door to the west, and asked, "When is the book store opened?". "There is a note on the door" replied a Nugget staff member, "12:00 o'clock tomorrow I think." At this point she popped back to the book store, checked the note, reappeared at the Nugget office and exclaimed "But it doesn't say what day," - Oh well, can not be perfect.

In the future we may see Dave Rainer sewing his first name on

Where are you living this year? Last year a representative of the student's council had a brilliant idea. He proposed the erection of a student residence on the NAIT campus, to accommodate the out of town students. At that time his idea was scuttled. Yet, I think of all the unfortunate students that are living in basement suites, that have been kept as storage rooms during the off season, and as NAIT opens are rented out to the students. The cost of these rooms is not great, but then I would hardly call these rooms comfortable or, even in the furthest stretch of the imagination, liveable.

For some reason NAIT has always been given a second school status by all government levels concerned, and only when extreme pressure is applied has a change occurred. It will be two years before NAIT finally has an arena and swimming pool, yet take a good look around; Victoria Composite, Eastglen, Bonnie Doon, and Ross Sheppard high schools have pools. It appears evident now that when NAIT was built it was a token effort on the part of the government to satisfy, pacify the northern peoples.

This year forty-five per cent of the students attending NAIT are from out of town. Where do these people live? Some are living in apartments which are costing up to 135 dollars a month to rent. This naturally means that many students are forced to live in shared accommodation, up to four students per apartment. The others who are not so lucky are living in that hole in the basement. It is becoming more and

more evident that a student residence is required on the NAIT campus.

Who is new? Another year begins at NAIT and things have not changed much. People come and people go, but NAIT seems to have its own inherent problems. Qualified people are hard to find, but at NAIT these people are hard to keep. The reason seems obvious at times and then just as it seems the reason is cornered, it escapes. The major problem perhaps is the salary scale to which all people these days are glued. In the past few years NAIT has lost many qualified people, because these qualified people can make more money in the industrial world. It is difficult to believe, but in many technologies the graduate student makes more money than the instructors.

The once famous Austin Bradley is presently enrolled in the University of Calgary.

Speaking of past presidents, it would appear that Percy Wickman is going to take another crack at an Aldermanic seat in the Oct. 13 civic election.

Speaking to Ken Nelson the other day; he informs me that "NAIT has a good chance to sponsor a cabaret this year. The cabaret will most likely be held in the cafeteria area.

Welcome to a new member of the Medical Services Department of NAIT-Miss. R. Shewchuk, and hoping robins do not fly south for the winter.

If you are looking for three hub caps, with some sort of eagle insignia, see Wendy Corah in the barber shop. It seems she bought three at an auction sale out of sympathy. Now she is looking for the same.

Cross Country

"Our Team NEEDS Women"

Cross-country running is an unfamiliar sport at NAIT. It is an international running event which consists of running up, down, around and across the countryside. The events for this conference consist of 3 to 3 1/2 miles for men and 1 to 1 1/2 miles for women. This event differs from ordinary track running by providing various challenges throughout the race for the participant.

The NAIT Cross-country team is in full swing again this season and as usual it is lacking those hardy females known as the Women's Cross-country team. This is a perennial problem which I am sure can be alleviated. Any women interested in trying out for the team please contact Mr. Reeves in E-137.

With three returnees from last year's men's team and four from last years women's team (I hope) it is hoped the teams will fair a little better than last year.

The Cross-country team this year will be participating in four competitions: The University of Alberta Invitational, The NAIT Open, The NAIT Intramural and the A.C.A.C. Final on October 23 in Calgary.

The team is working out three days a week at NAIT and two days a week at Kinsmen Park. If you are interested in working out with the team just be in front of the Gym any weekday at 5:00 p.m. This is excellent conditioning for anyone who plans to participate in any of the forthcoming activities such as Hockey, Basketball, and Volleyball.

Participate

NAIT Canoe Team Practices Begin

An organizational meeting for the men's and women's canoe teams was called on Monday September 13 by Coach B. Bresnahan. Forty recruits have indicated that they will contest the 18 positions available on the 1971 school team.

