

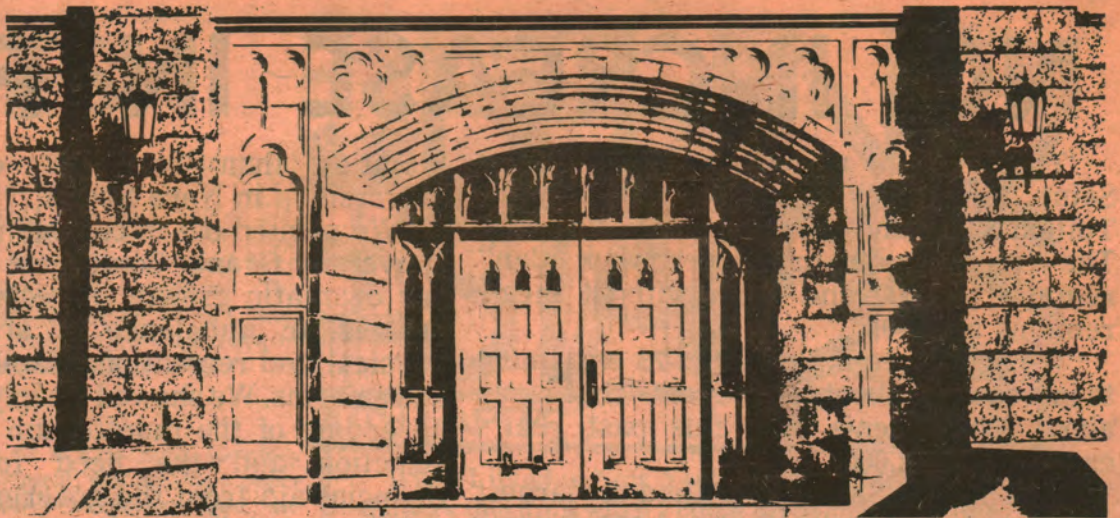
THE TIMES

SAINT MARY'S UNIVERSITY

HALIFAX, NOVA SCOTIA

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NORAD's Lieut. Gen. E.M. Reyno
Saint Mary's University '36

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POSTES **CANADA** POSTAGE
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NO INCREASE IN FEES

"There will be no change in the fees at Saint Mary's for the next school year. Tuition is \$637 and full room and board, \$955. The "room and 15-meals per week plan" remains at \$900 and room without meals remains at \$540.

"We are expecting our 1972-73 enrolment to increase by about ten percent. That is, up about 260 students over this past year's enrolment of 2,600.

"This Spring, Saint Mary's had the largest graduating class in its history — 522 degrees and diplomas.

"Over the past five years, the university's enrolment of full-time students has more than doubled, a rate of increase greater than that of any other university in the province. During this same period the part-time student body increased by 60 per cent and the course registrations in the summer sessions have increase five-fold to the point where Saint Mary's now has the largest summer school enrolment of any of Nova Scotia's other universities.

"And during all this period Saint Mary's has operated within its budget.

"But holding the line in the face of such tremendous growth comes at a great sacrifice to us. It means that we cannot hire as many new faculty members as we need. Our faculty of 140 will be increased by eleven for the 1972-73 school year but we actually need 22.

"Our faculty and administration are carrying tremendous workloads. Many of our departments are working without assistants and are understaffed.

"We have just had to forgo hiring staff at all levels.

"The provincial government's decision to continue its moratorium on new university construction is most disappointing to Saint Mary's because we are much shorter of

facilities than some of our smaller universities in Nova Scotia.

"We pointed out in our submission to the University Grants Committee last fall how our dramatic growth in recent years has created an imbalance in areas such as physical and recreational facilities, faculty and salaries. We showed clearly our need for an ending of the moratorium on new construction and the need for increased financial aid from the government.

"We especially need a new library. Our existing facility is hampered by our acute shortage of space. Staff members do not have enough room to work efficiently, students do not have the proper space or atmosphere for studying and faculty requirements for curriculum and research materials cannot be effectively serviced.

"This situation prevents the library from adequately fulfilling its role as a social and intellectual centre of the university.

"We are now below the minimum standards recommended by the Canadian Library Association and the Canadian Association of College and University Libraries. If corrective action is not taken soon the library space deficit will reach disastrous proportions.

"This is a top priority with us.

"Saint Mary's administration recognizes the need for a strong library and has allocated an unusually high proportion of the total university budget to library services — stopgap measures won't do — we need a bigger facility now.

"With our anticipated enrolment increasing, the only way we can cope in the coming year is to once again reduce our student study space which is now below the acceptable minimum.

"We are aware at Saint Mary's that enrolments seemed to have peaked in many



Dr. D. Owen Carrigan
President

institutions across Canada. As yet this levelling off has not been experienced by us.

"This is an important point to be remembered by corporations and foundations which have historically given financial support to universities because it points out that some are still in as much need from these sources for money as was the case in the past.

"Perhaps now is the time for corporations and foundations to take a more selective approach to university support." — Dr. D. Owen Carrigan.

LA DÉMOCRATISATION DE L'UNIVERSITÉ

L'UNIVERSITÉ, PARTENAIRE DE L'ÉTAT

La société moderne reconnaît à l'université un rôle important (... essentiel, nécessaire) pour l'épanouissement culturel, l'avancement social et le développement économique de la nation (... , peuple, pays). Elle assigne en conséquence à l'État des responsabilités et des devoirs déterminés à cet égard. Elle s'attend, en particulier, non seulement à ce que le gouvernement assure aux universités un financement adéquat, mais qu'il coordonne les activités et en planifie le développement. Ceci implique que le gouvernement doit exercer sur les universités la mesure de surveillance et de contrôle qui est nécessaire pour que ces dernières rencontrent les objectifs qui leur sont tracés par le gouvernement, alors que le choix des moyens à mettre en oeuvre pour rencontrer ces objectifs est largement laissé à l'initiative des universités elles-mêmes.

Plusieurs études sérieuses ont été faites récemment sur les relations qui devraient exister entre les universités et les gouvernements, notamment par la Commission Parent¹, la Commission Rowat-Hurtubise², et par le vice-président exécutif de l'OCUFA, le professeur Charles Hanly³. Toutes ces études s'accordent pour reconnaître aux gouvernements provinciaux —, le droit et le devoir d'intervenir dans les affaires universitaires, mais toutes s'accordent aussi pour reconnaître aux universités une responsabilité spéciale et la compétence voulue pour servir de partenaire à l'État. A cette fin, elles veulent assurer aux universités une certaine mesure d'autonomie en recommandant aux gouvernements, de créer des organismes tampons semi-indépendants entre le gouvernement et les universités, qui d'accorder aux universités un système de financement semi-indépendant.

