



photo by Michel Ricciardi

Gateway staffer Linda Fair gets in shape for "Reading Week," February 26-March 1. Classes will be cancelled during the week and the Gateway will not publish so that staffers can catch up on their "reading."

reading week cure for February blues?

"It is much easier to develop this sort of thing in intelligent people."

So stated Dr. Cookson, acting Medical Director of Student Health, when asked about the general depression experienced by University students in February.

"More people realize it exists now because they know about it, whereas before they didn't recognize what they were experiencing."

Counselor Richard Kimmis of Student Counseling agrees. "Students have the same kinds of problems as everyone else but students are more aware."

February doldrums range from worry and feeling "down" to depression, anxiety, and tension, Cookson said that "the commonest kind is caused by outside sources - term papers and exams. These have to be separated from neurotic or psychotic people who are like this all the time."

"At this time of year, people who have a tendency towards procrastination are faced with making a decision towards continuing or discontinuing university" explained Kimmis.

The psychiatry department at Student Health is a lot busier this year but Cookson attributes this "not to more problems, but to the fact that we now have a psychiatrist - Dr. Campbell." "We have seen attempted suicides earlier on but there have been no successful ones. The suicide rate is low for the population and considerably less than for the province and Canada as a whole."

Cookson said that Student Health has noticed a definite increase in clients towards the end of November and beginning of December and since January - a "double bump." This year an increase occurred in November and December which in past occurred in January and February.

Cookson concluded that "it will be interesting to see the effect of reading week upon students."

I.I.

potpourri for bibliophiles

Happy Birthday, Mikolaj and Chuck! Copernicus and Darwin, two revolutionaries who put man in his place, have just celebrated birthdays. Monday in a ceremony at Cameron Library the Canadian Polish Congress of Alberta presented the university with a collection of over 300 books in commemoration of the 500th anniversary of Copernicus' birth.

As you remember, Copernicus, just before his death in 1543, published his famous treatise "On the Revolutions of Heavenly Bodies", in which he placed the sun at the center of the solar system and the six then known planets in their proper order. Some later proponents of these revolutionary ideas were less discrete than Copernicus and often paid for their loose tongues at the fiery stake.

council tables "law and order"

In spite of elaborate manoeuvres to delay discussion of a GFC report on student disciplinary procedures, the Students' Council Monday night chose to hear a plea for support from the committee which had prepared the report.

The committee on law and order sought council support after their report had been attacked in a recent meeting of the GFC executive as being unfair to students. Committee chairman Phil Arnold told councillors "if the students vote against it, nobody's going to vote for it."

Patrick Delaney, vp-academic and a member of the GFC executive, objected to council hearing a presentation from the committee before councillors had a chance to read the lengthy document which they had received only Monday afternoon.

Critics of the report, including Delaney, succeeded in having the motion to support the report tabled until the next meeting of council, but were defeated in a bid to refuse to hear the committee's representation.

Council speaker Steve Snyder commented "In my term as speaker I've never seen so many roadblocks put in the way of someone trying to give us information."

Arnold, a GFC rep from the non-academic staff, began his defense of the report by saying "anyone who knows Charlie Richmond knows we haven't spent three years discussing ways to screw the student." Richmond, the grad rep on the law and order committee, was an activist with the Students for a Democratic University (SDU) when the committee was first struck.

Comparing the procedures recommended by the report to union grievance procedures, Arnold said "I know ruddy well you don't have this at the moment." He said the committee had attempted to unify and document all of the various regulations governing students, and to replace the Deans' Council (which now hears charges under the regulations) with a tribunal of students.

A running battle to maintain quorum (14 councillors) slowed council business, and it adjourned at 10:30 having considered only one of the eight items placed on the agenda as new business. Gary West, vp-finance and administration, announced that he would undertake an investigation into absenteeism among council members. Constitutionally, a councillor may be suspended from his position for missing five meetings of council.

The only new business to be considered by the council was a request from two students that the location of the business administration and commerce building be made a referendum issue on the ballot of the upcoming council elections. Greg Teal, who organized a petition campaign against the proposed site of the building, collecting 1,500 signatures, argued that the university Senate, which plans to review the whole issue of campus planning, might be able to persuade the Board of Governors to overturn their December decision if strong student opposition could be demonstrated. The Board ratified the decision of the Campus Development Committee to go ahead with the construction of the building in the Arts Court, just south of Tory.

nine new faces in race

The three-week postponement of the Students' Union elections has coaxed nine new candidates into contesting executive positions and discouraged only two. The final list of candidates was revealed when nominations closed on Tuesday.

A DIE Board ruling that irregularities in nomination procedures the first time around invalidated all nominations resulted in the postponement of the election. March 9 has been set as the new date for the executive elections.

Two candidates for executive vp, Denise Guichon and Bruce Taylor, withdrew from the election by not re-filing nomination papers, but three new candidates have been nominated for the position. One new presidential candidate, three new candidates for vp-academic, and one each for vp-services and vp-finance have entered the race.

Norm Conrad added his name to the list of presidential candidates which also includes William Coppinger, Ken Fordham, Beth Kuhnke, George Mantor, Larry Panych, Glenn Pylypa and Saffron

Shandro.

Previous nominees for executive vp Chris Bearchell and Gary Croxton, have been joined by Raymond Kirkland, Carl Kuhnke, and Yagwalt Thakur.

This year's vp-academic Patrick Delaney is seeking re-election to that post. Other new entrants into the contest include Keith Detloff and Brian Wagner. Also seeking the post are Donald Bell, Gary Draper, Wayne Madden, Sheila Mawson and Jim Tanner.

Rene Ozorio has been added to the list of nominees for vp-services, joining Barb Albert, Henry Malta, Randy McDonald and Robert Steele, who had previously filed nominations. Charles Hall, a new entrant into the race for vp-finance and administration, will face Kimball Cariou, Dennis Crockett, Roger Perron and Don Wiley.

Candidates will address an all-university election rally Wednesday, March 7, from 11 a.m. to 4 p.m. The GFC executive Committee has agreed that classes be cancelled from 11 to 12 to allow students to attend the rally. The election is scheduled for Friday, March 9.

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are no longer kept in the Documents Library in Rutherford, but up in the Science Library on the 4th floor of Cameron. Please be patient if you do go looking for such materials, as present staff shortages have created a temporary problem in coping with this information explosion.

Long live the sheep!

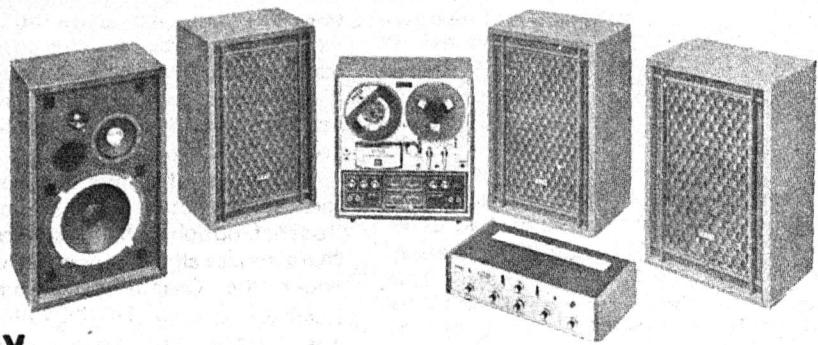
Magul Surmenelai of Abkhazia, U.S.S.R. has his own way of managing the information explosion. Interviewed in last month's National Geographic, Magul, a retired shepherd, attributes his 108 years to the fact that he has never let anyone or anything get his goat. "I never had a single enemy... I read no books and have no worries." Hang on Magul, I may be out to see you before April.

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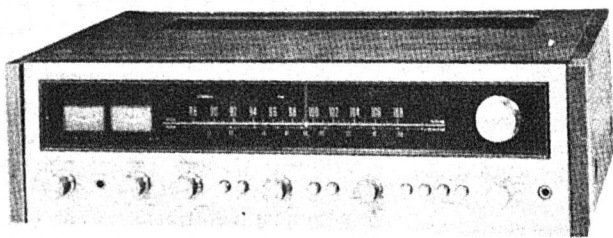
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Sharp

Blade

The sharp blade of progress first made itself felt in the MacKinnon Ravine back in 1965. Once a canyon of spruce on the North side of the River, it now lies a gaping, man-made disaster area punctuated by man hole covers.

Events leading up to this impasse began in 1963 with the publication by the city of its comprehensive traffic study, the Metropolitan Edmonton Transportation System, or the METS plan as it became known. Freeways were central to the entire plan, being indicated for the MacKinnon, Capilano and Mill Creek Ravines, the river valley and the downtown area itself. Although the plan was approved by council in 1963, it was costly: \$300 million then, probably \$700 million today.

A characteristic of the plan was that all traffic into, out of, through, and around the city ought to be funnelled into the downtown riverside area. Ring roads were not priority items but several new bridges were called for and all 3 bridges in the downtown area were to be upgraded or replaced.

Right from the start the METS plan ran into trouble. Citizens concerned about the loss of the river valley and ravines forced the city to hold a plebiscite on the first METS plan structure, the East End Bridge.

The city's choice was approved by the electorate, and the Capilano bridge came into existence. This first experience with the citizenry made the METS plan advocates on Council wary.

Coincidentally, (it was said), the Municipalities Act was changed at this time, so that a municipality no longer needed to give a money by-law 3 readings, nor need the by-law be published in the newspaper. And citizens lost the right to challenge by-laws by collecting signatures to force the matter to referendum. This made it easier for council to get approval for controversial financial undertakings.

Confrontation avoided

But for the first couple of years work on the MacKinnon ravine was simply part of the engineering department's budget. Council thus avoided confrontation with the Save Our Parks group, who were responsible for the Capilano bridge difficulty and who were attempting to save the MacKinnon Ravine. This group had little public support: in those "pre-ecology" days, parks were for bleeding hearts. It was generally accepted as dogma that freeways were necessary and desirable.

Apart from the phenomenal cost of the METS plan, it had the defect of not being amenable to development by stages.

In 1965-66, the city had severe traffic problems at several spots, none of which were covered by the METS plan. When the city made improvements, for example by building the overpass at the Groat Road and 107th St., these reduced the need for the total implementation of the plan. This is just as well, as by 1966 inflation reduced the city's ability to borrow and freeway construction became too expensive to contemplate.

\$1.5 million storm sewer

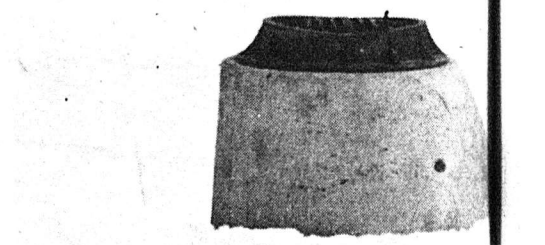
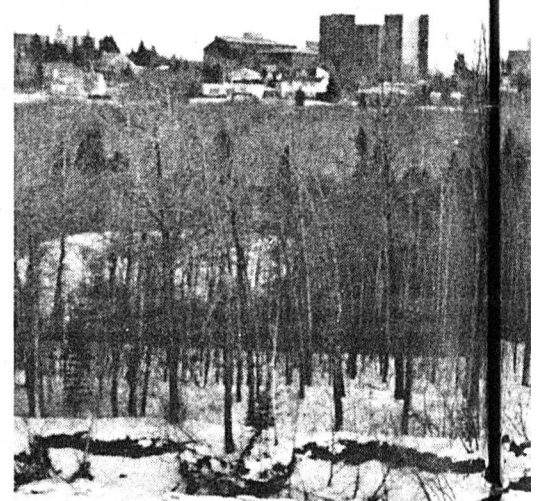
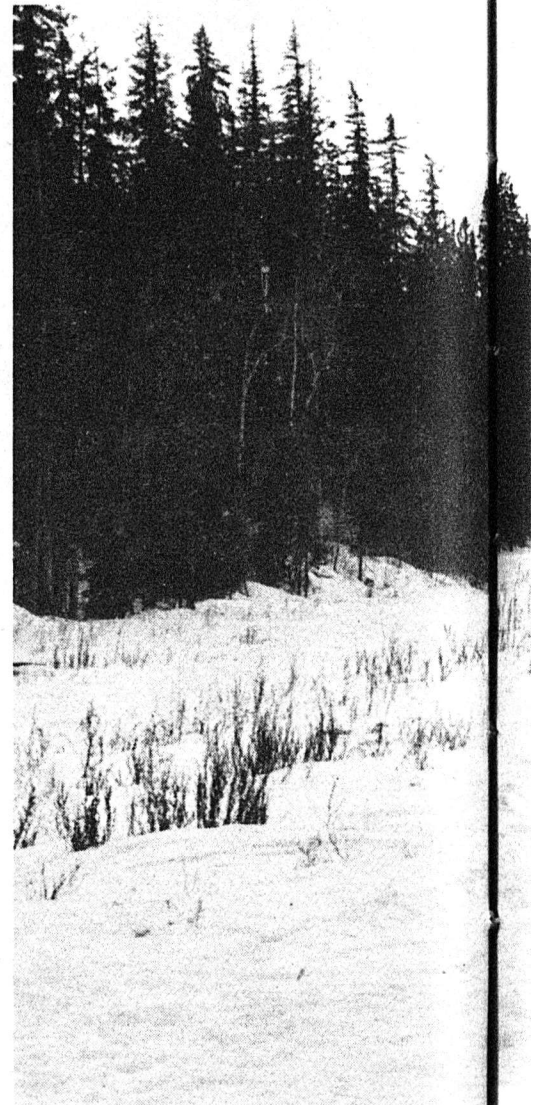
However, anticipating better days the engineers proceeded with a storm sewer installation worth \$1.5 million in the MacKinnon ravine, a necessary utility for the region in any case. This expense is often cited as reason why the road ought now to be built.

The strongest advocate on Council for roadway in the MacKinnon ravine is Dudley Menzies, formerly the Chief Commissioner of the City and since 1971, an alderman. Completion of a road in the ravine was one of his election platforms.

Ironically, Mr. Menzies looks after our interests as the city's representative on the Environmental Study Group, a subcommittee of the Environmental Observation Authority. This group is concerned with the preservation of

natural areas!

Others on City Council favouring the construction of a roadway in the ravine are Aldermen Fallow, Purvis and Newman. The latter favors a "small road". Still undecided are Alderman Olsor, Ward, and Kavanagh.



In favour of abandoning the projected freeway are Aldermen McLean, Leger, Evans, Hayter and Mayor Dent. Probably Alderman Tanner is in this category, too. Nine of the 12 aldermen said they favoured early start to rapid transit when elected in 1971.

of Progress

Having been successful in 1971 in getting Council to drop all plans for road development in the Mill Creek ravine, and its status as a park reaffirmed, Ald. Una Evans attempted, in March 1972, to get a motion halting construction in the MacKinnon ravine approved. (The status

By the time Ald. Evans tried to halt work on the MacKinnon freeway (alias the Jasper freeway) public opinion was changing: a concern for the environment, urban amenities, and the impending fuel crisis have all had their effect. Council agreed to a temporary halt, and called for

days following.

The new transportation policy paper published in June 1972 does not mention freeways. It does however make use of major arterial roads, e.g. divided, 8-lane, below grade, limited access roads that differ from freeways in name only.

The Utilities committee solicited the opinions of the public toward the policy paper. Of course all such briefs had to be submitted with 25 copies, nonetheless, more than 60 briefs were received. The majority of the briefs were hostile to further freeway building.

The transportation plan resulting from the policy paper skirts around the future of the MacKinnon Ravine. It recommends upgrading public transport, not excluding rapid transit, the development of major arterial routes, ring roads, and further consultation with the citizens. This study along with all the other studies commissioned since 1963 (including the METS) have cost the city over \$5 million.

Part of the logic for constructing the MacKinnon freeway rested with the 1963 population projections for Edmonton West, which indicated it to be a high growth area. Most recent projections, however, show it to have the second lowest growth potential of any area in the city. In fact, the city appears to be losing population to the suburbs. In view of the overall population stabilizing in Edmonton West, it is hard to justify continuing with the Jasper freeway.

The province's share of road construction by the city is up to 75 percent, providing the road meets freeway standards. In addition, the province gives Edmonton an annual flat grant for road construction of \$4.5 million. This money can only be used for construction, not land or property acquisition, or developing a rapid transit line. In fact the city's transportation future depends on the Provincial Cabinet. The pro-freeway lobby there is vigorously led by the Highways Minister.

The city has attempted unsuccessfully to persuade the Province to make the transportation grant available to the city, and allow the city to spend it in any way the city sees fit, with no time condition attached. This would permit the city to direct funds to rapid transit development. But the province is unwilling to change its policy.