The canoe team consists of 6 men and 6 women as well as 6 members of the mixed team.

Sid Webb, former member of the Alberta canoe racing team as well as several returnees from last years team will be competing.

Practices will be held two nights a week on the North Saskatchewan river with possible weekend competitions providing additional practices.

Any interested students should contact Mr. Bresnahan in E-137.

Its Hockey Time At NAIT

Once again the hockey season has rolled around and as usual, the coaching staff is prepared to interview all prospective players and managers. This season promises to be exciting as NAIT is potentially involved in a 32 game schedule (including their ACAC commitments).

Further to this, for the first time ever, there will be a Four-West Final in Hockey that will be played in Winnipeg. So it is obvious that there will be lots of organization and hard work required if we are to represent

Alberta.

More specifically, registration for the hockey team will be on October 4, Monday at 4:30 p.m. in the Little Theatre. It is hoped that all interested players will show up at this time. Also, it is suggested that prospective players attempt to come to camp in reasonable physical condition. For any further information concerning hockey, contact Mr. G. Cummings in Room E-137.

G. Cummings,
NAIT Hockey Coach (1971-72)

basketBALL

Women's

Any women interested in playing for the NAIT Women's Basketball team, contact Mrs. Collister in E. 136. The organizational meeting will be contacted through their technologies. Watch for further information in the Nugget and on posters scattered throughout the school.

M. Collister
Physical Education Instructor

Men's

Interested players contact Mr. J. Owchar in E-137. Practice schedule to be announced at an organizational meeting in October.

Participate

\$2

Intramural Referee's needed
\$2.00 per hr.

\$2

NAIT

Referee's clinic will be

held prior to each activity

TWO

Leave your name in Rm E134

DEUX

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INTERMURAL ACTIVITIES

Intermural activities are aimed at getting people involved with students in their technologies. It is a healthy and fun way to develop pride in your group. No special skills or athletic abilities are required to participate. Activities for men and women include golf, flag football, volleyball, soccer, basketball and many more.

The reward for participation is simply enjoyment of involvement and competition with other students. Boys-get out and see the girls give a new look to what was once considered "men-only" sports. Girls-cheer your favorite team on in their next activity.

The big reward for group participation is the Intermural Supremacy Trophy. Chemistry now holds the Women's title. Exploration is in possession of the men's large technology trophy and Gas, the smaller technology's.

See the board located across from E134 for notices or contact your technology sports representatives for information concerning intermural activities.

A meeting will be held the first Tuesday of every month for men's and women's sports reps. The next one to be held on October 5, 4:30 p.m. in Room E-124.

DO IT



THE SEXUAL POLLUTION OF VD

WORLDWIDE PROGRESS in the field against the spread of venereal disease has been slow. Although drugs are available to treat both syphilis and gonorrhea, ways to stamp out these two rampaging diseases have not yet been found. Compared to the seriousness of the problem, the volume of research on venereal disease is far too small.

Two recent research developments, in particular, offer a ray of hope in the battle against VD. In one development, a group of Polish scientists headed by Dr. Mieczyslaw Metzger has successfully tested in rabbits an experimental vaccine against syphilis. Working at the Hirzfeld Institute in Wroclaw (formerly Breslau), the group cautions that many more tests must be made on animals before the work can progress to trials to prevent the disease in man.

In the other VD research development, US government scientists have succeeded in infecting three male chimpanzees with gonorrhea. The achievement, accomplished by scientists from the US public health service's centre for disease control (CDC) in Atlanta, Ga., has important ramifications in the fight against gonorrhea, which USPHS considers out of control in the US.

If venereal disease were called sexual pollution, more might be done about it, a CANADIAN physician recently remarked. Speaking at Wellesley hospital in Toronto, Dr. David Varadi, assistant professor of dermatology at the university of Toronto, said that venereal disease is Canada's "number one reportable communicable disease."

An increased level of venereal disease is not a problem peculiar to the US and Canada. The numbers of reported cases of the two most common venereal diseases, syphilis and gonorrhea, are rising at a rapid rate in many other countries throughout the world.