RÔLE DE L'ÉTAT : OBJECTIFS ET PLANIFICATION

Le rôle de partenaire de l'État pour les universités a été décrit pour les membres de l'APUL par les deux premiers sous-ministres de l'Éducation du Québec. En octobre 1968, Arthur Tremblay disait en substance⁴ qu'en tant qu'agents de développement de la société, la fonction de gouvernement et la fonction universitaire doivent s'exercer

en partenaires ou associées. Le rôle du gouvernement est de moins en moins un rôle d'intendance et de plus en plus un rôle de prévision et d'arbitrage. Ceci implique décentralisation administrative, d'une part, et, d'autre part, participation active de la fonction universitaire à l'activité proprement politique de la fonction de gouvernement. Pour toute décision qui engage l'avenir de la société, le gouvernement ne peut déléguer ses responsabilités aux universités, mais doit les assumer lui-même entièrement. Il ne peut cependant le faire convenablement que si ses décisions sont prises à la lumière d'une définition objective et réaliste des situations et de l'identification précise et correcte de toutes les dimensions des options en présence, ce qui exige la participation active de la fonction universitaire, à la condition, bien entendu, que cette dernière soit auparavant organisée en un réseau groupant de façon rationnelle et cohérente les universités individuelles.

En novembre 1970, Yves Martin à son tour, déclarait en substance ce qui suit⁵. Le ministère de l'Éducation a, de façon très consciente, conçu le système scolaire québécois comme comportant l'enseignement supérieur, et le ministre de l'Éducation a exprimé très clairement son intention de ne pas déléguer ses pouvoirs et responsabilités à un organisme extérieur. Tout organisme créé par la loi en ce sens ne peut être que consultatif. Le rôle du ministère auprès des universités réunit deux fonctions. La première consiste à définir les objectifs de tout le réseau ; la seconde, à assigner aux institutions des rôles bien spécifiques. Au chapitre des mécanismes à mettre en place à cette fin, on doit compter des structures de consultation des universités, des règles budgétaires, des organismes d'approbation des nouveaux programmes d'études et projets de recherches des universités, l'établissement d'échelles de priorités et de politiques salariales, et l'évaluation du rendement de tout le système d'enseignement supérieur.

A moins que les universités puissent jouer pleinement leur rôle de partenaire, il est à craindre que le gouvernement, en assignant aux universités les objectifs qu'elles doivent poursuivre, en arrive, pour des motifs techniquement nationalistes, à leur imposer des ordres de priori-

tés qui risquent de ne pas respecter la fin propre ou raison d'être de l'université comme institution sociale. Une telle subversion des fonctions de l'université ne peut avoir pour effet à la longue que détruire l'utilité sociale de l'université au nom même de son rôle social. Or, l'expérience montre qu'actuellement au Québec, l'intervention du gouvernement a tendance à augmenter et la participation des universités à diminuer dans l'établissement des priorités et dans la prise des décisions en général. Le danger que les universités québécoises s'atrophient lentement n'est donc pas fictif.

LES FONCTIONS DE L'UNIVERSITÉ

La fin propre de l'université comme institution sociale est de conserver, transmettre et faire avancer le haut savoir de l'homme dans l'exacte mesure où ce savoir est nécessaire au progrès et, de plus en plus peut-être, à la survivance même de l'humanité. C'est ainsi qu'elle a pour fonctions principales l'enseignement, la recherche et la formation des cadres dont la société a besoin. Il est bien évident cependant que pour bien s'acquitter de sa troisième fonction, elle doit pouvoir s'acquitter convenablement des deux premières, ce qui n'est possible, à son tour, que si elle se conforme pleinement à sa fin propre. Deux conditions découlent de ceci. La première est que l'université soit en mesure d'exercer ces trois fonctions de façon concurrente et inséparable ; la seconde, qu'elle les exerce dans le même ordre que celui qui les unit naturellement l'une à l'autre.

L'université a aussi des fonctions secondaires qui découlent des premières, au sens que pour s'acquitter des premières, elle aura réuni des ressources, humaines et matérielles, d'une nature spéciale et de qualité et quantité données qui peuvent être employées à d'autres usages connexes à condition de ne pas les détourner de leur fin propre. Une première série de fonctions secondaires se rattache à l'aspect économique du rôle social de l'université et prend le nom de « services à la communauté », tels la recherche commanditée, l'éducation permanente, l'extension de l'enseignement, les bibliothèques, musées, théâtres, sports communautaires, etc. Une seconde série se rattache à l'aspect social ou culturel du rôle de l'uni-

"STUDENT PARTICIPATION SENSELESS"

Wayne Gillis, 20, is a member of the Class of '72. During the past two years he has been a full voting member of both the Board of Governors and the Senate of Saint Mary's University. Wayne is no smart-aleck. He is frank and articulate. He has put the student point-of-view across on many issues during lengthy board meetings. Wayne does not speak for all students at Saint Mary's, only for himself. In the following interview, he tells *The Times* of his impressions.

"Most students are content with their lot. Oh, they might get upset if suddenly they weren't allowed to play cards. But, as for the real issues, well they just aren't phased by them. They have no say or control in what is happening around them so why should anything regarding the university and its oscillation on different issues really bother them?"

"In fact, for the majority of students, the university doesn't exist for them. Neither do the subjects they take. It's just a means to an end."

"When I was a freshman on campus, there were many like myself — all riled up and militant. Now, everybody seems wishy-washy. The age of radicalism on campus is gone. I don't know why. But I do think that the vocal minority or so-called radicals have turned to drugs or into music — the counter cultures. In the old days, I guess it used to be liquor."

"I've been around here for three years and I would say that most of the students don't know what's happening outside their own little clique. They get thrown



"at 18, I was idealistic"

into courses which require them to think. But they don't know how to think. Nor are they informed.

"Out of the 2,296 eligible student voters, only about 300 of them voted in the elections that put me and other student representatives on the board of governors and senate. Since then I have never been asked to give a report or to write an article on what it's all about. Nobody really cares and nobody wants to listen."

"But, this isn't surprising. Only between 400 and 500 vote in student council elections. The majority couldn't care less. And, this it seems to me, is not unique to this campus. I am sure the same kind of apathy happens elsewhere."

"What I am saying, I suppose, is that student participation within the university, at this time, is really senseless. There is no student awareness of university politics and without an informed student body how can it make any credible contribution to decision-making."

"The university is actually a microcosm of the greater community at large and just as an informed public is necessary for intelligent decision-making so it is with the university."