Chamber in forefront

Foremost among those who would still like to see the METS plan implemented in the city, starting with the MacKinnon Ravine, is the Edmonton Chamber of Commerce (the University of Alberta is a member of this organization).

Is this just the innocuous desire to sell a little bit of cement, or do they see the MacKinnon freeway as just the first stage of a much more ambitious development?

Consider what will happen if traffic is funnelled into the ravine, presumably in largish numbers, as freeways tend to be used to capacity as soon as they are built. More people decide to use their cars when they think the going will be easy, thus quickly cancelling any advantage the freeway creates. The traffic thus engendered will soon require the enlarging of the River Road at the expense of the Victoria Park Golf Course. Eventually the traffic will bottleneck at

the 105 St. bridge, and unable to disperse southward or northward on the present street system, the build up of traffic would soon force the city to reverse its stand on the Mill Creek Ravine and allow it to become a freeway. The James MacDonald bridge is built for just such an eventuality.

This chain of events is called by Jane Jacobs, the noted urban planner, as the 'loss-of-option-to-halt' syndrome that characterizes all freeway construction. No doubt the Chamber of Commerce is aware of it, even if some councillors are not.

The building of a 4-lane arterial in the ravine would likely have the same effect, i.e. river valley traffic would increase, must exist somewhere thus creating the need for other roads. Therefore what happens in the MacKinnon Ravine is crucial to all of Edmonton's future transportation development plans.

In spite of the drastic razing the ravine has undergone, the most serious dislocation from the freeway is yet to come. The original route out of the ravine at the west end was to be below grade. It was to emerge in a southerly direction at 145 St. then proceed west along 100 Ave. to 170 St., intersecting 149 St. below grade. Having the road run below grade considerably reduces noise pollution.

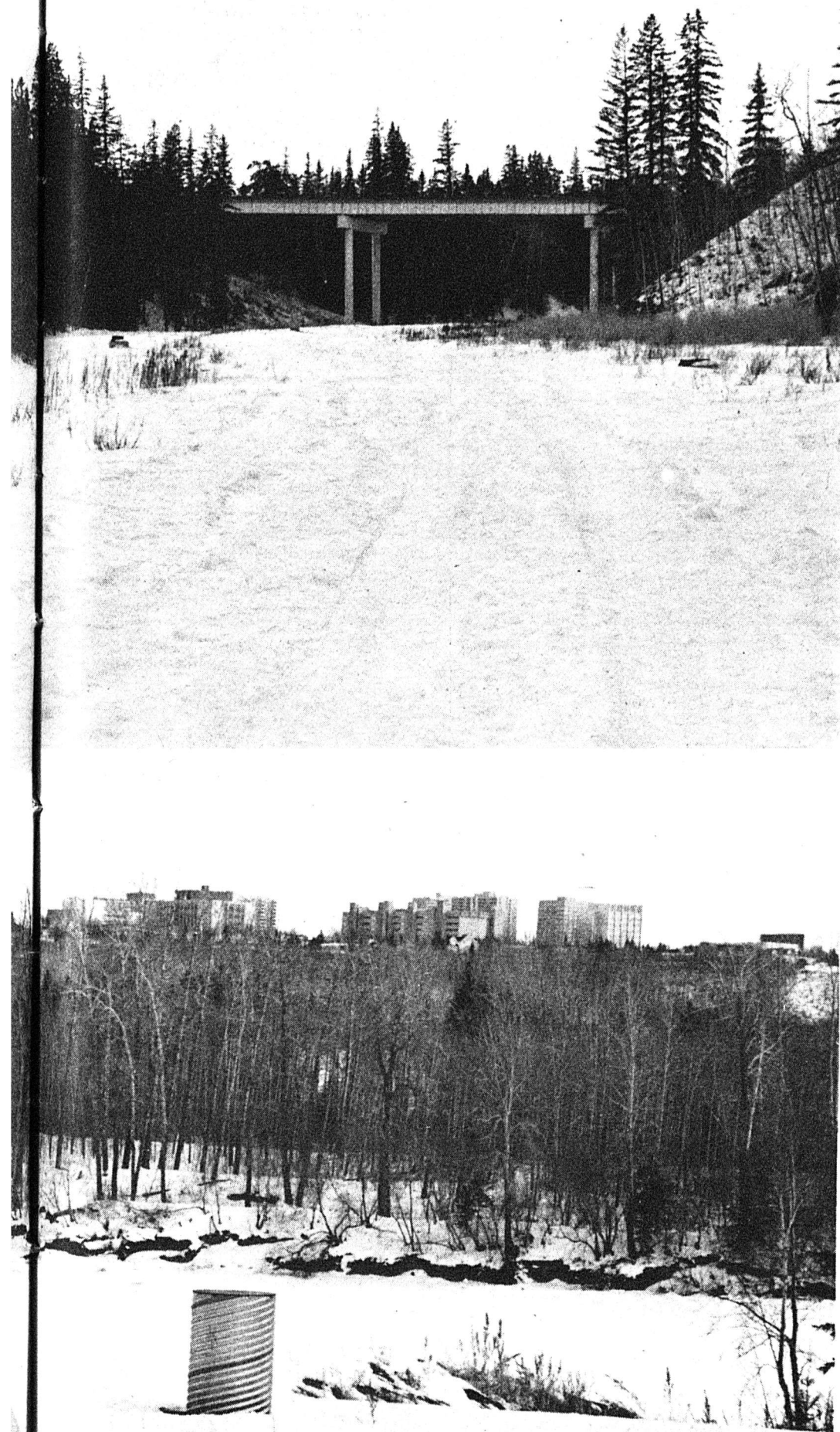
However, more recent plans indicate the road will run at grade to 170 St., creating its own traffic jam at 149 St. The alignment suggested will dislocate at least 100 families, for whom there is really no alternative housing available. The community will be fragmented by the road, and school boundaries will need to be re-set. Needless to say these costs which the community must pay for are not included in freeway construction estimates.

City Council will decide in the near future whether to proceed with the road or not. The most oft-used argument by those who favour construction is that \$2 million has already been spent on the ravine, and its value as parkland has depreciated to zero. Therefore we should pave. Those who pose this argument are unconcerned with environmental problems, and deny the need for a rapid transit system.

Those who argue against completing construction, point out that the storm sewer so installed was an unavoidable expense anyway, and that we should give priority to a rapid transit system which would be more compatible with environmental quality.

The experience of all cities undertaking freeway construction programs suggests that a reduction in public transport accompanies this construction. There is simply not enough money for both. The University's Urban Studies Department put a basic light rapid system costing about \$60 million before Edmonton City Council in November. It is unlikely the MacKinnon freeway and interchanges could be gotten for less. If one lane of rapid transit can carry as much traffic as 13 lanes of freeway, simple economics ought to indicate the superiority of rapid transit.

Finally, if the Beverly dump can be converted into a park, surely the MacKinnon can be developed, at considerably less expense, into a desirable and even unique park, for the benefit of all the citizens of Edmonton.



of parkland in Edmonton is curious. A park is a park, even if it is paved for roads or freeways. The river valley, and all the ravines would still be considered parkland even if the METS plan were completed. Thus Edmonton has more "parks" than most places.)

yet another overall transportation study as the METS plan was now obsolete.

Perhaps recognizing that the citizens' desire to save the ravine varied directly with the number of trees still standing, someone authorized the cutting of several hundred large trees near 146 St. in the

What can you do to help save the river valley and ravines of our city?

(1) Watch for and sign the petition forms in the Student Union lobby Tuesday March 6.

(2) Sign the coupon below and forward it to the Save Our Parks Association, 14615-Stony Plain Road, Edmonton.

(3) Phone your ward alderman and tell him your opinion.

I favor abandoning construction of a roadway in the MacKinnon Ravine and maintaining the river valley and ravines for Park purposes.

Name _____

Address _____

WATER and dynamo

by bonnie mcmillan

reprinted from *The Sheaf*, U of Saskatchewan, Saskatoon

On Tuesday, December 12, the provincial government announced its tentative plans for a \$170 million dollar hydro-electric development in Northern Saskatchewan. This development entails the building of two dams plus a major control structure on the Churchill River, and possible modifications to an existing dam at Island Falls.

The development suggested involves the construction of the Iskawatam dam at a point just east of the junction of the Churchill and Reindeer Rivers. Associated with this dam is a control structure at Frog Portage which would prevent excess water from flowing down the Sturgeon-Weir River into the Saskatchewan-Nelson River system. Additionally, the plans for this structure include the provision that water may later be purposefully diverted into this system.

Pita dam is the second dam in the series, built at the downstream end of Pita Lake. The two dams have a combined capacity to produce 335 Megawatts of electricity. As well, proposed expenditures to improve the Island Falls dam which now provides power to the Hudson's Bay smelter at Flin Flon are also being considered. If this project is approved, another 70 Mw. of power would be the result. At the present moment, the Island Falls dam is owned by the Churchill River Power Project but the company's licence expires in 1981, and the government has the option of cancelling the licence and taking over the management of the dam. Compensation will be paid if this eventually should occur. Taking over the management becomes a fairly important decision.

At the moment the Churchill River Power Project (and through it Hudson's Bay Mining and Smelting) controls the flow of water down the Churchill by regulation of the dam and by regulation of a control structure located at the south end of Reindeer Lake. Whoever controls the structure at the bottom of Reindeer Lake controls the input available for the two proposed dams. This brings an element of haste into the consideration of the project, as the government must decide by 1978 whether to renew or cancel. This, in turn depends on whether or not these

dams are going to be built.

Parallel developments in Manitoba have been causing a large amount of public outcry. The Manitoba government has also proposed construction of a dam on the Churchill River in order to divert part of the Churchill into the Nelson River system. Manitoba Hydro has applied for a licence to build this dam, costing \$75 million, which would raise the level of Southern Indian Lake 10 feet, allowing it to spill into the Rat and Burntwood Rivers where it will eventually join with the Nelson River.

Oddly enough, in 1969 a like proposal which suggested raising the water level 30 feet instead of 10 feet was overwhelmingly defeated. Now, three years later Manitoba Hydro has reappeared with a modified flooding proposal and the Manitoba government has decided to accept the proposal without even allowing public hearings to be held.

This modified plan is an ecological disaster, according to environmentalists and many concerned groups in Manitoba. Besides the damage it would cause in terms of aesthetic destruction, which is usually brushed aside in the consideration of projects of this sort, this plan would destroy vast acres of trees and beaches. Ten feet of flooding would inundate 80,000 acres of shoreland; including all the beaches, and will leave a fringe of dead trees, eroding clay banks and decaying vegetation all around the lake, completely destroying its recreational value for some time. As well, it would involve the disruption of the lives of 700 native people who live in the area by the destruction of their commercial fishing industry. These people are completely self-sufficient at the moment, being one of the only groups of this nature left in the prairies, and the scheme becomes even more damaging when this is considered.

More damage will occur on the Rat and Burntwood Rivers. These small rivers will be increased in size to compare with the lower Churchill River. This increased flow will cause enormous amounts of erosion. As the banks erode, trees and debris will be carried down the rivers, probably to be deposited in a vast debris dump in Split Lake. It's not hard to imagine what the end result

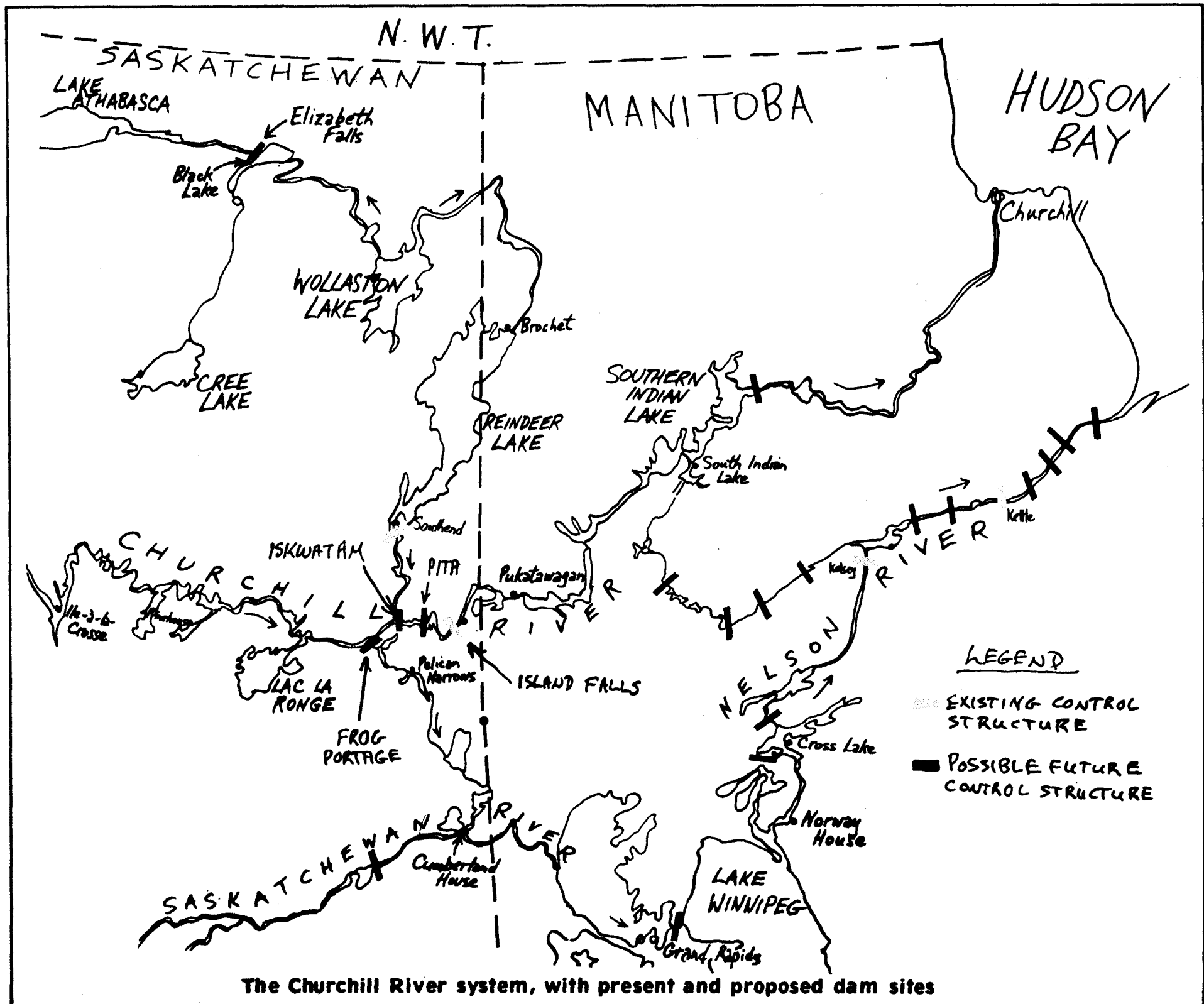
will be and it won't be pretty. Any recreational value the area might have had would be removed.

Other schemes have been proposed to accomplish the same result in power output. One such scheme would leave the lake levels within the natural range and divert the river flow via a pumping station at South Bay. The cost of this plan was estimated at \$100 million including the discounted costs of future pumping.

Due to the large scale damage incurred by the flooding of Southern Indian Lake, many groups in Manitoba have begun to oppose the Manitoba Hydro proposals. Among these are the Canadian Council of Churches, the Natural History Society, a group of professors from the University of Manitoba, and the University of Manitoba Student's Union, who have donated \$1,000 dollars to a fund which will enlist aid within the community.

Why are these projects being considered? In both provinces the answer is the same; the government power agencies have decided (based on certain trends) that they must increase their power capacity to meet expected demands. Manitoba's electrical requirements are increasing at about 10 per cent per year and based on these estimates, their dams are being considered. The SPC has also stated that their studies indicate a need for increased power sources but they refuse to make known how they have arrived at this conclusion.

Many people have questioned the veracity of the SPC power projections, basing their queries on the fact that Saskatchewan has basically a declining population. They wonder where the extra 500Mw. power will be used when the present capacity of SPC is only 1400 Mw. In addition to the dams previously mentioned the SPC has proposed another dam at Elizabeth Falls near Black Lake on the Fond-du-lac. The power is needed to supply a uranium mine being developed near Wollaston Lake by Gulf Minerals, although mention is made of supplying local residents with power as well. The question is how much power is needed by the people, and how much by the mine? Is the government using the people's needs as a screen to cover up concessions to Gulf Minerals?



Objections to the plan

A group has recently started in Saskatoon, as a result of these development proposals. It is called the Churchill River Basin Study Group and its stated objectives are "to study the Churchill River Basin with a view toward formulating recommendations for its wise use concerning the needs of the whole province with respect to energy and resource development. Its aim is to aid in the dissemination of information to the people of the province and to recommend that no decisions should be made without full public knowledge and majority support of native residents of the area."