"Out of control"

In the US during fiscal year 1970, reported cases of infectious syphilis increased 8.1 percent over the number reported during 1969. And reported cases of gonorrhea in the US during fiscal 1970 jumped 16 percent from 1969.

Gonorrhea has been reported as "out of control" and having reached "epidemic proportions" in many parts of the world. During 1967-68 Norway showed a rise of about 25 percent and Sweden a rise of about 20 percent, according to the World Health Organization (WHO). In England and Wales, the increase was 7.4 percent. A 300 percent rise has occurred in New Zealand since 1965.

Gonorrhea is prevalent on a continuing basis in some areas of developing countries in Africa, according to WHO. In some urban areas of India, venereal disease frequency is second only to parasitic diseases.

Figures on incidence of syphilis and gonorrhea are disclosed in "Today's VD Control Problem," a report written and published earlier this year by the American social health association and co-sponsored by the American public health association. In some large US cities, the increase in reported cases of infectious syphilis

Continued Page 11

has been greater than 40 percent from 1969 to 1970. The annual decline in reported infectious syphilis which began in 1965 has ended, the report states.

An increasing number of undiagnosed cases of syphilis escape detection during the primary and secondary stages of the disease. The estimated actual incidence of primary and secondary syphilis is nearly four times the number of reported cases, according to the 1968 national survey of venereal disease incidence conducted by the American Social Health Association.

Thus, more than 500,000 Americans are unaware that they are suffering from syphilis, the US public health service estimates, and are in urgent need of medical attention.

Some of these undiscovered cases will progress to insanity, paralysis, blindness, heart disease, and other serious conditions. Institutional care of the syphilitic insane alone is already costing the US more than 40 million dollars per year.

With the increase in incidence of infectious Syphilis in the US, the number of syphilitic stillbirths and infants born with the disease from infected mothers will undoubtedly increase in the future. Cases of congenital syphilis actually occurring must be much higher than the number reported. Only one in six reported cases is diagnosed in the first year of life, according to USPHS.

More than two million cases of gonorrhea were treated during fiscal 1970, the American Social Health Association report estimates. This makes gonorrhea by far the most common reportable (reported by physicians to state and local health administrations) communicable disease in the nation.

An unknown number of gonorrhea cases in females escape detection. Some 80 percent of females with gonorrhea do not have symptoms and remain in the population as an infectious reservoir, according to CDC.

The amount of research being done in the US on syphilis and gonorrhea is pitifully small compared with the extent of the problem, according to public health officials. Most of US research on venereal diseases is being done at the center for disease control in Atlanta, Ga.

Only a handful of other research groups are doing work in the venereal disease field, according to James B. Lucas, assistant chief of CDC's venereal disease branch and Arnold L. Schroeter, chief of the branch's clinical research section.

Venereal disease is a term used to describe a group of infectious diseases usually transmitted by sexual contact. Gonorrhea is the most common and accounts for 80 to 90 percent of all venereal infections. It is caused by the gonococcus bacterium *Neisseria gonorrhoeae*, which usually produces a primary genital infection. The organism may then spread to the joints and membranes of the heart, brain, spinal cord, and eye.

Syphilis - two forms

Syphilis is caused by infection with a corkscrew shaped spirochete. Transmission to another individual produces acquired syphilis. Transmission through the

placenta to the unborn infant produces congenital syphilis.

In acquired syphilis, about three to four weeks after the spirochete has gained entrance into a new host, a primary lesion, the chancre, develops at the portal of entry, the skin or mucous membrane. The primary lesion persists one to five weeks (primary syphilis) and then usually heals spontaneously.

About six weeks later (two weeks to six months), a generalized or localized skin eruption may appear. In some cases this secondary stage of syphilis appears before the chancre has healed. In other cases the signs and symptoms of secondary syphilis may be so small and transient that they are never clinically apparent. As with primary syphilis, there is spontaneous healing of the secondary phase after two to six weeks. After the early lesions heal, a quiet or latent stage occurs. During the latent stage, there are no clinical signs or symptoms of the disease. This latency may last a lifetime. But it may last from a few years to 20 or more years and then be followed by appearances of lesions of late syphilis.