VANDALISM AND HOUSING

"When it comes to deliberate destruction of university property, most students somehow remain detached. We have all been witness to acts of vandalism. I suppose it is one of the only forms of protest left to students. You can't be an individual any more in a factory which keeps cranking out degrees. Deliberate destruction of public property is one unconscious route some students take to be noticed or get attention. It's kind of sick, but there it is!"

"Besides who really identifies with all the new buildings, furniture and equipment on campus? None of these things really belong to students. I can't understand why Saint Mary's won a national award for student housing. Living in those high-rise residence towers is like living in a mad house. The sound is all wrong, there are pass keys to each apartment, no personal touches are allowed, it's as utilitarian as can be. Just visiting in on-campus housing upsets me."

"I prefer to live in an apartment with a couple of others. In an older building which has some warmth and character. Of course, this is a personal preference and others have their own likes and dislikes. But, off campus a student is responsible for his own housing, it is his. On campus, he has no control and nothing is his."

"Student apartments should have moveable walls and students should be able to paint and furnish their own rooms. Otherwise, it becomes a temporary place. It is not a home, so who cares if the place gets damaged or the dirt piles up? Even amidst all the rubbish, it's sterile."

BOARD OF GOVERNORS

"My first year on the board was an experience. I found that the business men and other outsiders on the board were much more sympathetic and responsive to student problems than the majority of the administration or faculty members."

"It seemed to me they were not out to score points."

"I found a lot of in-fighting between faculty and administration with both looking for student support — but it's always the student who gets screwed."

"In the past two years I have learned that my vote is not worth much. Board members conscientiously agree to discuss and make decisions on certain issues but their decisions nearly always favor the administration. I guess the system predetermines the outcome."

"Even when the decision goes against the administration, it's rarely in the student's favor. I don't think there is any communication or rapport between students and administrators. There are some individuals who make the effort but only a few seem to get through."

"At board level, students are rarely talked about. This is not deliberate, it's just that the opposing factions get involved in the politics of each question and the only way students enter into it is if they can be used by either side as a lever. Concrete

examples of this are hard to put your finger on — it's just a gut feeling."

"It's not an anti-student feeling, just a non-student one, if you know what I mean. A student is never really in the race. His problems never get to board level and if they do they are not discussed from a student point of view."

"It's my opinion that the majority of board members only look at students through enrolment figures which represent dollars and cents. They never think about improved student services, large classes, increased faculty work load, course patterns, and the like. Those who do are listened to politely, then ignored."

UNIVERSITY GOVERNMENT

"I don't think the two-tier government system works. There seems to be no communication between the board of governors and the senate. I think my observation is legitimate because I have sat on both bodies simultaneously and in my judgement things are getting worse — the gulf is widening."

"The board wants to run the university. The senate, which is comprised mainly of faculty, wants the same power. Faculty feels senate should have all the say in academic matters but board members don't see it this way. And there is always confrontation because of it."

"Personally, I would like to see one government run the university. It would be a board comprised of an equal number of students, faculty and members of the community in which the university is located. This latter group to be publically elected or appointed from a cross section of the community so that labor representatives and non-professionals could have a voice in university affairs."

"Right now, universities across this country have lost any rapport they ever had with the public."

"There may be reasons why Saint Mary's could not operate with a one-government system but I would have to be shown why it is not feasible so that much of this needless board-senate confrontation can be eliminated."

"I also don't feel there is any place on this board for administrators as voting members. They are paid to run the place



"at 20, I'm withdrawn"

and to advise the board."

ON FACULTY

"It seems to me that the most essential part of education is personal contact and communication between the student and the professor. This has been forgotten by most university administrators and is slowly becoming a thing of the past here at Saint Mary's."

"The idea of close-circuit television lectures is disgusting."

"Saint Mary's used to have a program called Project Parallel. It was a three-credit program at the sophomore level. About 60 students were involved with four professors. I would say that participating in this experience taught me how to think. But like everything else, there was a lot of in-fighting and politicking by those who didn't like the interdisciplinary approach and the program was dropped."

"I like the idea that Saint Mary's introduced a mature applicants program. Opening up the university to more people is the greatest thing happening around here. It's good to have older people with varying experiences in the classroom."

"However, I think the rules that restrict mature applicants to 25 years of age or older are too severe. The age should be reduced to 20 or 21 years. It's a waste of talent and brains when

young people, who might have had to drop out of school for any number of reasons, have to wait that long before becoming eligible to apply."

"Communication between people is a two-way street. Many of our faculty members try very hard to reach their students. But most of the students don't respond."

"It's difficult to say just how each student evaluates a certain

professor. For instance, the one I value the highest actually dislikes me. But I know I have learned a great deal in his classes. Someone else might react differently."

"I suppose there are those who dislike a professor because he is a hard marker. The intelligent students don't do this. They are more interested in what the professor can teach them."

"The professor-evaluation system in effect during the past two years was useless. The new system will be an improvement because it will be accepted bureaucratic procedure as laid out in the newly adopted tenure by-law."

"But it will be manipulated by one side or the other to serve certain ends. If a professor does well by students, he will use this to his advantage. If he does poorly, and the administration wants to get rid of him, then it will be used against him."

"There are many students who never see beneath the veneer and have no sense of depth so any importance attached to evaluation should recognize these factors."

"I think the ideal university would be where all classes could be limited to 20 students. It could be done here at Saint Mary's. In fact, that's why I stayed here. At least some of our classes are smaller than those at other universities."

AFTER THOUGHTS

"Most students don't think about the future. Twenty years from now the whole thing will have come apart. I know this sounds pessimistic, and perhaps the majority don't feel this way. If I really believed it myself I wouldn't be anxious to study law

(Cont. to pg. 11)



At board meetings—a lot of in-fighting

SMU professor Brian Joseph on the importance of developing Canadian perspectives

*"I can think of few more pressing tasks and of no better way
that Canadian universities might justify their existence."*

Among the most central institutions in any human community are those from which the group receives an acquaintance with its historical and cultural heritage. In times past this acquaintance was often had through the poetry, ballads, and folklore of a group and was transmitted in story and song form. In modern guise, this process occurs largely through the mass media and systems of formal education.

Educational institutions such as universities often find themselves today in hostile circumstances. Foremost among the difficulties they face are growing governmental reluctance to foot huge educational bills and a pressure on universities and academics to "earn their keep" or "justify their status". That universities and their academic staff must stand in some relation to their communities seems clear. But the kinds of services academics can, and should, provide may be more practical than it first appears.

One of the strongest impressions that a Canadian travelling abroad brings back to Canada is our lack of a sense of our own history. This, despite the fact that other nations with many fewer resources and much less material affluence have done a comparatively admirable job of presenting their nation's history and traditions to their own people.