The group sent off a letter to Premier Blakeney asking certain questions about the various projects under consideration. To date, the Premier has referred their letter to Industry Minister Kim Thorson, minister in charge of the SPC. These questions deal with the basis of the estimated power demands, the economics of long distance power transportation, alternate power sources, river diversion schemes being considered, ecological damage to the area and effects on the resident population. Answers to these questions would provide people with a much clearer picture of what the developments would actually mean.

Other considerations enter into the proposed developments. In 1969, the governments of Alberta, Saskatchewan, and Manitoba plus the federal government signed the Apportionment Agreement which provided for the equitable sharing of all eastflowing streams. Saskatchewan is entitled to store and use one-third of flows as they enter the province and 1/2 of the natural flow which originates in the province. This agreement also allows Saskatchewan to use more than its share of water in the Saskatchewan River as long as it makes up that deficit by diverting water via Frog Portage from the Churchill River. Hydro developments on the Churchill in Saskatchewan have to be very carefully studied to assess their impact on the hydro developments on the books for Manitoba.

Another problem complicating the decisions about the proposed dams has been raised in both Manitoba and Saskatchewan. Many agencies in both provinces in both provinces have made petitions to keep the Churchill River completely intact as a "whitewater" park area. In 1971, Eiling Cramer, then Natural Resources Minister decided to undertake studies which would examine the feasibility of turning the area into either a national or provincial park. Organizations such as the Wildlife Federation, Saskatchewan Camping Association, Saskatchewan Natural History Society and Saskatoon Environmental Society have expressed interest in seeing the river preserved.

As well, there are fears that severe ecological damage will be caused by the developments. Frog Portage will disappear under 40 feet of water, thereby destroying an area of historical significance. Several sets of rapids will be removed and a large portion of the canoe route. The flooded area back of the Iskawatam dam will extend to Drinking Falls in the west and to Reindeer Lake in the north. This will flood a large area used for commercial fishing and alter the character of many miles of river. The Pita dam will remove several more rapids areas and wipe out a very profitable sturgeon fishing concern. This area

is one of the few sturgeon fishing areas left in the province.

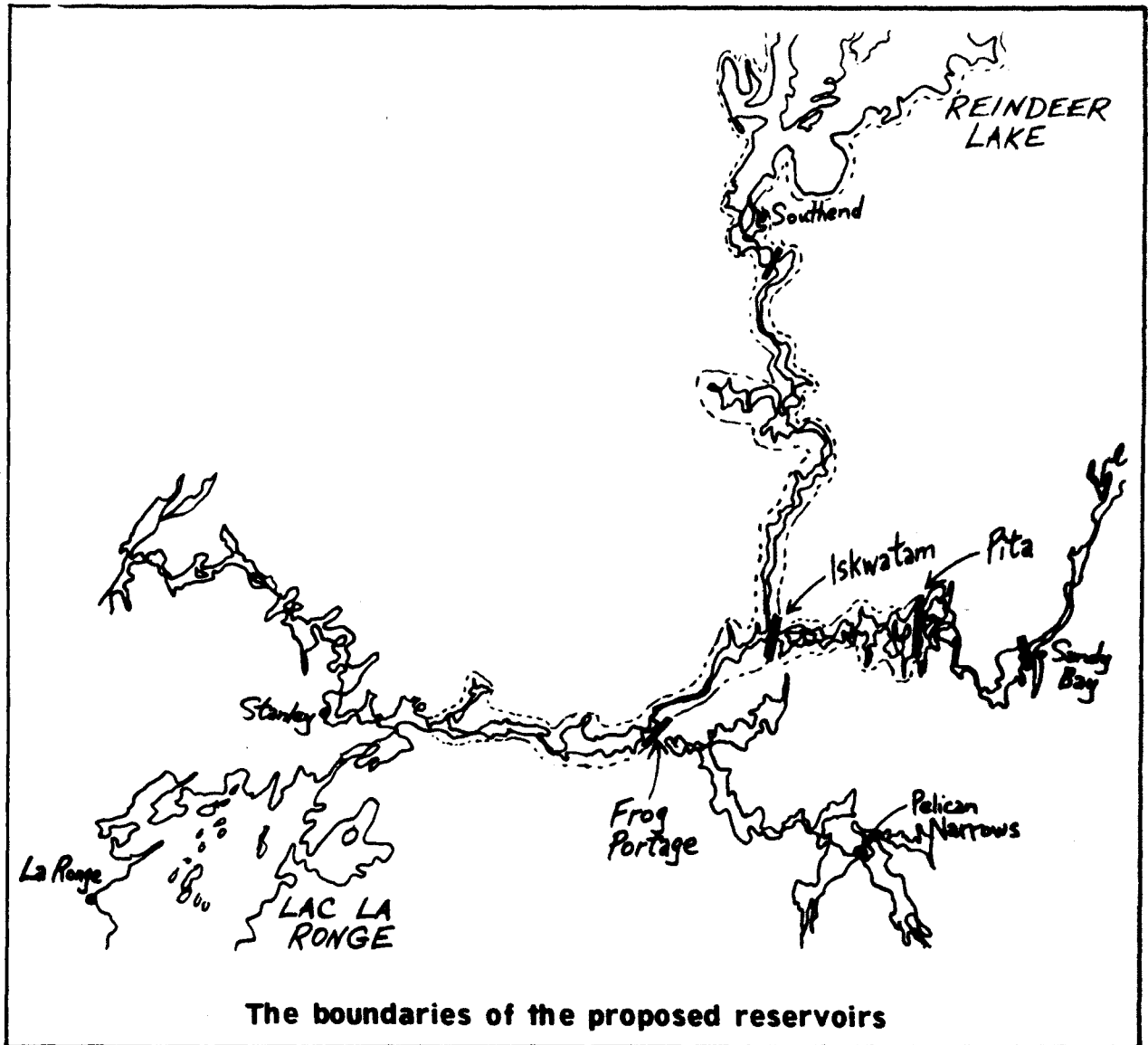
One aspect not previously mentioned concerns the involvement of the resident population. These people have very little say about whether their livelihoods will be taken away from them because of future power needs which seem unlikely to materialize. Something as important as this issue requires that the people who are the most vitally involved with it should be given more than a token representation in the decisions made.

Last but not most important perhaps, are the water diversion and export schemes being studied at the moment. It seems rather convenient that at the same time as so many water export schemes are being studied as to their feasibility, the Saskatchewan government is considering the possibility of dams which have the capacity of diverting large amounts of water via the Saskatchewan River system. Several diversion schemes were suggested in the Saskatchewan-Nelson River Study report and the logical conclusion to be deduced from these facts is that the governments of Saskatchewan and Manitoba may be

actively considering the possibility of water export to the States. Our concern is that once again the government is using power production as a smokescreen to cover up their real objectives. Why else would a province like

Saskatchewan with a declining population need to add one-third as much wattage to its present supply?

There is no easy solution to the problem. Here we have attempted to present some of the details which must be considered before the government goes ahead with the development. Complications ensue because the government has already received an initial report on the problem which it refuses to make public, on the grounds that it is preliminary. It may be this, but it is also a framework from which people can assess the relative merits of the developments. The government is holding hearings before it decides whether to proceed with the proposals. This is a slightly better attitude than the Manitoba government's. It has decided that "window dressing hearings" would serve no useful purpose and has refused to hold any.



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"Alberta does not have the non-resident and non-Canadian land ownership problem that certain other provinces have."

That is the conclusion of the "Koziak Committee" in their interim report on foreign ownership of land which was released last October.

But at the same time as they drew this conclusion, the committee decried the lack of necessary information and called for a "monitoring" of land sales.

Unable to examine all the records of land sales that have already been completed, the committee considered 840 of the 1081 "active files" recording transactions which are not yet finalized. From this they concluded that in the past 12 years, 803 acres have been acquired by residents of the U.S.A.

This figure does not include land which has already been paid for or that which is owned by foreigners who live in Alberta. (Citizenship was inferred from the buyer's address.) More significantly, it does not include the 45% of Alberta which is privately owned.

So, despite their conclusion, the committee supported "Bill 107" which, if passed, would prohibit the sale or re-sale of Crown lands to foreigners; both individuals and corporations.

At the same time, they recommended that the Bill not be considered by the legislature until it was decided whether the province's right to dispose of Crown land was affected by the property rights of foreigners guaranteed by the Canada Citizenship Act.

In other provinces the problems are more urgent, according to the following excerpts from a report by the Halifax chapter of the Committee for an Independent Canada.

Some Statistics

Comprehensive statistical information is scarce, but to give an idea of the magnitude of the problem, some isolated statistics are listed below. Most of these examples are taken from the Maritime provinces, but it is precisely in these provinces, with relatively small land areas, that the problem is felt most acutely. (The loss of one acre in Nova Scotia is equivalent to the loss of 20 acres in Ontario, or one acre in Prince Edward Island equivalent to the loss of 116 acres in Alberta.)

1. Along the historic Bras d'Or lakes in Cape Breton Island only 45% of the owners are permanent residents. Eleven percent of the total number of owners are Americans who hold 16% of the total acreage (average lot size 113 acres) which account for 18% of the total assessed value.

2. In Prince Edward Island, 12% of the entire coast surrounding the Island is now in the hands of non-residents and, of the coast which has recreational potential, 33% is owned by non-residents. Projections based on current rates of land purchase show that, in 1984, 45% of P.E.I. will be owned by non-residents.

3. In Ontario, along the Lake Erie shore from Fort Erie to Port Colborne (23 miles) almost none of the land is public, and 85% of the private land is American-held.

4. In British Columbia, one American alone owns close to 60,000 acres of waterfront property in the vicinity of Prince George.

NON RESIDENT OWNERS

Absentee Landlords

Private NRO's of farms who contract out the farm labour to the local population, often the previous owner of the farm. This NRO uses the farm as a summer home, but it is not his principal place of residence. Premier Alex Campbell is faced with many of this type of NRO in P.E.I. and describes the situation as a drift back to the system of absentee landlords.



the great land grab

Corporate Ownership

Corporate NRO's of farmland are becoming more common in the Canadian agricultural industry. So far, corporate ownership, as part of a vertically integrated system of agricultural production and marketing, is more or less conducted by multinational corporations usually thought of as being in the agro-business. But if the trend in the U.S.A. develops here, we can expect other giant corporations such as Boeing, Coca Cola, Dow Chemical, Goodyear, Tenneco and Union Carbide to become involved in the competition for good agricultural land. With their vast capital resources they are capable of consuming vast acreages of land.

Weekenders

Private individuals who have no motive other than temporary seclusion from the outside world constitute a third type of NRO. The impact of this type of NRO is examined in Section IV.

Corporate Vacationers

The fourth type of NRO is the corporate vacationer. By this is meant the corporation which buys large tracts of land, often including in a single block some seacoast, farms, lakes, rivers, and wilderness, to be used exclusively as a holiday park for their own employees. The sinister implication is that this practice reflects, in microcosm, the larger general American attitude towards Canada, namely, that we exist as a giant piece of recreation land. Canadians must have some other purpose in the international community of nations beyond being park attendants.

Speculators

Land speculators, both amateur and professional, constitute the last type of NRO. These people are guilty of allowing land to lie idle, just waiting for the day that it can be subdivided and sold

at a large profit. There are many land speculation companies such as Natural Retreats in Nova Scotia, Bark Lake Estates in Quebec and Canadian Estate Lands in Ontario. They cater almost exclusively to American buyers and lure them on with slogans such as, "Don't wait and buy, buy and wait," or "Speculators, we guarantee profit or money refunded." The end result of such concentrated, restricted selling has to be the creation of American colonial enclaves within Canada's borders.

SOCIAL IMPLICATIONS

Cultural Imperialism

Many of the social implications of widespread ownership of Canadian lands by non-residents are undesirable and will ultimately affect the quality of life for all Canadians. We will briefly examine some of these effects.

In rural areas the situation may develop whereby agricultural or recreational lands suddenly become alienated. In most rural areas there are traditional understandings concerning the general availability and use of such lands. In many cases the title to the land is both unclear and socially unimportant because local customs have transcended strict legal patterns of use.

It is interesting to note that this difference between customary and written understanding is one of the distinctions which can be made between, for example, the political structures of Great Britain and the U.S.A., respectively.

Therefore, when a non-resident acquires a piece of land in a community where these traditions have prevailed, his strict adherence to the written agreement completely upsets the established local patterns. There are cases in Canada where NRO's have used barbed wire, watchdogs and firearms to enforce their own cultural definition of property on the local populace.

Canadian culture is thus immediately undermined on two counts: local customs are ignored or violated; and a new and foreign, cultural attitude relating to the place of ownership is inserted into the fabric of community life.

The existence of the NRO also has an effect on the continued viability of rural communities. Because the principal reason of the private NRO for buying land is to escape temporarily from the rigours of industrial city life, he has, in all probability, little desire to interact with, or assimilate into, the local culture.

This usually means that he is unwilling to support or participate in local events, to cooperate in rationalization of certain agricultural operations, or even to exchange ideas with his neighbours.

Coupled with these considerations is also the fundamental factor of limited cultural miscibility between urban and rural people. Thus, in one respect, the injection of the NRO into the community is like a drug which renders that part of the community inert.

Therefore, if the rising land values and higher taxes have not already induced other local people to sell, often this factor of social decay, brought on by the disappearance of vital members of the community, will force abandonment.

There is another subtle cultural effect which is felt in communities with large proportions of NRO's. A general failing of any tourist is that he tends to travel abroad immersed in his own cultural traditions and finds difficulty in adjusting to new situations.

The enterprising American has overcome the need to adapt in unfamiliar environments by paving the way in advance with Hertz, Hiltons and hamburgers. What is the family trailer or Winnebago, if not the most complete cultural container ever built?

To lessen their own cultural shock even further, they begin to demand that local stores stock American food, cigarettes, magazines, etc. (The New York Times is on the local newsstand, so it must be summer.) The local population finds that familiar items have, at least temporarily, disappeared from the shelves and have little choice but to buy what is available. This result, whereby American cultural traditions and life styles begin to be imposed on the community, can only be described by the emotive term "cultural imperialism".

The Future

In addition to these local effects of NRO's, there is a much wider implication. Some countries have recently begun to examine the real and illusory benefits of the continued trend to urban growth. A second look is now being taken at the national benefits of having viable communities of town and village proportions.

If, in the future, Canada decides in some way to reverse the urbanization trend, it will encounter problems in making available enough full-time accommodation and land in rural areas dominated by part-time NRO's. Even the task of locating tracts of land, suitable for either summer or winter recreation for urban dwellers, will be next to impossible, for the simple reason that the NRO sought out precisely that kind of land first.

Therefore, the right of the private individual to sell to a non-resident should be challenged in view of the long-range national interest.

The very existence of NRO's will tend to disrupt established cultural patterns, dilute the vitality of communities, impose a style of life produced by a different national experience and constitute a barrier to flexibility in future Canadian social patterns. These undesirable factors tend to erode faith in our own goal of a bilingual and multicultural society and the creation of a truly independent Canada.

AIR

and industry

The following is a short summary of a report entitled "Air Pollution in Edmonton" originally issued by "The Edmonton Anti-Pollution Group" and updated by Dr. E.E. Daniel of the "Interdisciplinary Committee for Environment Quality". Editing of the updated report was done by Louise Swift of S.T.O.P. (Save Tomorrow Oppose Pollution).

Edmonton is in a sub-arctic climate, with a long winter. The city is situated on a plain, with a small part of its area in the valley of the North Saskatchewan River. There is stable air (temperature inversion) over the city nearly every night, and in winter on over half the days as well. In stable air, little mixing of upper and lower layers takes place, and pollutants remain near the level at which they have been released. The city often creates a "heat island", in which the air is unstable in the low levels.

Unfortunately this heat island has vertical as well as horizontal limitations, so that the amount of air into which pollutants become uniformly mixed is still limited. Statistically, the heat island is shallowest with southerly and south-easterly winds, so that pollutant sources in those sectors would have the worst effect on the center of the city when such winds occur.

Our very cold winters result in formation of an "ice-fog" arising from large volumes of water vapour emitted from all combustion processes. This "ice-fog" tends to increase and extend temperature inversions.

Edmonton has light winds on the average, with only infrequent spells of strong winds, so there is no great amount of air "flushing" as in some parts of Alberta.

Refinery Row

Special problems arising from the Texaco, Gulf and Imperial Oil refineries on Highway 16A East include emissions of hydrogen sulfide, SO₂, and hydrocarbons.