Up to 23 percent of people with untreated syphilis will die primarily of results of syphilitic disease. USPHS says. Syphilis of the heart and great blood vessels accounts for more than 80 percent of syphilitic deaths, with the majority of the remaining syphilitic deaths being due to damage to the central nervous system.

For treatment of syphilis, penicillin (given by injection) is the drug of choice in the patient who is not allergic to the antibiotic. If the patient is allergic to penicillin, other antibiotics can be used.

In treatment of early syphilis, tetracycline administered orally is about as effective as penicillin. Other drugs that have had some success in treating syphilis are erythromycin (taken orally) and cephaloridine (given by injection).

For treatment of gonorrhea, penicillin, despite partial gonococcal resistance, seems to be the drug of choice.

Besides penicillin, the gonococcus can resist effect of the biosynthetic penicillins, ampicillin, cephaloridine, and other antibiotics. Some 70 percent of strains partially resistant to penicillin are so resistant to streptomycin that maximum allowable doses of streptomycin are not effective. The gonococcus has also developed resistance to tetracycline much more quickly than to penicillin.

Resistance not explained

The mechanisms for the development of resistant gonococcal isolates have not been explained. Greater portions of resistant strains usually occur in areas in which inadequate antibiotic dosages have been used. This may be particularly true in some venereal disease clinics and in the "hippie" population, because of inadequate self-treatment.

Even though the proportion of antibiotic resistant isolates of gonorrhea is increasing, promising reports indicate that if adequate antibiotic dosages are given the portion of existing resistant isolates can be greatly reduced. The US public health service's

current recommended dosage, 2.4 million units of aqueous procaine penicillin G for the male and 4.8 million units for the female, has generally proved effective when carefully applied.

Tetracycline (oral administration) has been widely used and provides an acceptable alternate in treatment for gonorrhea when penicillin allergy exists. Analogs of tetracycline are also effective.

The ideal therapeutic drug for a venereal disease is one that can be given in a single session with a minimum of side effects and that maintains a high cure rate. Spectinomycin has these desirable characteristics, a cooperative clinical evaluation has shown. A single injection of spectinomycin has been found highly effective in gonorrhea treatment, regardless of whether previous treatment with other antibiotics had failed.

Upjohn Co., Kalamazoo, Mich., is marketing spectinomycin under the tradename Trobicin in Kuwait, Kenya, Uganda, Tanzania, Nigeria, and Hong Kong. The company expects to market the drug in the US later this year, when it is approved by the Food and Drug Administration. Spectinomycin will be licensed only for the treatment of gonorrhea.

What causes resistances?

Why have strains of the gonorrhea bacterium that have developed resistance to a large number of drugs become so widespread? What is the mechanism causing this development of resistance? Research aimed at answering these questions is being spearheaded by Dr. P. Frederick Sparling of the University of North Carolina School of Medicine in Chapel Hill.

Experiments by Sparling and Dr. Michael M. Maness have shown that a multiple-antibiotic resistant strain can rarely lose all of its drug resistance, and that it regains the properties of multiple resistance when single-drug-resistant mutants are selected. This explains the cross resistance to various antibiotics observed so frequently in clinical specimens. The biochemical basis of multiple resistance has not been determined, but it is most reasonably thought to be a change in cell permeability, Dr. Sparling says.

The clinical consequences of multiple resistance determined by a single gene cannot be stated, but it is likely that use of combinations of drugs such as penicillin and tetracycline will not help to prevent later emergence of drug-resistant strains, Dr. Sparling says. Most pressing now, he believes, are studies to document the epidemiology of clinical drug resistance, and to prove the supposition regarding altered cell permeability.

Cure vaccine needed

To check the spread of syphilis and gonorrhea, a vaccine (ideally, given in only one administration) for each disease is needed. Although research aimed at developing vaccines for both syphilis and gonorrhea is going on, the goals have not yet been achieved.

The Polish group headed by Dr. Metzger has successfully tested in rabbits an experimental vaccine against syphilis. Because

their vaccine is made from rabbit tissue, the Polish workers now must concentrate on purifying it before the vaccine can be safely tested on humans.