The larger point here is the value of cultural diversity or social opinions for Mankind as a whole. We have become concerned recently about the extinction of certain animal species.

We have yet to realize the much greater value of the diversity of human cultural traditions, particularly in an age when the crucial questions have ceased to be questions of technical know-how. Our real dilemmas today arise out of the need to make decisions about the kinds of uses to which we shall put our massive and still growing technical know-how.

Canadian academics stand at the intersection of several historical experiences and cultural traditions. These include especially the English, the American, and the French. Thus a Canadian social scientist by reason of geography and historical and cultural relations is able to draw on the scholarly work of three influential national communities in a manner members of no other society can quite do. Moreover, he has a history, a land, and a community of his own on which he may draw for inspiration and insight, especially in the arts and humanities — in such areas as graphic composition, music, philosophy, history and sociology.

This is not to suggest that one nation's traditions are more valuable than another's. Rather, to stress the developing and preserving of scholarly perspectives latent in any national community such as Canada is to express a fundamental belief in the value of all traditions and the benefits for Mankind as a whole of a diversity of values, perspectives and attitudes.

In this sense the traditional Canadian emphasis on cultural diversity becomes something more than a benign neglect of various ethnic groups. It is rather the positive encouragement of diversity within herself, while at the same time Canadians as a whole seek to contribute their perspectives to the larger global fund of ideas and perceptions.

That we are indeed dealing with concrete matters of practical consequence can be empirically illustrated if we scrutinize one case where Canadians have largely accepted other accounts of an important social phenomenon.

One of the most conspicuous factors in the crisis of confidence our friends in the republic to the south have been experiencing of late, is the disastrous state of relations between Black and White Americans.

Despite an enormous industry devoted to pure and applied social science, the academic community there has experienced continuing difficulties in meeting the expectations of the successful social technology so desired by funding sponsors. Communities of academic scholars, however, no less than other men, are subject to that difficulty (endemic, it seems, to the human condition) whereby they can often see a speck in the eye of another but not the speck in their own.

Scholars, no less than other men, we tend to forget, are products of the very culture they seek to study.

Thus, Black Americans have tended to see the causes of the American racial crisis in different terms than their White compatriots. British students of the American race relations

scene likewise bring different and useful perspectives forward. Canadian observers also have been able to make available additional insights.

As always, there is a tension between the merits of a "detached" outside observer and a sympathetic student inside the situation.

At present much of the material, especially in the social sciences, with which Canadians attempt to understand their culture, history, and society is provided through the energy and abilities of others. Canadian academics, particularly those in the social sciences, however, owe the people of Canada insights, perspectives and points of view such as they are inspired by the Canadian landscape and the Canadian historical experience.

All this may seem quite ephemeral and little related to a larger question of Canadian universities serving the community. Yet few would seriously argue that the profound personal suffering of thousands of American families who have lost sons in Viet Nam stands completely detached from those perceptions of national purpose and more responsibility that have been made part of the American angle of vision.

We can again illustrate the point with reference to American accounts, historical and sociological, of the nature of current race relations problems. These accounts both in introductory texts and in more specialized monographs have tended to emphasize personal factors in an a-historical, wholly American-centered view.

This neglect of institutional and historical factors and the absence of a comparative cross-cultural point of view have tended to place much weight on the moral failings of individual citizens, both Black and White. This approach has led to the neglect of those historical factors which have made many individuals of good will, both Black and White, prisoners of history and culture.

With little appreciation for the impact of historical and institutional forces (for example, the social philosophies growing out of the formative colonial period) our neighbours to the south, including many academics, are without that historical and comparative view which could lead to a more successful social diagnosis.

For these reasons the Belgian social scientist now recognized as the leading student of this problem working in the United States is forced to write: "Especially in American sociology the race and ethnic field has been little more than a timid and rather ineffectual hand maiden to the meliorative and reformist attempts of a well intentioned liberal establishment."

No scholar can expect to fully

escape the limitations of his own biology. Nor should he desire to do so. Potentially, his are insights unavailable to others for biographical reasons.

American students of ethics, aesthetics or race relations stand to gain from those biases and perspectives Canadians could offer. This is certainly not an anti-American position. Canadians on the other hand have gained enormously from the American, British and French approaches.

But we have not yet seriously developed in the social sciences the implications of our historical and cultural traditions for the gain either of our own publics, academic and general, or for the gain of other communities of scholars, to whom we surely have something to offer.

Recently, the first large-scale study of the experience of Blacks in Canada was published. It is significant that it was the work of a White American. Though certainly a masterful volume and a definitive work for the present, this account is characterized by many of the serious shortcomings and failures of vision one finds in the larger American literature on this topic.

Canadian reviewers who are knowledgeable in the area have noticed this and commented critically on these shortcomings.

That, however, will no longer suffice. Without depreciating the cultural outlooks of any other national community, it is time Canadian academics, realizing the culturally conditioned nature of "style" and "point of view" in research and thought, assume their scholarly responsibilities.

Canadian historians have been relatively more aware of this need than most of their colleagues in the social sciences. For example, sociologists working in Canada have been slow to bring the insights of their discipline to bear on their own scholarly activities. We forget that the growth of Canadian scholarship, particularly in the humanities and the social sciences, benefits both our companions elsewhere on this small planet as well as ourselves by making available another point of view, another source of insight.