There are at least two ways in which these problems could be monitored and controlled: either by (1) appropriately positioning monitors for SO₂, hydrogen sulfide and hydrocarbons around the area and within it and correlating data obtained from these with meteorological data about inversion and wind conditions, or (2) monitoring effluents from the various plants and laying down limits on effluent emissions.

The air pollution approval for Texaco Canada Ltd. dated October 16, 1968 is the last one that has been made available to us. The approval states that on a total output per day of 17,300 barrels of crude oil, the total sulphur dioxide emission rate from all units shall not exceed 7.7 short tons of SO₂ per day during all operating days except for a two week period during either December, January or February at which time the maximum SO₂ emission rate shall not exceed 9.1 short tons of SO₂ per day. The reason for this exception is not clear and as no data have been provided by the government regarding emission from this plant, no excuses can be made for this dispensation clause.

In addition, the terms of the approval in other respects are vague in the extreme, for example, item no. 4 states "that odor and hydrocarbon emissions from the A.P.I. separator must be *minimized* as much as practical" and no. 5 states that "a vent scrubbing system which *virtually* removes all mercaptans from the two spent phenolic caustic tanks and the deep well disposal charge tank must be installed *as soon as possible*, but in any event not later than the next plant turn-around." (Our emphasis)

Item no. 6 of the approval states that a network of six hydrogen sulfide and total sulfation cylinder stations will be set up and maintained and that the results of these stations will be forwarded to the Provincial Board of Health (now the Department of the Environment) before the end of the month following a one-month exposure period. We have not been given any data from these stations, if they exist.

Since 1970, final air pollution approvals for Imperial Oil and Gulf Oil have been obtained. Imperial Oil approval is based on a maximum plant crude oil inlet rate of 41,000 barrels per day and the maximum release of sulphur dioxide from all sources at the refinery to the atmosphere shall not exceed 6.0 long tons per day. These conditions and requirements shall be in effect until November 1, 1974, or such other date as approved in writing by the Director of the Division of Standards and Approvals. At that time the plant capacity may be operated up to a maximum processing rate of 15% over the name plate input capacity of 140,000 barrels per stream day of crude

SO₂ by the long ton

oil. The maximum release of sulphur dioxide to the atmosphere shall not exceed:

a. a concentration of 630 parts per million in the main stack or

b. a rate release of 2.82 cu. ft. per second (70 degrees F. & 14.7 pounds per sq. in. absolute) in the main stack.

The total release of sulphur dioxide permitted in a and b above together with that from other possible sources in any single day shall not exceed 18 long tons.

The Gulf Oil Canada Limited approval is based on a maximum plant crude oil inlet rate of 80,000 barrels per day and the maximum release of SO₂ from all sources at the refinery to the atmosphere shall not exceed 33.2 long tons per day.

Again, other terms of the approval are vague. Number 3 states "All aspects of the refinery operations shall be conducted in keeping with *good air pollution control practices* to minimize malodorous and particulate emissions to the atmosphere with the necessary maintenance of all air pollution control equipment and *general good housekeeping*." (emphasis ours)

In comparing the three refineries we find that Gulf is allowed a much larger output of SO₂ than Imperial. Imperial, with an inlet rate of 41,000 barrels per day, can release 6 long tons per day of SO₂. We would expect then that Gulf, with a plant capacity of 80,000 barrels per day (nearly twice that of Imperial) would be allowed approximately 12 long tons per day. Yet they are allowed 33.2 long tons or nearly three times the emission rate at Imperial. Comparatively, Texaco, with a plant capacity of only 17,300 barrels of crude per day (less than 1/2 that of Imperial) can still put 7.7 short tons of SO₂ per day into the atmosphere and during a two week period in December, January or February up to 9.1 short tons of SO₂ per day.

Chemcell

This plant is located north of Refinery Row on the Saskatchewan River near the Beverly bridge. As far as we know, no Provincial approval has been issued to Chemcell defining air effluent limits. The Province has supplied data on levels of hydrocarbons and total aliphatic aldehydes from measurements at the Administrative Building and analyses from the high volume samplers.

Clearly there is no basis for assuming that measurements made at the Administration Building or at the high volume sampler bear any relation to Chemcell emissions since they include contributions made by automobile pollution, the oil refineries, and many other sources. Thus the reader will have to draw his own conclusions about the significance of the absence of a final air pollution approval in respect to Chemcell emissions. Since 1970, a portion of the Chemcell plant has been taken out of operation. However, since contributions of Chemcell to the total air pollution problem is not known, no comparison can be made to the present contribution.

Inland Cement Plant

The contribution of dust fall from the cement manufacturing process carried out by Inland Cement could in previous years be approximated by looking at the total dust fall and percent of calcium in monitoring stations in the City of Edmonton located distant from the source. However, since December, 1971, only monitoring stations 5, 8, and 9 are analyzed for calcium content and these three stations are located in areas close to the cement plant or in areas where batch concrete operations take place.

Before December, 1971, five stations were located peripherally around the Inland Cement Plant. Of these five stations, only one (8) is still in the same location. This makes it impossible to compare total dustfall for 1972 to previous years. It is worth mentioning that during 58% and 40% of 1969 respectively, dust fall at stations located at 149 Street and 115 Avenue, and at 156 Street and 129 Avenue exceeded even the industrial standard, often by huge amounts (up to 239 tons/sq. mile/30 days).

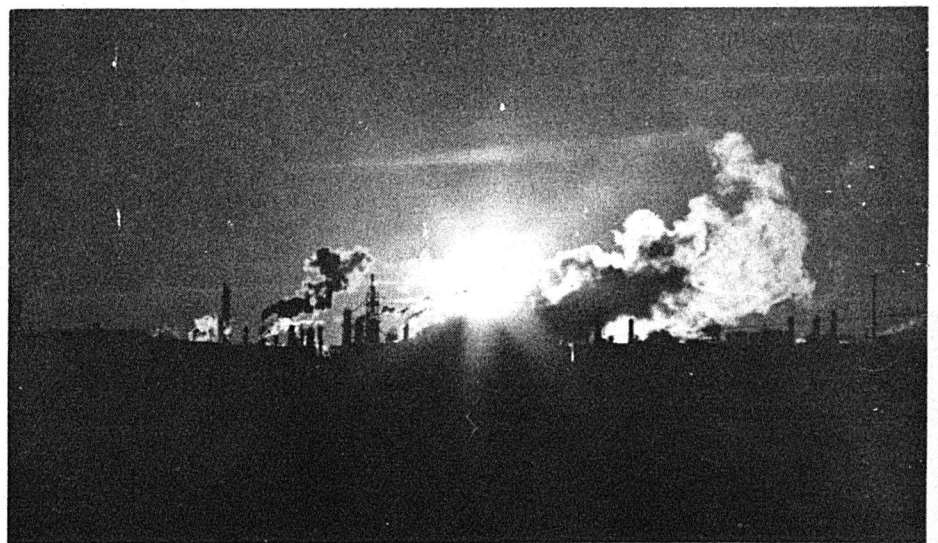
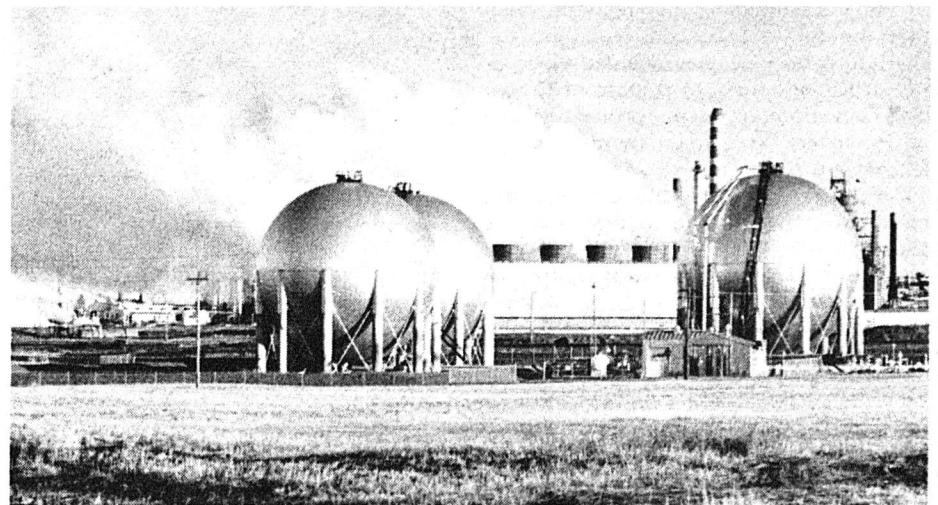
Incinerator Practices in Edmonton

There is probably no real knowledge of the number of illegal incinerators operating in Edmonton. However, there are approximately 390 legal incinerators in the area.

In reply to a question asking how the Department of the Environment measures emissions and their effects from incinerators in Edmonton, the Department reported that to date (November, 1972) emissions have been measured from only *one* incinerator. In the future, visible emissions will be measured by certified personnel who have been trained to read the Visible Emission Chart on a smoke generating unit. No mention is made of what times these readings will be taken but we suspect that incinerators are operable other than during Department of the Environment office hours.

It is apparent that there is little or no enforcement of regulations in respect to the incinerators in the Edmonton area and there is no regulation or plan of regulations so far regarding shutting down incinerators depending upon the presence of an air inversion.

A report by S.T.O.P. (Save Tomorrow Oppose Pollution) entitled "The University as a Polluter" states in part: "There are a total of eight incinerators on campus, excluding the University Hospital which is not under the jurisdiction of University Administration. Five are pathological incinerators and three are ordinary waste incinerators. Though these incinerators are inspected and reported on monthly by the Physical Plant, there have been no emission checks on them. This means that the *University has no idea whether or not its incinerators comply with*



the Provincial Department of the Environment Regulations regarding the emission of particulate matter, smoke and odour. The emissions from the University Hospital incinerator are notorious as to smoke and odour and again no check on emissions is carried out either by the Hospital or by the Department of the Environment.

Stelco Edmonton Plant

Final Air Pollution Approval for Stelco issued November 20, 1970 states as follows: "2. The total plant operations shall be carried out in a manner respecting good air pollution practices in order to *minimize* the emission of *gaseous* and *particulate pollutants* that are *not passed through the control equipment*." (emphasis ours)

No standards are set for any pollutants that are not passed through the control equipment. However, item 6 states, "The particulate emission rate from the dust collector shall not exceed the limit specified in Section 14-4-3 of the Provincial Board of Health Regulation for the Control of air Pollution." We would assume then that those pollutants passed through the dust collector are controlled but if there are any that do not pass through the control equipment these shall be "minimized" but there is no explanation as to what this means.

continued to page 9

CHARTERS to EUROPE

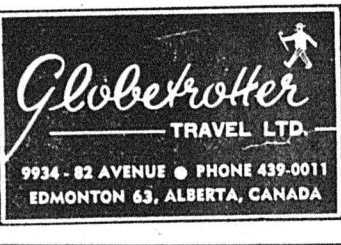
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FIRE and ice

by Jim Wolford
Department of Zoology
Research Assistant,
Canadian Arctic Resources Committee

In a Toronto debate last month, Eric Kierans said that we should stop selling our resources for nickels and dimes, and that we must get out of our anachronistic "roads to resources" philosophy of economic development (i.e. Canada will build the roads, and the U.S. can have the resources).

Activities of the petroleum industry in Canada's North have been frantic in the past several years, especially since the 1969 discovery of oil and gas in Alaska's Prudhoe Bay area. Consider the following facts:

1. Enormous amounts of land and sea -- Mackenzie Delta, Tuk Peninsula, Beaufort Sea, Arctic Islands, etc. -- are reserved by a variety of companies under permits for seismic blasting and/or drilling (see centerfold in *Oilweek*, Nov. 20/72). So far, there have been 5 discoveries of oil or gas on the mainland and 4 on the islands.

2. A consortium of petroleum and pipeline companies, Canadian Arctic Gas Study Limited, will soon file an application to build a large gas pipeline from Alaska and the Mackenzie Delta, up the Mackenzie Valley to Alberta, and on to the U.S.

3. The recently-formed Polar Gas Project consortium is well into a feasibility study for a gas pipeline from the Arctic Islands, along the coast of Hudson Bay, to eastern Canada and U.S.

4. Another consortium, Mackenzie Valley Pipeline Research Limited, just produced a glossy report which claims that a large oil pipeline from Alaska, along the Mackenzie Valley, is quite feasible.

The pace is a hectic one, and the objective is to find energy resources and then pipe them out to wherever they can be burned. The ultimate goal is the fast buck, a quick return on the large expenditures for northern exploration.

The responsibility for regulation of these activities is completely in the hands of the federal government. What are some of the things which they have done recently?

1. The government issued Guidelines for Northern Pipelines in 1970 (expanded in 1972). The guidelines were vague in many important respects, but it was clear that pipelines and a transportation corridor along the Mackenzie Valley were considered inevitable.

2. In 1971 during the U.S. pandemonium over the proposed trans-Alaska oil pipeline, Canada made it clear to the U.S. that both oil and gas lines could be built in the Mackenzie Valley.

3. Several conservationists were "consulted" in 1971 when the Territorial Land Use Regulations were being drafted, but the opinions of those consulted were completely ignored in the final Regulations.

4. In 1971 the government undertook a crash program of studies related to possible pipelines across the northern Yukon and along the Mackenzie Valley. The terms of reference, like those of the gas consortium, were to suggest how and where to build a pipeline, not *whether* it should be built. (The results of these government studies will be published in 2-3 months.)

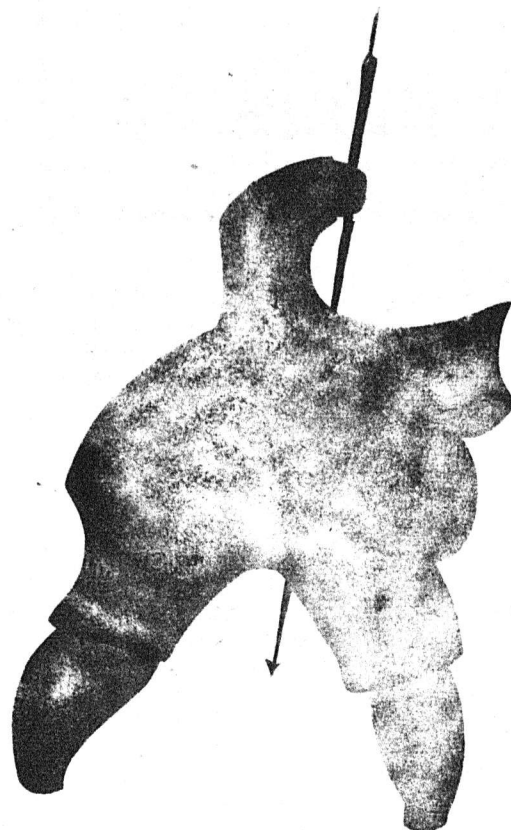
5. In 1972 the government announced its intent to build the Mackenzie Highway from Fort Simpson to Inuvik. The sections which were begun at either end were environmental disasters, mainly because there were no engineering or environmental studies to guide them. This was a very poor example to set for the pipeline builders.

It should be obvious that there has been a severe lack of planning and public involvement in decisions concerning northern development. Let us consider the Mackenzie Valley specifically. There are several crucial questions which apparently were never even asked, much less answered. For example, were the Mackenzie Valley settlements too isolated from civilization? If so, was a highway the best means for lessening their isolation? We have no evidence that any alternatives have been investigated. It seems likely that the road was to be primarily an inducement for the pipeline consortia.

The Mackenzie Valley Pipeline cannot be considered in isolation from other parts of a Mackenzie Transportation Corridor. Consider the potential impact of the proposed highway. At least two major considerations must be: (1) the route of the first corridor element, namely the highway, will at least partly determine the routes of other elements, such as pipelines; and (2) an all-weather road will not only open up much of the wilderness of the valley, but also will create unlimited access to the settlements. There will be benefits to the native people, but who has weighed these benefits against probable detriments? Perhaps it is ironic that the gas consortium was not paying much attention to the progress of the highway, even before the recent embarrassed slow-down of road construction.