Some progress in the attempt to develop a vaccine for syphilis has also been made by Dr. James N. Miller of the University of California, Los Angeles, School of Medicine.

Dr. John Knox at Baylor Medical School in Houston, Tex., has tried to develop a vaccine against syphilis by injecting harmless treponemes (commonly found, for example, in the mouths of humans). These treponemes do not cause syphilis or any other disease. Dr. Knox's theory is that the related treponemes could offer some protection against their bacteriological cousin, the treponeme that causes syphilis.

One of the problems that confronts all venereal disease research workers is the risk that the vaccine can produce positive blood tests for syphilis in immunized patients who have never had the disease, points out Dr. Leslie C. Norins, a specialist at CDC on the immunology of venereal disease. These false positive results could destroy the reliability of the test to diagnose syphilis and could hinder public health workers' attempts to track down cases of the disease, he says.

To develop an effective vaccine for gonorrhea, it's important to acquire knowledge concerning the biology of the infecting bacterium, *N. gonorrhoeae*. At present relatively little is known about the biology and growth of the organism compared to other disease-causing bacteria, according to Dr. Stephen Krause, who is doing basic research on the bacterium at Rockefeller University, in New York City, and at CDC in Atlanta, Ga.

Dr. Krause is studying the biology and growth of the gonorrhea organism. He is also studying the subcellular structure of the bacterium using electron microscopy. From his research, he hopes to determine the "antigenic mosaic" or the pattern of structural elements making up the organism.

Dr. Douglas Kellogg and Dr. John Brooks of CDC are making some biochemical studies of the gonorrhea organism. They are using gas chromatography to study the metabolites of the gonococcus.

A vaccine made from gonococcus organisms, developed at the Canadian Communicable Disease Centre (CCDC) in Ottawa, Ont., is being clinically tested on rabbits and humans by Dr. Louis Greenberg, chief of the biological control laboratories of CCDC. "It's well known that an individual can get gonorrhea and after being cured by drug treatment do not get the disease again after exposure. This is evidence that getting the disease once can develop antibodies to the organism in man."

Dr. Greenberg is conducting tests in which the stability of the CCDC vaccine and a booster dose is being studied in humans. "It's difficult to find a geographical area where we can test the vaccine. An ideal area for testing would be one which is isolated and which has a high level of gonorrhea. It would be easy to detect vaccine failures - for example, the development of the dis-

ease in a vaccinated person. It would not be so easy to determine the successes, since there may be many reasons why a person does not acquire the disease," Dr. Greenberg points out.

Chimpanzees. CDC scientists in Atlanta have succeeded in infecting three male chimpanzees with gonorrhea. The importance of the achievement lies in the ability to make animal studies. Chimps given gonorrhea can be closely studied to develop better tests for the disease, to evaluate various antibiotics, and to develop protective measures against the disease, including a possible vaccine, the CDC workers say.

In diagnosis and treatment of syphilis and gonorrhea, the physician relies on a number of laboratory diagnostic tests that have been undergoing constant refinement over the years. To detect syphilis, serological tests (performed on the patient's blood) are used to check for antibodies formed by the body to resist the antigens produced by *T. pallidum*. *N. gonorrhoeae*, by contrast is usually identified by direct smears and cultures.

Increased financial support

With the alarming increase in reported cases of infectious syphilis in the US, public health officials warn that gonorrhea is now pandemic in the US and is threatening the health and welfare of the next generation. In the venereal disease report published this year by the American Social Health Association, a joint statement by that association, the American Public Health Association and the American Venereal Disease Association gives some 19 recommendations considered as "deserving the highest priority for action by government, the medical profession, and the voluntary social forces on national and community levels."