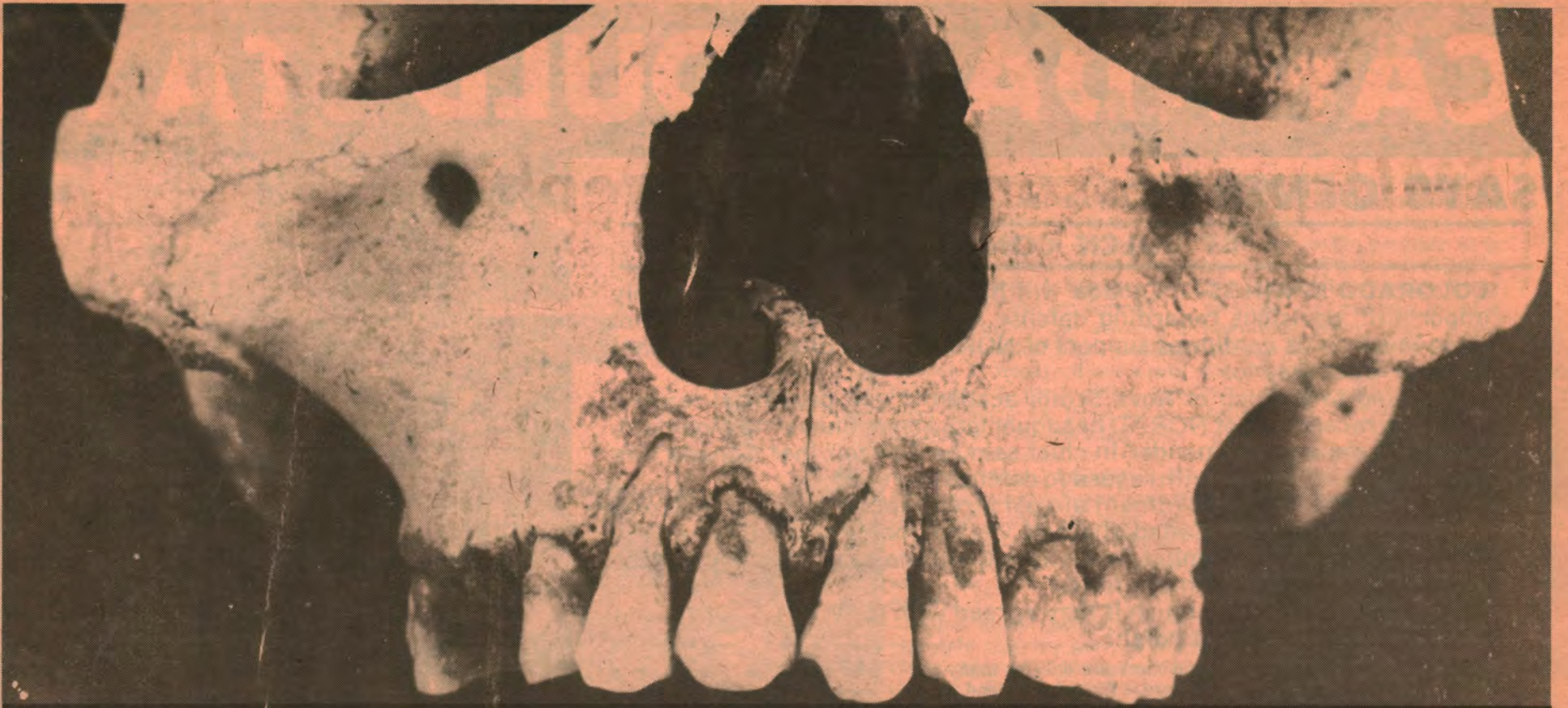
Furthermore, our own population is still grooping somewhat desperately for the meaning of the Canadian experience.

It is the particular responsibility of Canadian universities and Canadian academics to address that experience, to explore its meaning in various fields and to present the implications of the Canadian option to the Canadian public.

I can think of few more pressing tasks and of no better way that Canadian universities might "justify their existence".



Professor Joseph, 25, has been a member of Saint Mary's sociology department for the past two years. A graduate of St. Francis Xavier University and the University of Toronto, he begins work on his doctorate next fall at Harvard University under a Frank Knox Memorial Fellowship. This is the fourth in a series of distinguished fellowships received by the young scholar during his academic career.



NEW METHODS TEST OLD BONES

Professor Alejandro Estrada, 24, is just back from the University of Kansas where he presented a preliminary report to the annual meeting of the American Association of Physical Anthropologists on research on the skeletal remains found in Central Mexico dating back to 890 AD.

The young anthropologist spent last summer studying the bones which were excavated at the Tlatelolco archaeological site

structures whose development and function are intimately linked to internal (genetic) and external (physical and cultural) environments.

"The importance of a study of this nature is vital because ancient skeletal material provides our only real biological link with individuals and populations.

"Skeletal analysis is necessary not only for understanding past-present evolution but also for social reconstruction which is

concentrated only on the scapula, clavicle and sternum bones of adult skeletons rather than on whole skeletons.

PURPOSES

In closely examining and measuring these remains the research team kept the following purposes in mind:

- to find out the morphological characteristics of this particular population;

- to see if there were any morphological and metrical differences in the bones of both sexes;

- to determine a new method for sexing on the basis of the data collected;

- to find out what pathologies affected the bones; and

- to find out which functional, physical and or cultural factors were involved in the size and shape of the scapula, clavicle and sternum, individually, and of the upper girdle as a whole;

Here Professor Estrada explains that the differences encountered could be due to the genetic constitution of the population, to a high altitude environment (Tlatelolco is 7,000 ft. above sea level), or to occupation since the division of labor by sex and social status requires different degrees of muscular effort.

Other purposes of the study were:

- to see, through comparison, how these populations compare to remains found in other parts of the world; and

- to provide new standards of morphological and metrical classification and analysis for present and future Mesoamerican skeletal material found elsewhere.

TEETH TELL

The ages of the skeletons used were determined by examining the degree of ossification of the bones and from an analysis of the teeth.

The sex of the skeletons was obtained by using morphological criteria and sophisticated mathematical models.

Professor Estrada, who has been at Saint Mary's for two years, has his Masters degree in Physical Anthropology from the University of Mexico and is working on his doctorate from the University of Massachusetts.



The above are some of the skeletal remains examined by Professor Estrada and Saint Mary's anthropology graduates Raymond and Barbara Cox during research studies in Mexico. The preliminary results of that study have just been reported at the annual meeting of the American Association of Physical Anthropologists held at the University of Kansas. The final report will be published in a number of international scientific journals. It's the first time that a "functional approach to the study of bones" was taken on the skeletal remains from the Tlatelolco archaeological site in Central Mexico.



ALEJANDRO ESTRADA

near Mexico City.

He, along with Saint Mary's anthropology graduates Raymond and Barbara Cox, were supported in their work by a research grant from the university. Mexico's Museum of Anthropology provided the necessary facilities and equipment to accomplish the study.

The material used (from 200 burials) was from excavations carried out at different times by archaeologists P. Rul, V. Segovia and E. Conrstreras in the early 60's.

incomplete without an examination of the physique and health of the group," says Professor Estrada.

Since bone is sensitive to such growth regulators as mechanical stress, nutritional intake, climate and disease, its classification and analysis is of "great importance for the study of both biological and cultural evolution."

Because of the time limitation placed on the research, Professor Estrada and his assistants

**SEND A KID
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LITTLE KNOWN

According to Professor Estrada, the reason for choosing this particular collection of skeletal remains for study was because of the importance of the archaeological find and because very little was known about the biological make-up of the population involved.

Prior to Professor Estrada's work, only two studies had been carried out on the collection - one dealt with skull deformation, the other, with statures.

Professor Estrada's study was the first to take the "functional approach to the study of bones", that is, considering them as

CANADA SHOULD STAY IN

SAYS GENERAL

BY DULCIE CONRAD

COLORADO SPRINGS— Canada will have to make some "incredibly important" decisions regarding defense in the near future and one of those involves its continued support of NORAD, according to Lieutenant General E.M. Reyno.