Now, where do we stand on alternatives to pipelines? Needless to say,

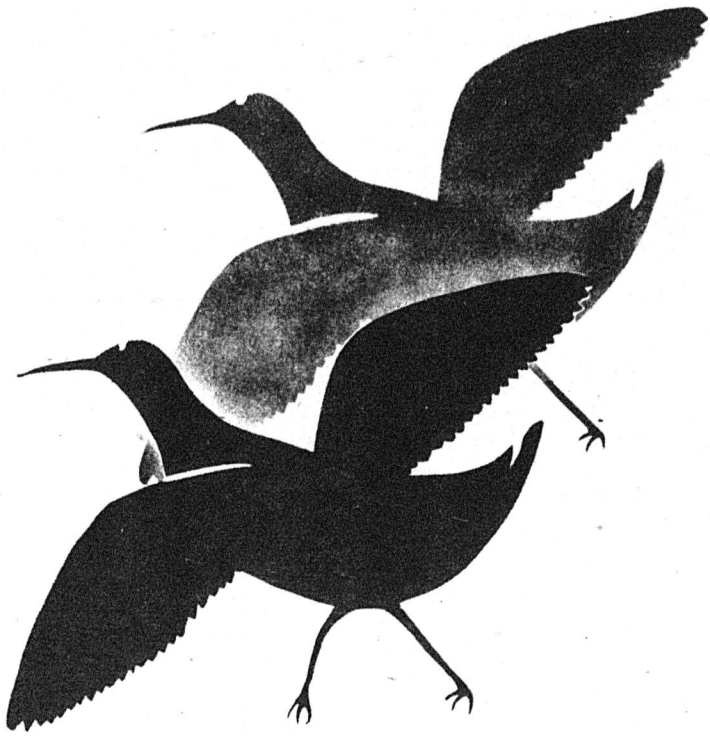
whatt!



the Canadian Arctic Gas group has
amount of momentum already
with obvious governmental
encouragement. The Guidelines
for Northern Pipelines do require
the consortium to assess alternate
routes, but there is no mention
of alternate methods for transporting
the gas. There also is nothing
preventing the fossil fuels in the
ground from being used for a
period of time. Surely, if Mr. C's
priorities of "people and environment
first" are real, these choices should
be made very carefully. But the
site seems to have been taken place.

With respect to the immediate
pipeline itself, how much do we
know? The answer is, "not very much".
Use the details of the route and
date are veiled in secrecy. We do know
the estimated reserves of gas are 27
trillion cubic feet (Tcf) at Prudhoe Bay
with the oil) and perhaps 15 Tcf
in the Mackenzie Delta. Proven reserves
in the Delta are insufficient, at this
time to justify a pipeline. Therefore
the consortium needs the Alaskan
oil in order to build a pipeline
northward. Alaskan oil must be produced
near the gas to be extracted. It
(likewise the Alaskan oil produced
near the gas to be extracted. It
will be 48 inches in diameter, with a
capacity of 1.65 Tcf per year. The
line will be buried, with the gas
compressed and cooled to avoid
thawing the permafrost. Most of
the construction will be done in
the winter and will require about
three years.

at the rush?



The spokesmen for the gas consortium, in attempting to show the need for the pipeline and its benefits, have repeatedly made several assertions which must be debated. First, we are told there are several reasons why the pipeline must be built without delay. They quote Ontario's Advisory Committee on Energy that Canada's frontier fuels will be required (for Canadian needs) by 1980. Projections of demand and calculations of reserves are quite complex matters, but there are many qualified people who would dispute the claim from Ontario. One factor not considered by Ontario is the very probable boost for exploration in Alberta as a result of higher, more realistic prices. (of course, we must all be aware that energy, once "used", is gone; as energy usage increases, we must keep finding more and more reserves annually; and we must expect reserves to become increasingly difficult to find.)

Recall now that the capacity delivery will be 1.64 Tcf per year, which is much greater than the total current Canadian demand. This means that the vast majority of the gas must be exported to the U.S. in order to make the pipeline feasible; even though half of the gas will be from Alaska, it is obvious that most of the Canadian gas will also be exported. Exporting resources such as Arctic gas in return for very low royalties is, in essence, exporting jobs and losing options for Canada's future.

The consortium argues that delays in the project mean escalating costs of \$250 million per year, but the flamboyant Kierans answers that the value of the gas is increasing "one hell of a lot faster" while it's in the ground. Also, they argue, a delay would risk "bunching up" of the needs for financing with other large schemes, such as James Bay or pipelines from the Arctic Islands. It is true that such a bunching up would put severe pressure on the Canadian dollar, but I doubt that Canada is really ready for any of these large projects, much less two or three!

With respect to environmental impact, we are told that everything is under control as they have been involved since 1967. However, most of their first three years were simply studies of feasibility, and their detailed studies, including pipeline test facilities, began in 1971. The results of all of their studies (and they have done a lot) are being carefully guarded until their formal application is filed with the National Energy Board; their reason is that the uninformed public may use the results of individual studies out of context from other results and blow them out of proportion. But anyone who does that will be losing credibility, just as the consortium is now. There will be two sets of public hearings, the first by Indian Affairs over the right-of-way and the second by the National Energy Board. Just how "public" these hearings will be,

and their terms of reference, remain unclear.

Among the benefits are mentioned jobs for northerners. Aside from construction jobs, the benefits of which are doubtful, there will be 150-400 permanent jobs created. The alternative of a railroad now comes to mind, since many more permanent jobs would be created. (One of the consortium's contracted researchers suggested this, but he "exceeded his terms of reference".) Many individuals and groups, especially the Canadian Institute of Guided Ground Transport, have suggested and are studying a railway to the Arctic. Many aspects of this alternative are attractive, and, if the decision is to open up the valley, then we should push for consideration of all possible methods.

The consortium claims that the amount of land which will be altered by the pipeline and compressor stations is only 40 square miles out of 1.5 million! This sort of expression is very misleading in several respects. For instance, several large construction camps and staging areas were not included. No mention is made of the probable hundreds of producing wells in the gas fields, along with a maze of small pipes leading to the large pipeline. How large an area might be affected by such things as SO₂, pesticides, or erosion of stream banks?

The Mackenzie River Valley and its Delta are, or were, magnificent wildernesses. Many people feel that the greatest long-term potential for northern "development" lies in tourism, as relatively undisturbed areas become more and more scarce in the South. Both the Valley and the Delta are unique areas, the latter especially productive biologically. But the maze-like Delta has already been marred by thousands of miles of often unsightly seismic lines, busy drilling rigs, staging areas, and gravel quarries. The Arctic is big country, with a great deal of on-going activity but a very inadequate land-use inspection system. We are just on the ground floor when it comes to inventories of the fish and wildlife; good base-line data, from which to predict or measure effects of development, come very slowly.

We need more time in order to make rational decisions about whether, how, and how fast the North should be developed. The native people, who should be our top priority, are drawing up what they feel are just claims of land, royalties, or other rights; some of these groups are being financed by the government. Why can't we slow down the exploitation a little, and use that time to learn more about the areas while allowing the natives to negotiate their claims? Why not?

Write to somebody important!

Continued from page 7

Number 4 of the approval says, "The collected dust shall be disposed of in such a manner that it does not become re-entrained in the atmosphere by winds, etc." and no. 5, "The filter bags shall be cleaned and checked regularly to maintain a high dust collecting efficiency. Broken bags must be replaced immediately and if a pre-coating material is used it shall be one exhibiting a low health hazard in the event of a broken bag." No mention is made of who will enforce these regulations or who will determine whether a certain material constitutes a health hazard.

Edmonton Power Rossdale Generating Station

Colorless nitrogen oxide (NO) is formed whenever a sufficiently high temperature is reached during a combustion process in air. Brown nitrogen dioxide (NO₂) will be formed if there is sufficient oxygen, and when the temperature is not too high. In any case it will be formed after the NO is emitted into the atmosphere. It is worth pointing out that NO₂ is much more toxic than NO.

The Rossdale power plant has six low-pressure boilers, three high-pressure boilers, and two gas turbines. When operating at near capacity, the two gas turbines provide not only the largest source of NO₂ but also the largest source of mixed nitrogen oxides (NO_x) per hour, particularly (as of 1965) turbine number 6.

At that time turbine 6 produced 233 pounds of NO_x per hour; turbine 7 produced 148. The two high-pressure boilers then in operation (8 & 9) produced respectively 139 and 145 pounds per hour. The concentration of NO_x in p.p.m. in the emissions from the gas turbines is less, averaging 150-180 p.p.m. compared to 200-350 p.p.m. for the high-pressure boilers.

Insofar as we can determine, no public Provincial Department of the Environment approval for levels of emissions has been laid down for the Rossdale Station nor is there any consistent monitoring of stack emissions. The air pollution approval in existence applies to the stack heights for the three high pressure units.

CONCLUSIONS

There is no information on the local air pollution problem arising from automobile emissions. There are no emission standards or approvals for several of the industries expected to be large-scale polluters relevant to the City of Edmonton, such as Chemcell or Fiberglass Canada. There also appears to be no set pattern for approval standards for the oil refineries as mentioned earlier. There is no enforcement of air pollution standards in respect to incinerator emissions and there is also no approval known to us regulating emissions from the Rossdale Power Generating Station.

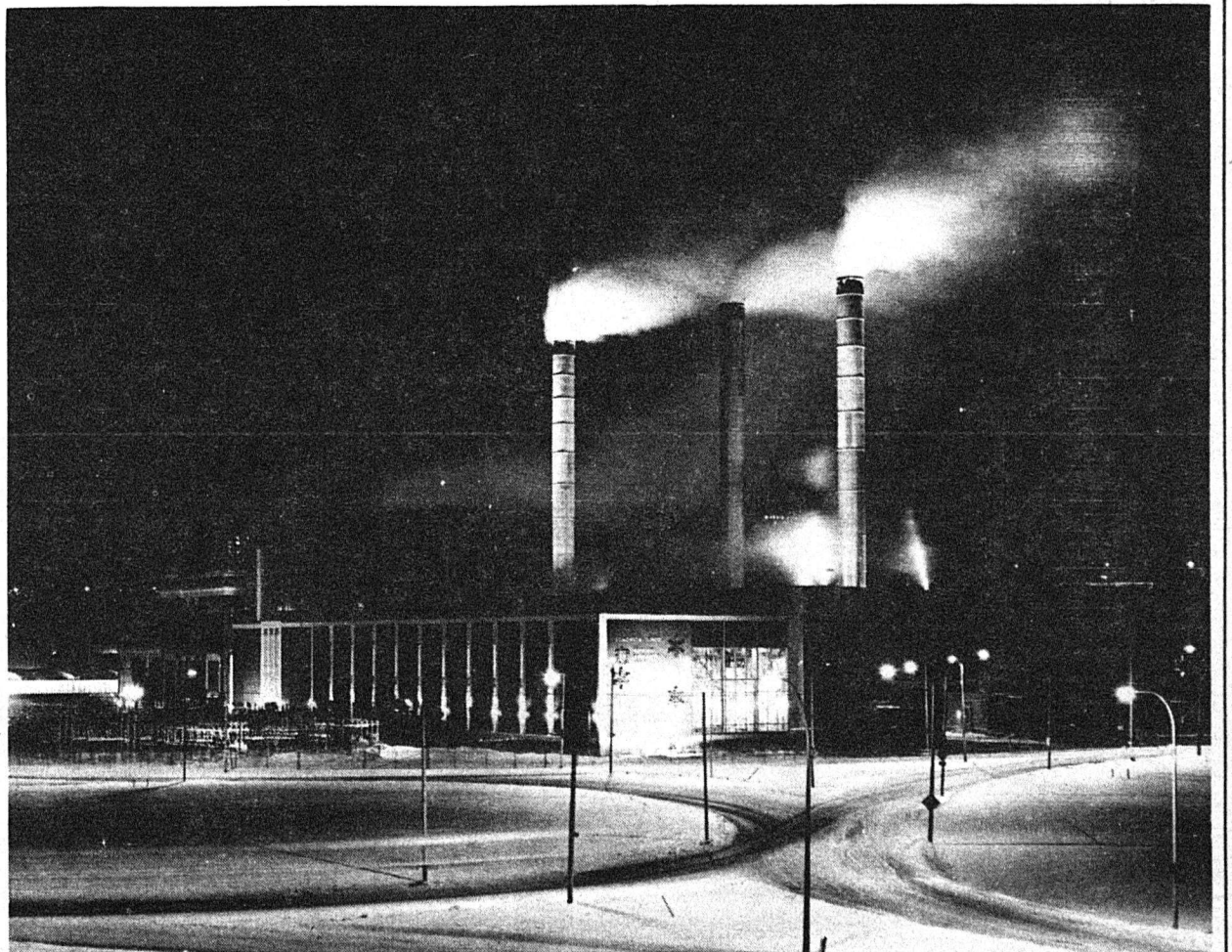


photo by Vic Post

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CONCEPT : MADRIGAL

shankar :
dazzling display
of virtuosity

The man is neither imposing nor particularly striking yet his very presence radiates an aura which commands a sense of reverence. It may be his contemplative air or the manner in which he holds his head slightly tilted when he speaks, searching about him with warm and gentle eyes. His height is hardly more than five feet and sitting alone on the side of his bed, feet dangling towards the floor, he hardly looks the way his fans know him to be.

The delicious odor of Darbar Agarbatti fills the room, assailing the nostrils with each waft of air from the fan. It is a strangely exotic incense and yet it seems to contain all of the aromas of flowers with which one from this part of the world is familiar.

Ravi Shankar without his sitar, far removed from the concert stage is a completely human individual in stark contrast to the incredible musician with which the young people are acquainted.

These were my first impressions of the man when I participated in one of two private interviews with him. He is physically a small man yet one detects a slight portliness which enhances his obviously prosperous existence. He is also a very humble man, as I shall show in excerpts from both interviews to be printed at a later date.

The concert in the Jubilee Auditorium on Wednesday, February 14 did not draw near to the capacity crowd that it should have, yet those who were in attendance were sent through such incredible flights of musical fancy as to boggle the mind.

This is no time for me to be critical—as a matter of fact, I cannot be, the performance so totally swept me away into a world with which I had very little experience. This review shall be exactly that—a summary of the concert with some elementary reference to that technical wizardry which is Indian music.

Most ably assisted by Alla Rakha on tabla and Nodu Mullick on tamboura, Shankar opened his program with an Evening Raga, Sudh Kalyan. The first section or alap delineated the mood which was essentially placid but pervaded with a sense of longing. Attempting to fix the notes of the raga on the minds of the listeners, Shankar improvised a mournful soliloquy

in free time, out of which grew a simple yet compelling melody recreating the atmosphere set in the initial exposition. The second movement was a gat, replacing the more common jor. The jor traditionally is an improvisation which introduces the percussion and gradually accelerates the tempo into the third and final movement. The gat in this instance is a movement which resembles the rondo of western music in its structure—a recurring theme is contrasted with variations and counterthemes. The rhythmical cycle used in this movement was jhaptal, divided into four groups of 2 - 3 - 2 - 3 beats. The tabla provided polyrhythmical accompaniment to the sitar and tamboura and gradually sped up to lead into the jhala, a prestissimo section in which a deft rhythmical pattern was woven around the raga theme by the higher drone strings on the sitar. The rhythm was in ructal (3-2-2). Both tabla and sitar were in superb rapport throughout this movement.

Following this came a Late-Evening Raga called Jhinjhoti. The alap opened in much the same way as that of Sudh Kalyan except that it went almost immediately into the jor. This raga was much more subtle in mood than the first, evoking a feeling of the serenity and quietude which are characteristic of the late evening. The plaintive wails uttered on the sitar seemed to suggest a dreamlike state. The improvisations in the jor were very free, much in the manner of our classical fantasias. Themes were neither varied nor recurring in this section. The jhala transported the listeners to various peaks of musical and rhythmic frenzy.

After an interval which seemed to pass by all too slowly, the second part of the program opened much more informally with a demonstration on the tabla. Shankar referred to how in Indian music "anything that can be played can be spoken. All sounds make with the hands have corresponding speech syllables." Both he and Alla Rakha then proceeded to demonstrate to a totally enraptured audience the truths of those very same words. Shankar uttered various syllabic sounds foreign to our ears, while Rakha proceeded to imitate them on his tablas. Long protracted phrases revealed all too clearly the intensive training which eastern musicians must go

through in terms of rhythmic discipline and memorization. Alla Rakha then performed a tabla solo in jhaptal. Once in a while he included vocal syllabication which only vaguely imitates the sound of the sol-fege so familiar to western musicians.

Raga Mal Kaun (Night Raga) was the title of Shankar's diversion into the realms of the true traditional Indian classical music. Most of the music which is performed in his country is improvised. The raga for example, is only a set pattern of notes, much like our scale but differing in very subtle ways. Western music, for example, divides the octave into twelve semi-tones which allow for a total of twenty-four major and minor keys. Indian music divides the same octave into sixty-six intervals called srutis. Twenty-two of them are used by convention in the formation of the raga. Seven make up the scale used as the basis for improvisation and thematic development and both the ascending and descending forms of the same scale are different. In developing the raga, the musician is affected by many factors including structural patterns, the emotions which he feels at any given moment as well as the actual scalic pattern which he selects. Ultimately, it is the method utilized in putting

all of these factors together as well as playing certain of the notes of the scale in relief that creates the desired emotional atmosphere and delegates to each raga its own individual character and hypnotic power. Traditional classical music involves the introduction of ancient or folk music into the overall structure of the raga as the basic thematic materials. These are not improvised upon but rather are improvised around. Shankar used sixteenth century melodies in Mal Kaun. It was the only time during the whole concert that the sitar performed actual instrumental music. The style of all the ragas preceding and following this one was essential vocal (i.e. it could just as easily have been sung).