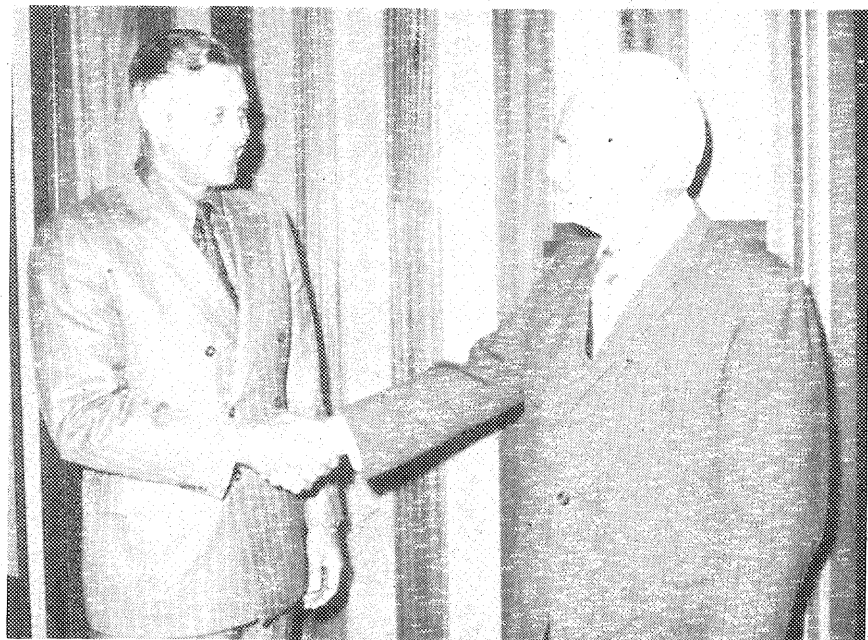
Prominent in the statement's list of recommendations is formation of a national commission on venereal disease, consisting of "representatives of government and the professional associations of medicine and of certain pharmaceutical industries to define the problem and formulate a national program for emergency action to combat this serious health hazard."

The joint statement recommends that 23.9 million dollars be made available from federal funds for venereal disease control in fiscal 1972. Included in this is the recommendation for allocation of 5.5 million dollars for maintaining the activities of the venereal disease branch of CDC, 1 million dollars to the venereal disease branch for special gonorrhea control program development, 1.25 million dollars for project grants for extramural venereal disease research in the country's medical research institutions, and 15 million dollars for grants to be made to states and major cities to implement a nationwide gonorrhea control effort and to provide adequate continued support of syphilis eradication.

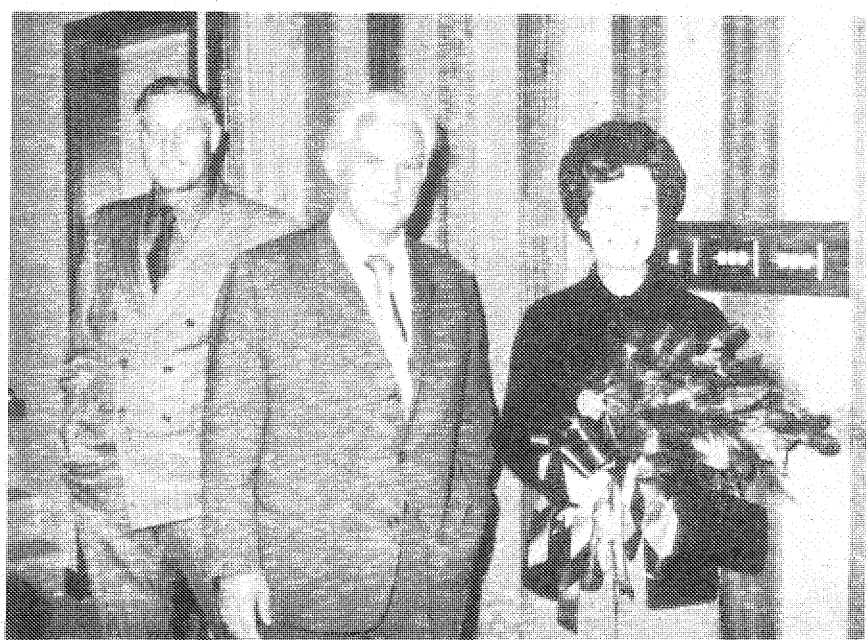
This article has been adapted from Chemical and Engineering News.

Written in the Chevron

Nait Staff Tribute To Mr. Saunders



Well George, it's your baby



Mr. & Mrs. Saunders -
Who's that guy in the background?



A gift for me?

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