Speaking to a group of Nova Scotia academic and provincial leaders prior to a recent tour of NORAD headquarters inside Cheyenne Mountain, NORAD's deputy commander-in-chief said he also felt that Canada was on a "collision" course with regard to defence spending.

Since his NORAD appointment almost three years ago, General Reyno said many prominent Canadians had visited the North American Air Defence Command's Combat Operations Centre to be briefed and to hear about Canada's commitment to it.

He said he didn't care much if they agreed with his views "just so long as they get their facts straight."

One of the questions most often asked, he said, was whether or not Canada was pulling its own weight in NORAD.

"Well, I think we are. We only have 21 million people in Canada

and there are only so many tax dollars. We now spend \$140 million annually on NORAD out of a total defense budget of \$1.8 billion."

Since Canada had no war for 25

years and so many pressing needs "it's unlikely that either NORAD or the national defense department will get increased budget".

He said Canada's armed forces had been reduced from 123,000 to 81,000 and that 70 per cent of the defense budget was being spent on personnel costs.

"With no increases in budget and with personnel costs on the rise, it leaves less money for the kind of sophisticated equipment needed by our armed services," he said.

Projected estimates indicate that Canada will spend \$1.8 billion on defense during the 1971-72 fiscal year and \$1.9 billion in 1972-73. However, the net capital expenditures for 1971-72 will drop to \$214.5 million—down from \$247.2 million in 1969-70. A further \$66 million slash is projected in defense capital expenditures for 1972-73.

"It doesn't take a genius to recognize that with such projections we are on a collision course in defense spending and that some incredibly important decisions will have to be made by the federal government in the near future," said General Reyno.

Another question often put to NORAD's deputy chief is whether or not Canada should remain in NORAD.

"I say yes. If we don't participate we will lose our influence and cut ourselves off from advancing technology. Apart from that, there are also many economic benefits involved in defense spending."

General Reyno said Canada had gained considerably from the construction of the Distant Early Warning Line in the north and that even today, most of Dewline's annual budget of \$29 million is spent in Canada.

He said he didn't need to remind Haligonians in the group that 25 per cent of their community's annual income was related to defense spending. Just about \$400 million of Colorado Springs' annual \$540 million budget comes from the military, he added.

He said it must also be remembered that NORAD's contribution to the deterrent posture is two-fold.

In the first place, NORAD provides warning to air defense and strategic retaliatory forces. A warning system is absolutely necessary if "we are to convince an aggressor that a surprise attack would fail."

Secondly, it is NORAD's task to provide an active defense force capable of fighting an air battle. A potential aggressor must realize that he will suffer heavy losses if he launches an air attack against this continent.

The active air defense, combined with warning to the military and civil populace, will



TO QUIT SOON



REYNO

Lieutenant General Edwin M. Reyno of the Canadian Armed Forces is the deputy commander in chief, North American Air Defence Command (NORAD), an international command of United States and Canadian air defense forces with headquarters located deep within Cheyenne Mountain, just south of Colorado Springs.

In this position, General Reyno acts as principal advisor to the commander in chief, General Seth J. McKee, and directs the actions of all NORAD forces during the latter's absence.

General Reyno was born at Herring Cove in 1917 and graduated from Saint Mary's

University in 1936. He also holds the honorary degree of doctor of civil laws from the university.

He joined the Royal Canadian Air Force in 1938 and was awarded his pilot's wings the same year. Early in 1940, General Reyno participated in the Battle of Britain as a member of 1st Fighter Squadron (later numbered 401).

He returned to Canada in 1941 to command 115 Fighter Squadron which was the first Canadian squadron to be sent to Alaska for operational service.

One year later he was appointed chief instructor at the RCAF's wartime fighter operational training unit at Bagotville, Quebec, a position he held for two years.

Following an appointment as commanding officer at RCAF Station Weyburn, during which he was awarded the Air Force Cross, he became commander of RCAF Station Greenwood, and in 1946 was appointed senior personnel staff officer at Western Air Command headquarters in Vancouver, British Columbia.

General Reyno attended the RCAF Staff College in 1947 and on completion of the course was transferred to Training Command headquarters.

In July 1949, he returned to the college as chief instructor for three years.

Following assignments as director of Strategic Air Plans at Air Force Headquarters and as deputy air officer commanding, Air Defence Command, he was selected to attend the Imperial Defence College in London.

Upon returning to Canada in 1960 he was appointed deputy vice chief of the Air Staff.

In 1963, he became chief of staff of the Fourth Allied Tactical Air Force, a NATO command in Germany. In July 1966 he was promoted to air marshal and became chief of Personnel for the Canadian Armed Forces.

Upon reorganization of the Canadian Forces Feb. 1, 1968, he assumed the Rank of lieutenant general. He was appointed vice chief of the Defence staff in January 1969.

General Reyno became deputy commander in chief of the North American Air Defence Command Sept. 15, 1969.

This summer, Canada's only remaining Battle of Britain pilot still in uniform plans to retire from the Canadian Armed Forces.

NOVA SCOTIANS

enable "our two nations to survive."

Most of the air defense forces of NORAD are provided by the U.S. Army Air Defence Command, U.S. Air Force Aerospace Defence Command and the Canadian Forces Air Defence Command.

General Reyno said the NORAD agreement renewed by Canada and the United States in 1968 will be up for negotiation again next year and that the federal government will also have to make a number of tough decisions in this regard too.

During the 40-minute briefing, General Reyno zeroed in on some of the background involved in the controversy which raged during the federal government's decision to integrate the armed services.

General Reyno said that any good that was trying to be done was "overshadowed and lost" in the battle between Rear Admiral W.A. Landymore (now retired) and Canada's former defense minister Paul Hellyer.

He said he didn't blame the news media for what happened "but there was precious little reporting done on the need for change within the armed forces." Minimal attention was given to the fact that in terms of dollars and cents "the Canadian taxpayer was losing an estimated \$300 million each year".

General Reyno said that in the mid 60's Canada was losing about 10,000 trained service men annually. "At least half of these men had between five and nine years in the service."

After five years an enlisted man represented a \$75,000 investment and after only two years a fully trained pilot cost the Canadian taxpayer \$490,000 he

said.

"It was these men who were quitting. Because they didn't like what the service was doing to them and "it was obvious that we were doing something wrong with our management if we could not make the service attractive to them. The day had long gone when an officer said jump and their men jumped," said General Reyno.

An enlisted man, he said, had to put up with a lot of inconveniences. Apart from being expected to be shot at on occasion, he was also expected to live a nomadic life, serve without question and take what was going no matter how it affected his family.

"Not being able to settle down for any length of time plays havoc with family life especially when school-age children are involved".