The concert ended all in a fiery frenzy with another Evening Raga, Manj Khamaj, which was performed in Tunli (a semi-classical, romantic, lyrical style). It too utilized folk melodies and the like, but the basic theme always returned into the total structure. The raga contained two gats and concluded with the traditional exchange of dialogue between the sitar and the tabla; an improvisation of such incredible magnitude and precision as to leave the audience breathless. Those who were fortunate enough to attend left the hall having just been given a spiritual

revelation—a happening to end all others.

The music of Ravi Shankar in live concert brings to mind only the most superlative descriptions of the emotions felt by everyone there. One would wish that he could have played on for several more hours. Consummate artistry. Truly overwhelming.

Jerry Ozipko

R.A.T.T.

This weekend - February 23rd and 24th - Dave Wright is going to play some music for everybody. Dave's music is happy type music to improve your state of well being. Most of his material is original.

Dave has played every Coffee House in the city, has cut an album, and has plans for another. He also recorded the sound track for Film West's LAMENT FOR WOODY which has enjoyed some success in this country.

The performer starts at 9:00 p.m. and there is fine chili for eating or what ever else you might like to do with it.

Admissions are 75 cents in advance at the SUB Information Desk or \$1.00 at the door.

Its cheaper than a movie and you can talk in the middle.

the polish mime?

ballet?

theatre!

Walter Plinge

The Polish Mime Ballet Theater was in town last Tuesday night. What they were offering was a hybrid form of theatre. Henry Tomaszewski's troupe has drawn its inspiration from a diversity of forms which have been combined to provide an unique experience in the theater. The most evident influence was the use of mime as the primary mode for presenting the tales that they had to tell. It was not mime as we usually think of it but the silent eloquence of pantomime remained undiminished. The performers were all skilled in the art of the dance and with the aid of music they attempted to weave their magic by partly dancing and partly miming their presentations. Their intention was to provide a theatrical experience using the arts of mime and the dance as their means of expression.

Their reception at the Jubilee was only lukewarm despite their innovative and intense efforts. This, one suspects, was partly caused by the absence of programmes. Although the programme was announced over the P.A. system it was impossible to check out one's impressions against the troupe's intentions. This was a minor irritation that seemed to disgruntle some patrons who were confused by what they saw. It may be that they were simply annoyed that they could not be sure that they were understanding what they were watching.

The evening's performance consisted of three presentations, each of which was stylistically unique. The first, The Kimono, was done in a manner reminiscent of the Japanese Kabuki theatre. The story

involved a kimono of magical powers which brought ruin to a young woman and a tailor's apprentice. The tailor's apprentice incurred the wrath of a proud warrior when he used the kimono to seduce the warrior's wife. The wife's reputation ruined the warrior sought the apprentice and apprehending him, killed him. The tale had the exquisite simplicity of a Zen parable but inevitably the parable's seeming reluctance to give up its kernal of meaning produced some confusion. This was not helped by the fact that some time was needed by the audience to adapt to the conventions which the company employed. Although the production was technically proficient it was more of a warm-up for the audience than an auspicious opening for the company.

The company's second offering, Labyrinth, met with a more favourable response. The manner of presentation was orientated towards modern dance. Based on their contemplations on eternity in a geometrical universe the expression of their response was introspective in nature. The geometric boundaries of our universe define limitations to our investigations of questions such as how far is up or how long is forever. Trapped in a formula that might be defined as a chain of being the dancers attempts on breaking through to freedom rippled through the company, passing from one dancer to the next, producing permutations as evident in each individual response. The dance was cyclical in format, returning the dancers to their original predicament after their frustrated explorations. In this

number the company showed their art to greater advantage than in the first number and redeemed themselves amongst some of the audience.

The Departure of Faust was the main piece of the evening and the easiest to comprehend. It was centred on the old story of Faust's deal with Mephistopheles. Faust sells his soul to the devil in return for all knowledge for a period of twenty-four years. This interpretation dealt mainly with two episodes: the seduction of the innocent, Margaret, and the Walpurgisnacht bacchanalia when Faust conjurs up Helen of Troy. At the conclusion there is a Dionysian rebirth and new life and innocence is sent forth into the world. This time everyone was in fine form, particularly and understandably, the lead characters. Staged on a set which consisted mostly of large blocks and some props there was a heavy emphasis on costume pieces. Particularly effective was their use of long flaring lengths

of cloth. On this occasion, the troupe demonstrated most successfully their skill gained from long experimentation with the basic elements of the theatre. The basic and overwhelming emphasis of their art is placed on the body both as a vibrant, three-dimensional work of art and as a medium of communication with an inexhaustible repertoire of expression. The applause seemed to indicate that they had truly begun to make themselves understood. Further demonstration might have made it possible for them to emerge totally triumphant. Hopefully on another occasion, they will have their chance.

Letters to the Gateway on any topic are welcome, but they must be signed. Pseudonyms may be used for good cause. Keep letters short (about 200 words) unless you wish to make a complex argument. Letters should not exceed 800 words.

The Gateway is published bi-weekly by the students of the University of Alberta. Contents are the responsibility of the editor. Opinions are those of the person who expressed them.

Staff this issue: Jan Beal, photos; Belinda Bickford; Allyn Cadogan, editor-elect; Linda Fair, photos; deena hunter, arts; Terri Jackson, editor; Peter Johnston, photos; Sylvia Joly, typesetter; Harold Kuckertz, Jr.; Laura Leake; Loreen Lennon, arts assistant; Chris Mitchell; Jerry Ozipko; Jerry Rattray; Les Reynolds, footnotes; Michel Ricciardi, photos; Arthur Savage; Candace Savage, news; Margriet Tilroe, typesetter; ron treiber, production; Brian Tucker, sports; Alan Waugh, Vic Post, photos.

gateway

winchester:

On Saturday, February 24, Edmontonians will have the rare opportunity of seeing Jesse Winchester perform with his own back-up band, the Wallbangers.

Winchester does not follow a rigorous schedule of performances in hopes of capitalizing on what could be a short-lived popularity. His attitude in this respect is reminiscent of that of The Band, who were instrumental in Winchester's rise to his present status.

In fact, on Winchester's first album, Robbie Robertson and Levon Helm of the Band take part as back-up musicians. The album was produced by Robertson.

Winchester was born in Louisiana, lived most of his life in Memphis, and came to Canada in 1967 to avoid the draft. Since then he has lived in Montreal.

Both of the albums which he has done have been put out since he arrived in Montreal. The first has been around since the

fall of 1970, while the second was done in 1972.

When he first came on the musical scene in Montreal, he had to earn a living singing his own inimitably American songs in a predominantly French-speaking city.

The music on the first album was not influenced much by Montreal, aside from a song which Winchester wrote in collaboration with Robbie Robertson, which indicates little besides the fact that he don't dig the cold weather.

The second album, entitled "Third Down, 110 To Go", is very much an album of Montreal. Even the back-up musicians are funky French Canadians.

Winchester's music is fine, but his lyrics are very important to the total effect which he creates.

Bob Carpenter will also be playing.

Tickets are available for the performance at SUB information desk and at Mike's for \$2.50, or at the door for \$3.00.

two for three

BY THE SEA, written by James Osborne, and guest directed by Ben Tarver, is a powerful story of bigotry and misunderstanding. The story takes place on a deserted stretch of polluted coastline, where Harry, a 40 year old factory worker, and his wife Mildred encounter a young Japanese student. Harry is unable to relate to the boy and cannot comprehend Mildred's sympathetic reaction to him. The play ends in tragedy. The cast for BY THE SEA is: Philip Baker Hall as Harry, Lee Royce as Mildred, and Dusty Hornby as Jun, the young Japanese boy.

THE GUARDIAN, written by Mark Schoenberg, and guest directed by John Terfloth, appears in sharp contrast to BY THE SEA. THE GUARDIAN is a tension filled, essentially quiet

and tightly focused examination of the bonds, both real and imagined, which hold us where we are. In the cast for THE GUARDIAN are Philip Baker Hall as the Man and Judith Mabey as the Woman. Both BY THE SEA and THE GUARDIAN are being designed by THEATRE 3's resident designer, Richard Roberts.

Throughout the run, THEATRE 3's regular schedule will be in effect. On Tuesday, Wednesday, Thursday and Saturday there are performances at 8:30 p.m. Friday features 'dinner-hour' theatre, with performances at 7:00 and 10:30 p.m. On Saturday and Sunday there are matinees at 2:00 p.m. Tickets are available from The Box Office in McCauley Plaza, 422-4411, or from the THEATRE 3 box office, 424-3488.

The concert presented by the Edmonton Symphony Orchestra this past weekend was sheer delight to the senses. Guest conductor Pierre Hetu, originally of Montreal and currently the associate conductor of the Detroit Symphony, led the orchestra through three masterworks of the Baroque and Romantic periods.

The program opened with the Concerto Grosso in F Major, Op. 6, No. 9 of Arcangelo Corelli, a violinist and teacher who more than any other man helped elevate the violin to its current status as king of the orchestra. One of twelve works in a form evolved and developed by Corelli (the Baroque Concerta Grosso), the composition is essentially a series of slow and fast dance movements contrasted one to another and further contrasted by pitting a concertato section of two violins and cello against the remaining strings of the orchestra and continuo--in this case the harpsichord played by M. Hetu.

It was indeed pleasant to hear a rich and virile quality of sound from the strings, which until quite recently tended to be anemic and rather inhibited in their playing. The cello and bass sections especially were vibrant and sounded substantially augmented--if not in numbers then certainly in the volume produced. In the solo passages, the three instruments maintained a good aural balance even though second violinist was sometimes overpowered by the remainder of the trio when he played in the lower register of the instrument.

Mr. Hetu indeed asserted his authority by directing from the keyboard which is no mean feat in itself. The harpsichord continuo unfortunately was overpowered by the orchestra. I would have liked to have heard this same work performed with a much smaller compliment of strings--more in the manner of the chamber orchestra which Corelli would have had to work with.

The second work on the program was the Double Concerto in A Minor for Violin, Cello and Orchestra, Op. 102 by Johannes Brahms, the last work he ever composed of symphonic proportions. Featured soloists were James Keene and Ryan Selberg, Concertmaster and Principal Cellist respectively--members of our own orchestra after having been transplanted from both ends of the United States.

The opening Allegro, a richly harmonic and musically powerful and dramatic movement begins with solo statements by first the cello and then the violin, following short orchestral tuttis. Never have I ever heard such a beautiful blend of woodwind sound as came during the first large orchestral passage and the balance with the brasses and strings which followed was simply delightful. The passagework carried on by the orchestra was crystal clear throughout. There was no pretention to sloughing over any notes at all. The orchestra was alert and confident. What was even more impressive was the precise and vigorously vibrant pizzicato playing by the strings in the coda.

The interpretation of the Adagio was exquisitely tasteful music, despite the rather shaky opening from the horns. One could say little else about such beautiful solo and orchestral playing.

The Vivace finale on the other hand seemed to be just a bit too disjointed in the phrasing--with a bit more effort it might have been just a little more lyrical than it was.

Now reserving comment for the two fine soloists, I can only say that their playing was first-rate. James Keene appears to be musically superior to Ryan Selberg (perhaps on the basis of his early concert exposure and his experience as Assistant Concertmaster of the Pittsburgh Symphony under the direction of William Steinberg), but there is no mistaking the fact that the technical capabilities of both men are above any question. Their empathy was especially apparent in the unison solo passages and displayed a lot of careful ensemble rehearsal. Both of the men perform without all or most of the mannerisms of the well-known concert artists which tend to be nothing more than visual distractions.

There were moments, though gratefully very few, where the intonation was

noticeably insecure, but these were far outweighed by the excellent musical taste which manifested itself in the total performance.

Following the interval the orchestra presented a reading of Mendelssohn's Symphony No. 3 in A Minor, Op. 56 which was nothing short of incredible. The introduction of the opening movement (Andante con moto--Allegro un poco agitato) begins very dramatically, in fact much like the opening of the First Symphony of Brahms. However, what impressed me the most were the vast dynamic contrasts which were clearly audible; encompassing a range from shimmering pianissimos to overwhelming fortes and containing every subtlety of

musicality
to
seduce
the
aural taste buds

sound in between. Yet Mr. Hetu was able to maintain the inner voices and textures in the contrapuntal passages in a form of musical bas-relief even in the louder passages. Such is to his artistic credit.

The Scherzo, a light and airy Vivace non troppo with a distinctly Scottish flavor, opened with a gorgeous clarinet solo which was all but seductive. The sharply contrasted sections which followed retained a texture in the voicings much like crystal spring water--clear yet mysteriously shimmering in mood. The movement closed with a gradually fading theme dying away finally to a magnificently alive yet barely audible pianissimo at the end.

What more can be said about the songful Adagio than tres espressi; superbe?

The undoubtedly Scottish-like finale (Allegro maestoso assai) featured woodwind playing which was absolutely first-rate above all else. The delicate counterpoints which weaved in and out, and around themselves displayed real clarity and the tempo must have been exactly right because both ladies on either side of me were tapping their feet to the music. The conclusion built up to a glorious climax before fading into the distance.

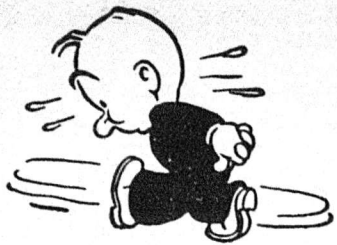
As a conductor, Pierre Hetu obviously not only knows what he wants musically, but he knows how to get it as well. He is precise in his conducting and coaxes the musical qualities which he nurtures from the orchestra. His beats are not pretentious--there are no extraneous gestures or unnecessary nuances. Moreover, his conducting is graceful to the eye, unhurried, and very relaxing. One is never tired out from watching him. Probably, he may be best described as a presence rather than a fixture.

This concert concluded the "Mini-series" featuring guest conductors vying for the coveted prize of Music Director of the Edmonton Symphony Orchestra for the 1973-74 season. In retrospect, concert-goers had until Tuesday afternoon to make known their preference to the society, choosing between James Yannatos, Dietfried Bernet and Pierre Hetu. My vote goes to the latter candidate. Monsieur Hetu, bienvenu a Edmonton!

Jerry Ozipko

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SU Council Rep. Elections

The following positions are now open for nominations from the following faculties

2 SCIENCE SU COUNCIL REPS.

2 ARTS SU COUNCIL REPS.

Nominations will be accepted between the hours of 8:30 AM and 5:00 PM on Thursday, March 8, 1973.

The election, if necessary, will be held on Friday, March 16.

For further information and forms contact the SU receptionist, 2nd floor SUB.

ALL SU COUNCIL POSITIONS ARE OPEN FOR NOMINATIONS. FOR OTHER FACULTIES, INTERESTED STUDENTS SHOULD CONTACT THEIR RESPECTIVE STUDENT ASSOCIATIONS.

SPORTS

Hockey Bears back in first

Records fall in Bear invitational

Three Canadian individual records were shattered at the Golden Bear Invitational track meet in Kinsmen Field House last weekend.

Randy Makolosky of Calgary Spartans set a new record in the men's indoor 800 metres with a time of 1:51.8.

Then, Simon Fraser's Murray Keating threw the 35-pound hammer 54 feet 11 inches to earn his way into the record books.

Meanwhile in the women's 200 metres, Jo Anne McTaggart of the Saskatoon Track Club streaked across the finish line in 24.8 seconds.

For Alberta tracksters, the meet was a warm-up for the Canada West University Athletic Association championships here March 2-3.

Fencers foiled

Last weekend the U of Alberta fencers, who travelled to Vancouver for the annual Blades International Valentines Tournament, ran into some tough competition.

The event was open to professional and amateur fencers. Competitors included current Canadian champions in men's foil and epee, and members of Canada's Olympic epee team as well as seven French fencers from Noval units visiting Vancouver.

On Saturday, in Mens foil, Helmut Mach and Tom Freeland

Injuries could hamper U of A women's chances of improving on their fourth-place finish last year.

Doreen Jones has been nursing a heel injury. But in the Invitational meet, she captured the only event she entered: the shotput.

Leg injuries have plagued Sue Hoffart since Christmas but she has started to run again and should be ready for the conference meet.