General Reyno said today's service men must receive equitable pay and fringe benefits comparable to what is received for the same job on the outside.

"Although many of my colleagues would think it heresy I believe fully in collective bargaining for our service men but, of course, I don't think they should have the right to strike," he said.

These were only some of the problems under consideration at the time "Paul and Bill had at each other."

"The truth about why there had to be changes in our forces was lost to the public...especially in terms of dollars invested...and I would encourage all Canadians to learn about the economic facts of the argument," said General Reyno.

NORAD

18,000-ACRE CAMPUS



AT PETERSON FIELD, COLORADO

EDUCATORS MAKE TRIP

The list of those invited by General Reyno, through Saint Mary's University, to visit NORAD read like a page in Nova Scotia's Who's Who—including an archbishop, a Cabinet Minister and three university presidents.

Visitors to NORAD were: Most Reverend James M. Hayes, Archbishop of Halifax and chancellor of Saint Mary's University; Hon. Fraser Mooney, MLA and Minister of Municipal Affairs; Dr. Catherine Wallace, of the Sisters of Charity and president of Mount Saint Vincent University; Dr. Henry Hicks, former Premier of Nova Scotia and now President of Dalhousie University.

Dean A.E. Steeves, Acting President of the Nova Scotia Technical College; Rev. Lloyd Robertson, Principal of the Atlantic School of Theology and member of the board of governors of Saint Mary's University;

Dr. J.J. MacDonald, academic vice-president of Saint Francis Xavier University; Dr. Gerald Tait, S.J., academic vice-president of Saint Mary's University;

Edmund Morris, former Member of Parliament and interim president of Saint Mary's University and now the university's finance and development vice-president;

Dr. Erik Hansen, dean of students at Acadia University; Professor Michael K. McGwire of Dalhousie University; John Dickey, QC, former Member of

Parliament and now chairman of the board of governors of Mount Saint Vincent University;

Tom Francis, assistant to the publisher of The Chronicle-Herald and The Mail-Star and member of the board of governors of King's College; Dr. Mike Kirby, principal assistant to Premier Gerald Regan of Nova Scotia; L.J. Hayes, Halifax lawyer and member of the board of governors of Saint Mary's University.

Captain Claude Darrach, RCN (Retired) and Deep Sea Master

(Retired); Morton I. Pelham, Chief of Communications, Maritime Provinces Canadian Pacific Railway (Retired).

Both Captain Darrach and Mr. Pelham are life-long friends of General Reyno and natives of Herring Cove.

Capt. Darrach presented General Reyno with a large flag of Nova Scotia on behalf of the group.

Also making the trip was Dulcie Conrad, information officer for Saint Mary's University.

"Man's flight through life is sustained by his knowledge" is what the plaque reads in the main courtyard of the impressive 18,000-acre campus of the United States Airforce Academy a few miles from Colorado Springs.

A briefing by the academy's dean of faculty Brig. General William T. Woodyard and a two-hour tour of its facilities was mind bending for those all too familiar with the spiralling costs of higher education.

With a student population of 3,700, the academy has an annual operating budget of some \$68 million. Thirty per cent of the all-military faculty hold doctorates while the rest have Masters degrees.

Of the 10,000 applicants each year only 1,500 are selected and of these nine out of 10 stood at the top of their high school graduating class. In the 13 years the school has been operating it has produced 15 Rhodes scholars.

FIVE YEARS

Besides room and board, cadets are paid \$290 a month during their entire four-year program which leads to a Bachelor of Science degree. Those who graduate must give five years to the service. The time is increased for those who go on to study medicine, law, engineering or other professions at the government's expense.

A high per centage of the academy's graduates enter into Masters programs in ten other universities.

The academy loses about 35 per cent of its cadets over the four-year program "mainly because many of them decide they don't want a career in the airforce."

"We do have others who just can't cope with the demanding work load and discipline," said General Woodyard.

In the last three years, the academy also discharged cadets for smoking pot - 25 were honorably discharged while one, a pusher, was court martialed.

HONOR CODE

"We have a simple honor code here at the academy: I will not lie, cheat or steal nor will I tolerate anyone who does."

This code cost the academy 39 cadets only recently. Two cadets were found to have cheated but the rest knew about it and didn't report them contrary to the code. They put their friends before their honor. "It was tough but the other cadets were relentless and all 39 involved submitted their resignations," said General Woodyard.

Of the 3,700 cadets enrolled, 75 of them are Black. Pressure is on the academy to increase this enrolment and to graduate 68 in the Class of 1978. In order to meet this demand, facilities are being provided on campus to give promising Black high school students an opportunity to meet the high academic standards required for entrance to the academy.

MUST SAVE

Apart from everything else, cadets are required to bank a portion of their pay each month so at the end of four years they have accumulated between \$1,000 to \$1,500 in savings.

During their final year, cadets are permitted to own cars so they buy them in block-between 600 to 800 at a time. Because their credit is so good they don't have to raise a down payment or pay anything until a year after graduation and then only at two per cent interest. As a result, the academy's parking lots boast the most expensive collection of sports cars of any university campus in the United States. The Colorado Springs dealer is also a wealthy man.

Graduation is an extremely busy time at the academy. In it's magnificent multi-religion chapel, focal point for 2,000,000 tourists each year, a cadet is married every 20 minutes (between 10 a.m. and 3 p.m.) for five days.

IMPRESSIVE

Of great interest to Nova Scotia educators, during this brief tour, was the academy's impressive language laboratory, 380,000-volume library (with room for 500,000) including the world-famous Col. Richard Gimbel Aeronautical Collection, and magnificent athletic facilities.

Included in the latter: a stadium, a golf course, an Olympic size swimming pool, 37 tennis courts and a multi-purpose gymnasium.

Added to this is the famous \$5.4 million Field House which has a football field, a hockey rink and a basketball court all under one roof.

The indoor football field is also used for baseball and golf.