But Shauna Miller and Liz Vanderstam helped to pick up the slack with victories in the 1500 and 400 metres respectively.

For the men, Ron Jackson had a triumphant meet, capturing the 400 metres and anchoring the winning four-by-400 metre relay team. bt



were eliminated in the quarter-finals. Nina Shiels was eliminated in the semi-final of Women's foil, and Helen Sachs reached the finals and placed fifth.

On Sunday in epee, Freeland finished with a 3-4 record to place fifth. In the afternoon Mach was eliminated in the semi-finals of the Sabre event.

The tournament was a warm-up to the Canada West University Athletic Association Championships here at U of A, March 2-3. bt

Ken's Trenching takes volleyball title

Ken's Trenching, captured the Co-rec Volleyball Tournament Championship last Saturday. They went through the round robin and single elimination tournament losing only once.

The 64'ers met Ken's Trenching in the final but were bounced 15-7 and 15-3.

Also on Saturday, the Men's Intramural Slalom Skiing Championships were held. Bruce Burns, of Medicine, won individual honours with a time of 35.8 seconds. Second was Brian McClary of the Deke's. Having six of the top ten finishers, Medicine should capture the title.

This past Sunday, Wan Yui Ming of the Chinese Students' Association, captured the Men's Intramural Table Tennis Championships by defeating Peter Wong, also of C.S.A., 21-17, 21-15.

Late on Sunday afternoon, the week long Men's Intramural Curling Bonspiel ended. The Engineering team of Dave Rutherford, Rick Wright, Rick Smith and Gene Gyoba captured the 'A' Event title, while 'B' Event winners were Ross Newhouse, Chuck Newhouse, Murray Dovin, and John Edwards of Fiji.

With the addition of the results of Badminton, Field Hockey, and three on three basketball, the Latter Day Saints have once again moved atop the 'B' Conference with 1017. Close behind in this see-saw battle with 902 points is Recreation, and way back in third is Lambda Chi Alpha with 599.

Law is increasing their strangle hold on the 'A' Conference title with 2078 points. The big battle in this conference is between Kappa Sigma and Dentistry. The K. Sigs now have 1683 points and Dentistry has 1550. Things

could change quite drastically in this last month of intramurals as the hockey, volleyball, curling, table tennis, snooker, squash, hand ball and racquetball titles will be decided.

The playoffs for handball, squash and racquetball, originally scheduled for this week, will not start until March 5. Those people involved should check with their unit managers or inquire at the Men's Intramural Office.

The Division II, III and Non-skating League Hockey playoffs will also start on Monday, March 5. The playoff schedule will be posted by Friday 12, noon.

Wayne Thomas, the Lower Residence Unit Manager, is our "Participant of the Week." Wayne had his "47 Bashes" in the Co-rec Volleyball Tournament on Saturday, and he got up bright and early Sunday morning only to be trounced in his second table tennis game. Later in the day, he led his Lower Res 'E' hockey team onto the ice against St. Joe's E. The score was not indicative of the play as St. Joe's upset 5-2. Wayne has helped to keep Lower Res. in contention this past year. jr

Watch the birdie

The University of Alberta hosts the Canada West University Athletic Association badminton championships this weekend in the Physical Education Building.

The round-robin tournament goes in the dance and main gymnasiums beginning Thursday at 1 P.M. and continuing Friday and Saturday.

Universities of Alberta, Calgary, Lethbridge and British Columbia are entered.

Last weekend trying to guess who would take the CWUAA hockey pennant was like trying to assemble a jigsaw puzzle in which the pieces kept changing shape.

At first Calgary looked like a sure bet for first place with four out of six wins over Bears and two points up with two "easy" games in hand with U of Saskatchewan.

Then, wonder of wonders, just when Bears were probably in their lowest spirits of the season over their 5-1 Friday night loss to UBC, the word came that Calgary, too, had gone down 7-4 to Huskies.

The loss gave second life to UBC and Alberta, putting them in a position to fight it out for first place. Calgary more or less eliminated themselves from the race by dropping a second decision to Saskatchewan, 5-4, in overtime Saturday.

And then Alberta came back with a photo-finish 4-3 win over Thunderbirds that same night. That and the 9-4 win over Victoria Sunday put Bears back in first place with a 16-6 record and two games in hand over Calgary who finally beat Saskatchewan Sunday 8-5 to finish at 16-8. UBC is now 14-8 with two games against Victoria this weekend.

Saturday night's game in Thunderbird Arena couldn't have been more exciting if Clare Drake had hired a script writer. Bears were down one point when Drake pulled his goalie with 30 seconds left in

regulation time. The fans began to chant "We're number one." On the Alberta bench, one of the players started praying.

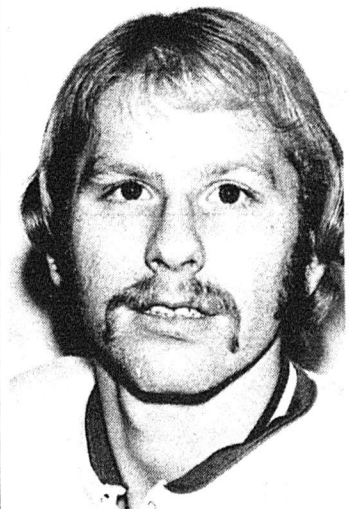
UBC's Brian DeBiasio took a shot at the empty Alberta net from inside the 'Birds blueline - and missed by a good two feet. Icing was called with the face-off to the right of the Thunderbird goalie. Bears won it but the puck was taken into the corner for another face-off. Clarence Wanchulak won that one, too, and Rick Wyrozub scored from a goal mouth scramble with just four seconds left.

Then after nine-and-a-half minutes of close close checking in the first overtime period, Jerry LeGrandeur took a pass from Paul St. Cyr and slapped it in hard from the face-off circle to give Bears the game, the Humber Trophy and probably the pennant.

Thunderbird coach Bob Hindmarch was utterly stunned by the defeat. "I just can't believe it," he said shaking his head. "A goal at the end of a period hurts. I think we could have won it if we could have taken it into sudden death. I really thought we were going to win."

When asked about what is becoming legendary Clare Drake "luck", the Bears head mentor replied, "I love it! I sure hope it stays with us. No, I don't mind

Golden Bears' player of the week



Jerry LeGrandeur

It was Jerry Le Grandeur's 11th-hour goal that more or less clinched first place in the Canada West University Athletic Association for U of A's hockey Bears Saturday in Vancouver.

Scored on a pass from Paul St. Cyr with just thirty seconds left in the first ten minute overtime period, the goal was a perfect ending to a wildly exciting hockey game-perfect from the Bears' point of view, anyway.

Jerry didn't slack off the next day in Victoria as he notched his second hat trick of the year and picked up three assists against the U of Victoria Vikings.

championships," said Taylor. "We were out to crack them."

The loss was Simon Fraser's first in 34 consecutive tournaments.

The individual winners were Gord Bertie (126), Barry (134), Dowbiggan (150), Sorenson (158) Andy MacLeod (177), Blain Kjolrien (190) and Bob Pugh (heavyweight).

MacLeod beat Jack Marcell, who was this year's 1972 recipient of the outstanding wrestler award in B.C.

"He never wrestled better in his life," said Taylor.

In the 142-pound division, Al Boychuck, who normally wrestles at 126, was pinned by Steve Martin, a national champion at 150. bt

Matmen want

national title

University of Alberta wrestlers will be out to beat the system this weekend in the Canadian Intercollegiate Athletic Union championship in Guelph, Ont.

Alberta is vying for its fourth consecutive national title and a Canadian intercollegiate record, but circumstances are stacked against them.

Only wrestlers on the conference squad can score points for their respective schools. In a strong conference, like Canada West or Ontario conference, no one school can dominate.

Alberta, for example, captured four weight classes at the Canada West meet in Vancouver last weekend, with the UBC, University of Saskatchewan and University of Calgary splitting the other six divisions.

Meanwhile, Lakehead University swept nine weight classes in the weak Great Plains conference.

"Two years ago, Lakehead had nine, we had four and we still won," said coach Bert Taylor. "But it doesn't look too good. It'll depend on the draw."

The team that gets the bye automatically goes into the third round. As a result, none of its members could finish worse than third.

Points are awarded on a 10-4-2-1 basis for first through fourth-place finishers. Taylor figures that three wins and a second-place finish are minimum prerequisites for the title bid.

Winners in each weight class will be invited to training camp for the squad that will represent Canada this August in Moscow in the World Student Games.

Golden Bears closed their regular season with a 30-12 route of Simon Fraser University Monday.

It was sweet revenge for Bears since SFU spared no expense in publicizing the fact that they had knocked off the national champions last year.

"The guys were higher for the Simon Fraser than for the national conference

being considered lucky. I think it's a good thing if other teams think you're lucky all the time. For one thing you have to be good to be lucky, and over the season, our good breaks have been the result of hard work. After the way we lost those two to Calgary, the pendulum was due to swing our way again."

Friday night the UBC squad played what was undoubtedly their best checking game of the year. They had Bears completely buffaloed, unable to complete plays or passes. 'Birds were always in the way.

Dave Couves scored the only Alberta goal at 5:50 of the opening period. Bill Ennos scored twice for Thunderbirds, while the singles went to Alex Dick, Len Ircandia and Chuck Carignan.

Saturday night Bears came out checking which appeared to surprise the UBC team. Craig Thomas got the only goal for Thunderbirds in a penalty-filled first period that took an hour to play.

Bears, who have been anything but a second-period team this season, came out hitting in Saturday's sandwich stanza. Couves evened the score on a beautiful passing play set up in Alberta territory and Bears didn't let up for the rest of the night. Wyrozub gave his team a one-point lead midway through the first period. Lawrence and Bob Murray scored for Thunderbirds, and Wyrozub's second goal tied it up.

Sunday's match against U of Victoria was more like a mandatory skate than a hockey game. Jerry LeGrandeur led the scoring for Bears with three goals, Oliver Steward sank two while the singles went to Ross Barros, Dave Couves, Brian Middleton and Oliver Morris. Dave Cousins, Jim Inglis, Bill Collins and Larry Hackman scored for Vikings. ac

Gal hoopsters' finale against

Thunderettes

Panda basketball is fast drawing to a halt for another season.

Last weekend, Panda hoopsters hosted the University of Lethbridge Pronghorns before capacity crowds only to go down to defeat.

But it was a glorious defeat, at least for one game. "On Saturday, we just stopped hustling," comments Pandas' guard, Deena Mitchell. "But on Friday, our second half was beautiful..."

It was quenched in the dying seconds 49-48 on a foul shot by Pronghorn's big gun - Leona Voth.

In Saturday's 54-38 loss, Alberta had been leading 23-21 at the half. "I was really impressed with Joanne Mortimer," says Coach Kathy Broderick. "She gathered 15 rebounds in this game, and ten last night."

However, Lethbridge charged back in the second half with another 33 points to Alberta's 15.

Voth amassed 20 points in the game with Wendy Martin tallying 22 for Pandas.

Prior to Friday's game, Pronghorns' Coach Glen Alexander said he expected the games to be close. "The one person we have to keep on is Martin. She is speedy and very quick to break with the

con't. page 14

The Golden Bears hockey club would like to give special thanks to the U of A wrestling team for their enthusiastic support during Saturday night's hockey game in Vancouver.

Hoop Bears: Reserves shine in supporting role

A jubilant Bob Bain was sitting in the dressing room clutching a scrap of mesh retrieved by his players in one hand and a bottle of champagne in the other.

Golden Bears had just defeated Phil Tollestrup and the Lethbridge Pronghorns 83-74 for the Canada West University Athletic Association title.

"Everybody contributed to that victory," grinned the coach. "And that includes everybody

who sat on the bench."

This would seem a bit unusual since Bain almost exclusively played his starting five. Yet the reserve's importance to the team isn't always measured by what they can accomplish on court.

"It is most important that they work hard in practice. It's good for team morale and a coach can gauge how a starter will perform in an actual game. Maybe Tommy or Terry

wouldn't be as good if they didn't have someone pushing them in practice."

Playing second string for Bears has been frustrating experience as many players know they could play regularly for other teams in the conference.

They put in as much time into basketball as those who play regularly while having to maintain their marks in school.

"It takes a lot of guts to sit on the bench," related Mike Frisby, who only collects splinters on arbiters' orders. "I only wish that Dave Holland would quit cheering for the referees."

Holland and swingman Bain MacMillan have seen more action than the other second-stringers.

At the start, Holland picked up numerous fouls because he had trouble controlling his body. (at 205 pounds, he had gained some 50 pounds within the last two years.) And this was unfortunate, since he usually got into the game when Frisby had fouled out.

But the six-foot-five low-post man has improved to the point of becoming one of the best rebounders in the league.

"Dave may get a chance to play in a double-post system next year," said Bain.

MacMillan returned to Bears this season after a three-year absence. He began his collegiate basketball days with Calgary Dinosaurs.

"MacMillan is the best sixth man in Canada," said Frisby. "He can pick up a team with hustle."

"I think the guys have a quiet confidence in the way he plays," said Bain. "Bain's a very determined player. He wants to play so much I don't blame him for getting mad when he isn't in the game."

"You've got to keep your composure," said MacMillan. On

the bench, you evaluate the player who is ahead of you to see if they're making mistakes. When you go into the game, you want to effect some changes.

"I like to go in with a bang, throw in a couple of quick baskets or make a steal or a rebound. It makes you feel good. But it's pretty tough to sit through a whole first half. You lose your psyche by the second half."

Obviously, I'd like to play more. To better yourself, you have to want to play more."

Leigh Goldie has the unenviable fate of playing behind super-rookie Steve Panteluk. But the six-foot two native of Waterloo fits right into Bain's offensive system which stresses good rebounding from forwards.

And Goldie has made it to the national finals before with Waterloo Lutheran in 1970-71.

Probably the most disappointed Bear this season has been Brian Hart, a former high school star who has played a subordinate role on the squad.

"Brian played first string a lot last year. I feel badly that he has lost his desire," revealed Bain. "Brian can shake up a game; he can get the tough points."

"He's more a freelance player who is not used to playing in a strict, patterned offence," said another Bear reserve, Doug Nicholls.

Nicholls, along with Holland, Art Uhl and Allan Price have been promoted to the big squad from last year's junior varsity team, which was tutored by Bain.

Nicholls has shown he has the leadership necessary to play the playmaking-guard position manned by Terry Valeriotte. And he has also improved his outside shooting.

"I had my chance at the beginning of the season," said

Nicholls, "but Terry has done such a good job." Regardless, when you're on the bench you've got to pretend that you're in the game. If you're not ready, you're doomed."

Uhl and Price are relegated to 11th and 12th man roles on the squad, a difficult position in the considering the 'ten's company, 12's a crowd' policy on road trips.

"It's kind of hard when you play against them day after day then when you leave say good-bye, its been nice practising with you," states Frisby.

Uhl and Price need time to mature," commented Bain. They probably practice harder than anyone."

"But the thing to remember is that everybody's got individual pride, whether they're on the bench or out on the court. When you see the 11th and 12th man playing hard, if you're a first-stringer, you'll work harder, too." bt

Volley gals number two

The University of Alberta Panda Volleyball squad placed second to the University of British Columbia during the final half of the Canada West University Athletic Association Volleyball Championships held over the past weekend in Lethbridge.

Coach Sue Neill and her troopers were quite thrilled with their performance. "I think the girls were really pleased and happy. All of a sudden, everyone realized what they were supposed to be doing and everything just clicked," offered Neill.

For Susie Seaborn, "it was the first time we did not collapse. Lindy (Van Alstine) was executing beautiful baby sets and everyone played really well."

On Friday, Pandas defeated the University of Saskatoon in two out of three games. It was the first time this season that Pandas had won a pair from the U of S crew.

However, they dropped their next two series - 15-3 and 16-14 to UBC, and bombed out to the University of Calgary.

"The Calgary game was really bad. The girls were just

not moving; they were not picking up Calgary's blocks and that is what killed us," says Neill.

Saturday's round-robin tournament was won by U.B.C. followed by Calgary, Alberta and Victoria. Pandas whipped Lethbridge quite handily, then took Victoria which was another first. This allowed them to be pitched against Calgary while British Columbia tangled with Victoria in order to decide the finals.

Pandas were really up for the Calgary game, then played extremely well in the final against U.B.C.

U.B.C. took Alberta 15-10 and 15-11.

The over-all results from both halves of the C.W.U.A.A. Championships placed U.B.C. first, followed by Victoria, Alberta, Saskatoon, Calgary and Lethbridge.

Now Pandas prepare for the Alberta Open on March 10. "If we play really well, we may qualify as the Alberta representatives for the Canadian Open," said Seaborn.

This weekend, the Junior Clubs journey to Medicine Hat for a junior volleyball tournament. bb

Volleyball, con't.

advantage," commented Alexander. As it turned out, Martin got only 15 points.

The second half of Friday's game really told the story of Pandas' efforts. "If we could only play like that in all our games, we would really have something going for us," sighs Broderick.

Kathy Moore, Mitchell and Martin were consistently strong in their efforts, never once lagging. Moore added 12 points in the half for a total of 16.

Voth tallied 27.

This weekend, Pandas wind up their schedule against the University of British Columbia Thunderettes in Varsity Gym, 6:30 p.m. on Friday and Saturday. bb

GENERAL ELECTION

The Graduate Students' Association will be conducting elections for the following positions. All graduate students are eligible.

A) G.S.A. Positions

President
Vice-President, External
Vice-President, Internal
Secretary
Treasurer

G.S.A. delegate to General Faculties Council

Editor of G.S.A. Newsletter

G.S.A. delegate to Senate

Plus: Assistant Editor of G.S.A. Newsletter and 4 G.S.A. delegates to Graduate Faculty Council

Elections at March G.S.A. Council meeting, March 13, 1973 at 7:30 p.m. in Tory 14-6. Nominations from the floor or by calling 1175 (G.S.A. office)

B) General Faculties Council (G.F.C.) positions:

One representative from the following areas:

Medicine and Nursing	Agriculture
Arts	Engineering
Business Administration and Commerce	
Dentistry and Law	Pharmacy
Education and Library Science	
Physical Education	Science

Candidate must hand in a completed nomination form (available after March 1st from G.S.A. office, room 233, Assiniboia Hall) to that office by Friday, March 16, 1973 at 4:00 p.m. Election will be held on Friday, March 23, 1973.

C) Graduate Faculty Council positions:

In addition to the G.S.A. representatives, the following departments may elect one representative:

English	Business Administration and Commerce
Geography	Zoology
Physics	Chemistry
Psychology	Computing Science
	Educational Administration
	Educational Psychology

SUB ACTIVITIES FOR YOU

STUDENT CINEMA - 2nd floor

- FRIDAY, FEBRUARY 23 Student Cinema presents THE GO BETWEEN with Julie Christie. Show times 6:30 and 9:00 p.m. Tickets 50 cents in advance at Info Desk, \$1.00 at the door.

- SUNDAY, FEBRUARY 25 SOMETIMES A GREAT NOTION is showing with Paul Newman. Two shows - 6:30 and 9:00 p.m. Tickets 50 cents in advance at Info Desk, \$1.00 at the door.

ROOM AT THE TOP - 7th floor

- THURSDAY, FEBRUARY 22, Albany 2 features HOT COTTAGE. Soup Kitchen opens at 8:00 - entertainment at 9:00. Tickets 75 cents in advance at Info Desk or \$1.00 at the door.

- FRIDAY and SATURDAY, FEBRUARY 22 and 23 Dave Wright will be playing at the Soup Kitchen, starting at 9:00 p.m. Tickets 75 cents in advance, \$1.00 at the door.

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MARKET DAY - main floor mall

- FRIDAY, FEBRUARY 23

- Tables available upon request at Music Listening Desk

- Good selection of crafts available

footnotes

THURSDAY FEB. 22

"Studying the Bible" is the special topic for Campus Crusade for Christ regular Thursday meeting this week. It is held at 7:00 p.m. in SUB rm 280. Everyone is Welcome.

FRIDAY FEB. 23

The Edmonton Chinese Christian Fellowship will hold their regular meeting in SUB's Meditation Room at 7:30 p.m. The meeting for this week will be a Bible-study on Eph. Chapter 4:17-24. Anyone interested is cordially welcomed.

Famed jazz cornetist Chuck Mangione and side man live in concert with the Edmonton Symphony Orchestra Friday, Feb. 23 at 8:30 p.m. at the Jubilee Auditorium. Tickets, reservations may be made by phoning 433-2020, 24 hours a day. Tickets at \$4, \$5, \$6.

Panel discussion on "Shoplifting and Store Security" with representatives from Hudson Bay Co., McLeod's Ltd., and Woolco Stores Ltd. at 4 p.m. Friday Feb. 23. Brief business mtg at 3:30. Information phone 432-3322 or 488-4354.

"The Young Socialists sponsor a public forum "The Alternate Press" with representatives from Bullrush, Gateway, On Our Way, Poundmaker and the Young Socialist participating in a panel discussion. Friday, Feb. 23, 8 p.m. Room 142, SUB. Bring your own ideas!

SATURDAY FEB. 24

Violinist Yasuko Tanaka, violincellist Lucinda Breed, and pianist Arthur Bray, all graduate students in the Department of Music, will present a trio concert. The program will include works by Beethoven, Dvorak and Block. Place: Convocation Hall, Arts Bldg. Time: 8:30 p.m. Admission: Free.

SUNDAY FEB. 25

Pianist Helmut Brauss, Associate Professor in the Department of Music, will give a recital of works by Schumann, Ravel and Bartok. Place: Convocation Hall, Arts Bldg. Time: 8:30 p.m. Admission: Free.

A concert of Black Gospel music and Soul will be held at the Old Barricade Coffeehouse. (Garneau United Church, 112th st., 84th ave.) Features LeVero Carter and the Echoes of Shilo, the Sneed Family and Big Miller. Starts at 8 p.m. Sponsored by the Edmonton Folk Club. Admission 75 cents for folk club members, \$1.25 for nonmembers.

TUESDAY FEB. 27

Pianist Cheryl Cooney, third year Bachelor of Music student in the Department of Music, will give a recital of music by Beethoven, Chopin, Rachmaninoff and Francaix. Place: Convocation Hall, Arts Bldg. Time: 4:30 p.m. Admission: Free.

WEDNESDAY FEB. 28

Marsha Dolinsky, third year Bachelor of Music student in the Department of Music, will give a piano recital of works by Mozart, Beethoven, Chopin and Roy Harris. Place: Convocation Hall, Arts Bldg. Time: 4:30 p.m. Admission: Free.

An introductory lecture on transcendental meditation as taught by Maharishi Mahesh Yogi, to be given by a trained teacher. Tory Bldg. 14th Floor, Graduate Students Lounge, 8 p.m. Everyone welcome.

GENERAL

The wind-up of the Co-Rec sports will be a Car Rally held Saturday March 17. The rally team will consist of one man and one woman. It will be held in the Edmonton Vicinity. Entry deadline is Wednesday March 14, by 1:00 p.m. in either Men's or Women's Intramural office.

Dr. Percy S. Cohen (London School of Economics) will talk on Rationality In Sociological Explanation in Tory TB 113 at 11:00 a.m. and on Critical Evaluation of Subjectivism in Sociology in Tory TB 5-15 at 3:30 p.m.

The Graduate Students' Association Executive will meet with Dr. Wyman on Thursday, March 1, 1973 at 4 p.m. in Rm. 317 University Hall to discuss the preliminary budget. Interested graduate students are invited to attend.

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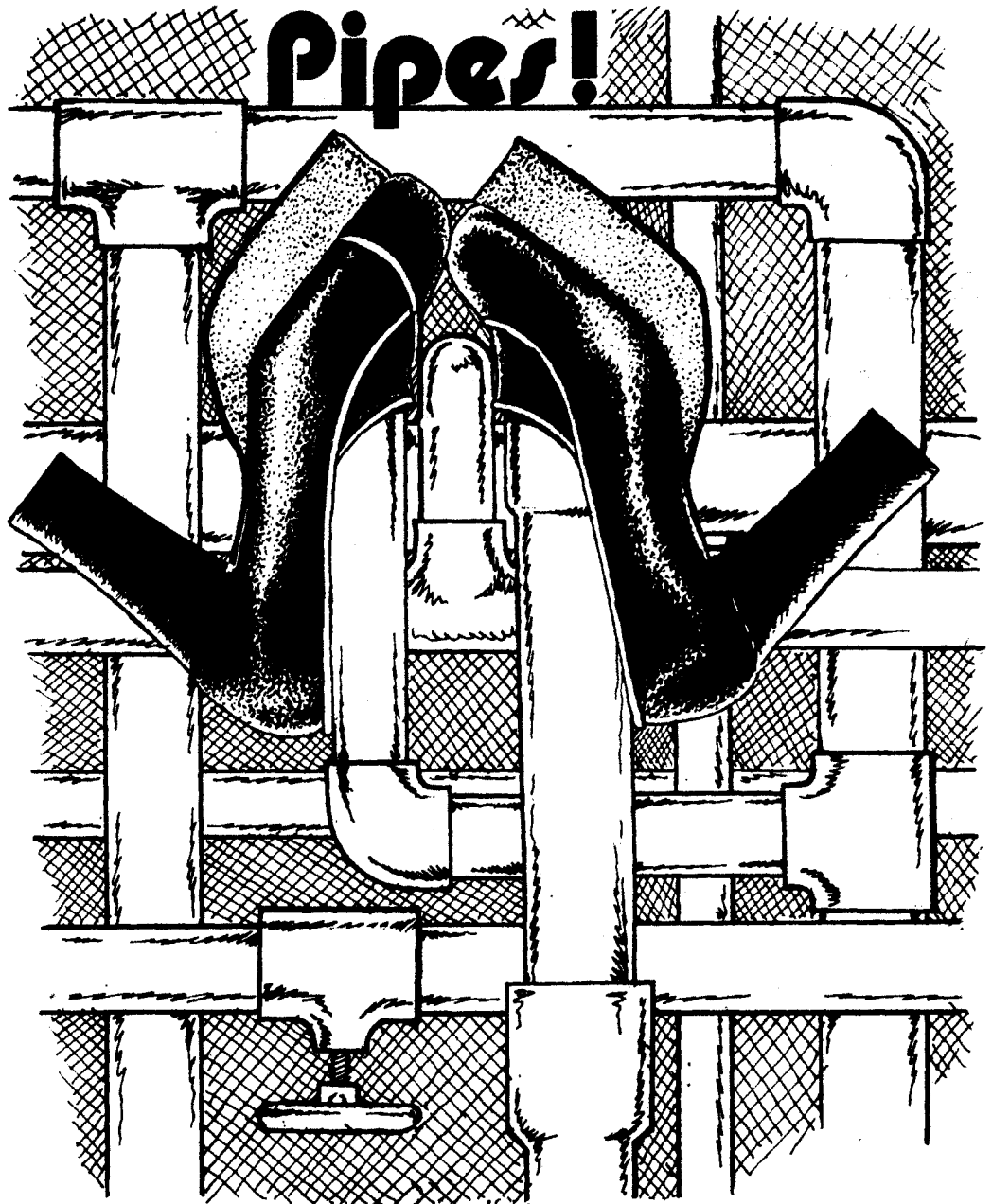
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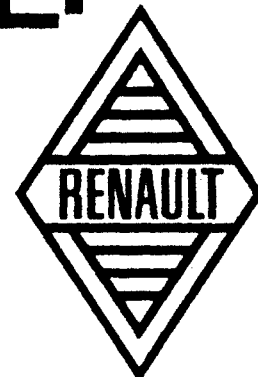


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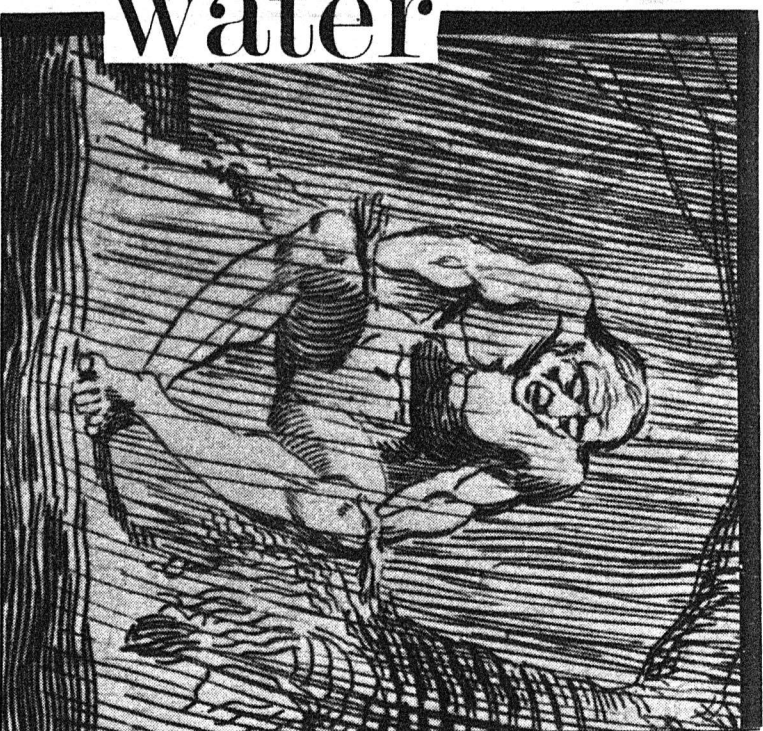
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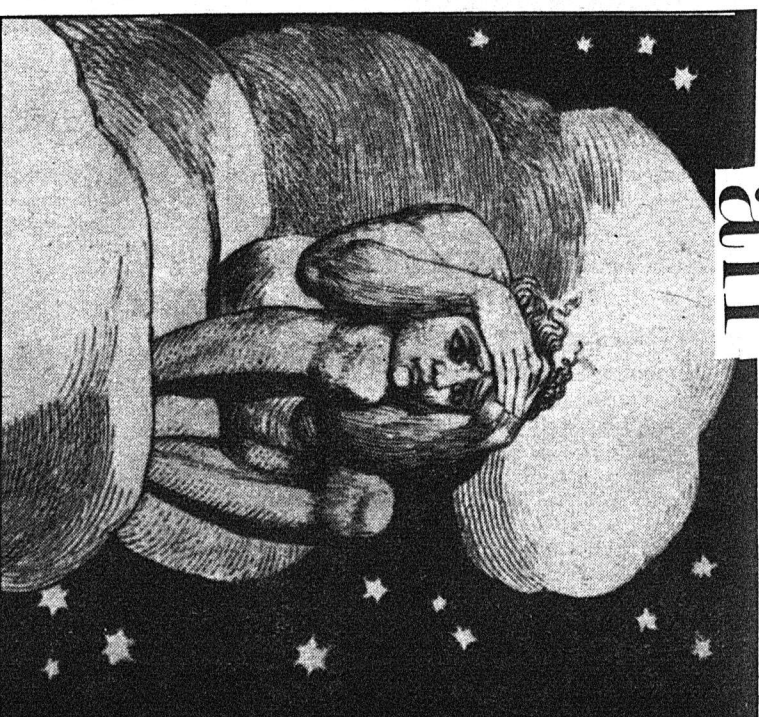
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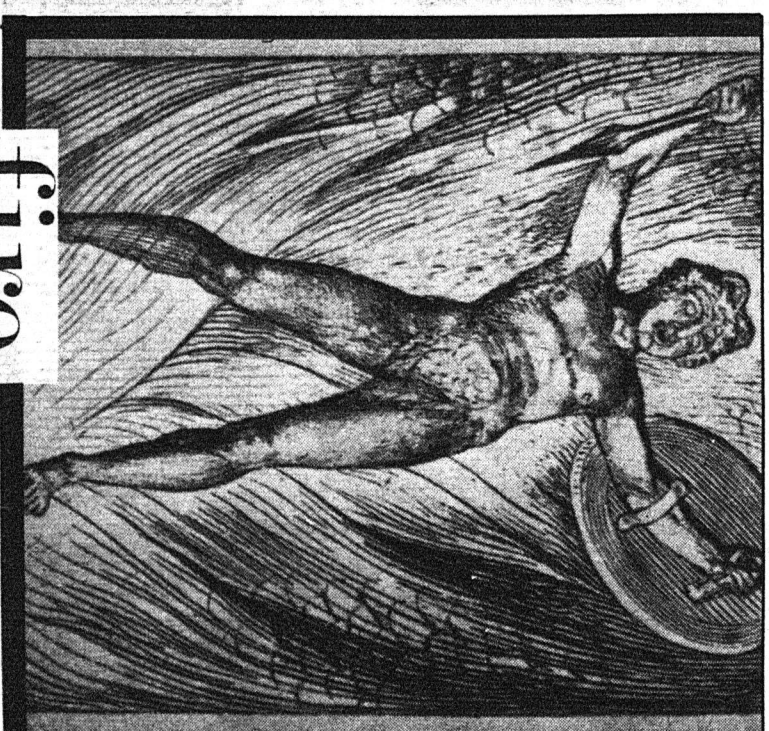


Thursday, February 22, 1973

the gateway

Edmonton, Alberta vol. 63 no. 39

fire



earth