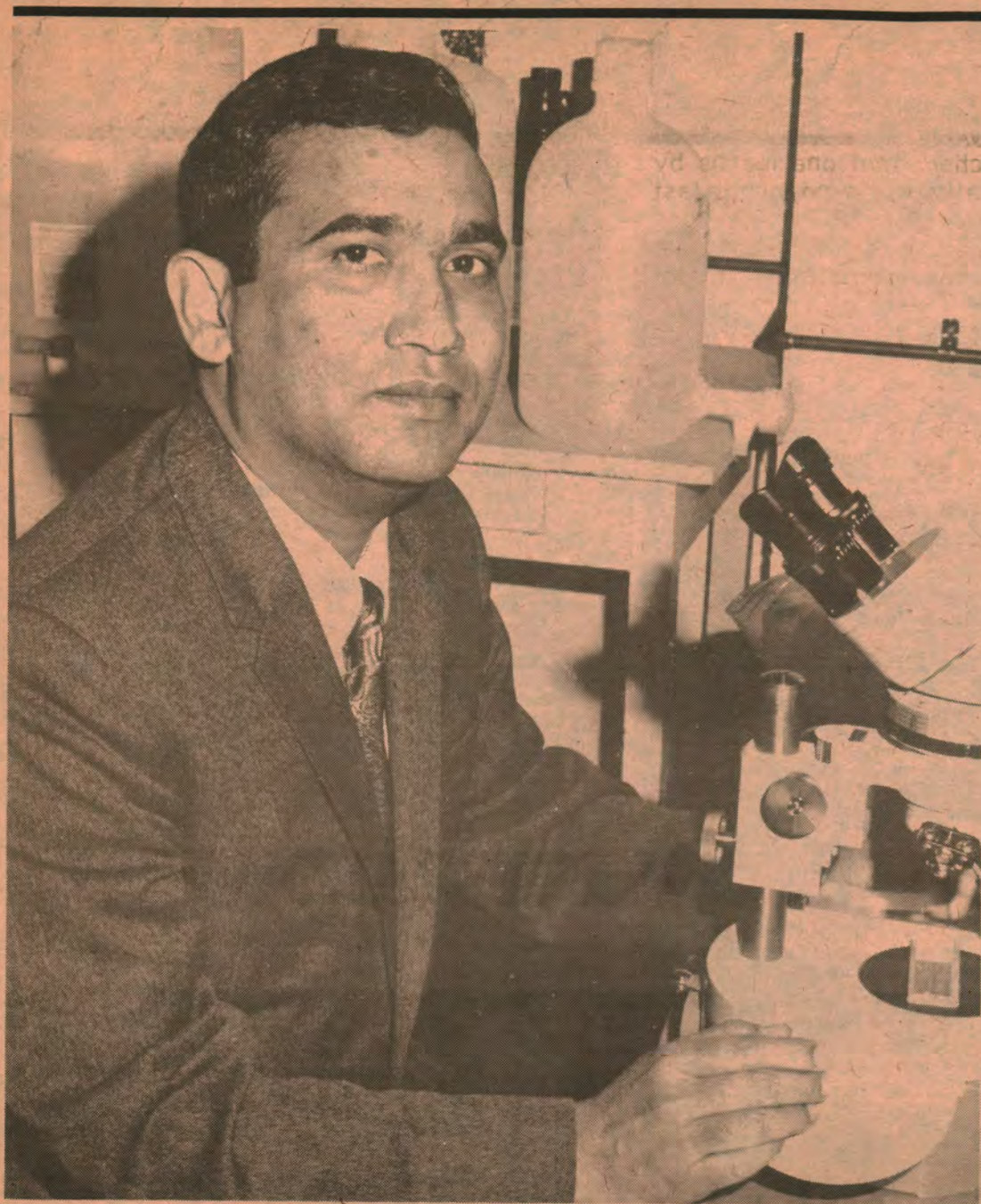
The academy has given over 100 acres alone to its athletic facilities.

General Woodyard said the Field House was the only "bargain" on the entire campus and that other universities now dickering for a similar facility couldn't get it for less than \$15 million.



AIR DEFENCE COMMAND POST—Deep within Cheyenne Mountain near Colorado Springs is the Command Post from which the NORAD commander in chief and his staff would direct the air battle for the continent. He, along with his deputy and other principal advisors, would sit just about where Halifax's Archbishop

James L. Hayes and John Dickey, QC, are seated in the picture. Facing these men on a wall-high screen is a mass of electronic information which enables them at a glance to note every moving object in the sky above the North American continent and every ship and submarine along the coasts.



Dr. Q. A. SIDDIQUI

WORLD-WIDE ACCLAIM

NEW WAYS TO FIND OIL

Major research carried out in the oil rich regions of West Pakistan has earned international recognition for Dr. Q.A. Siddiqui of Saint Mary's geology department. Fellow scientists and oil producers have assessed his work as highly important to future oil and gas exploration in regions with similar characteristics as the study area.

In fact, so "definitive" is Dr. Siddiqui's work, the British Museum (Natural History) has seen fit to publish his entire thesis in a recent special Geology edition of its prestigious bulletin. It's only the ninth such paper published in six years.

Dr. Siddiqui, who lectures in Invertebrate Paleontology and Micropaleontology at Saint Mary's, worked for four years on the project which also earned him his doctorate from Leicester University, England, in 1967. Eighteen months of this time was spent on analyzing, photographing and identifying rock samples sent to him by oil companies interested in the research.

His monograph, with 42 pages of photographs, proposes four new classes of Ostracoda from rocks deposited approximately 60 million years ago and includes the first published use of a new graphic correlation method developed by Dr. Alan B. Shaw, chief paleontologist of the American Oil Company.

The method is used to compare and determine the ages of rock strata in two areas 150 miles apart. Rock samples were collected at 10 ft. intervals down

7,000 feet of cliff exposed in river gorges in the Sulaiman Range in West Pakistan.

"Any one point in one section can easily be correlated with the corresponding point in the other section or vice versa. In other words, we can surmise the oil-bearing qualities of one region by comparing it to a region much better known. There is no need to sink two test wells hundreds of feet down in two separated, but similar, regions.

"This is the kind of research that will serve students in the years to come," says Dr. Siddiqui.

Following publication of his work, Dr. Siddiqui heard from the eminent Dr. Shaw who said as far as he knew it was the "first published account of the use of graphic correlation" and that he was pleased the technique had worked out well.

Other world renowned scientists were also quick to respond including Dr. Vladimir Porkorny of Charles University, Prague, Czechoslovakia; D.H.J. Oertli, Pau, France; and Dr. Anders Martinsson, editor of *Lethaia*, the international journal of paleontology and stratigraphy.

Dr. Siddiqui's research is entitled "Early Tertiary Ostracoda of the Family Trachyleberididae from West Pakistan" and a written synopsis indicates that ostracoda from the Paleocene of the Sor Range and Paleocene and Eocene of the Rakhi Nala, Zao River and Shalpai Khwara sections, Sulaiman Range in West Pakistan, were examined.

Dr. Siddiqui carried out his

work during the tenure of a Leicester University research scholarship. His study tours, which took him to many parts of Europe, were also made possible by travelling grants from the same university.

He taught at Karachi University for two years after graduating from Lucknow University. He later completed his education in England at both Birmingham and Leicester universities. He also worked briefly at the British Museum and British Petroleum Research Centre in England; Senckenburg Museum, Frankfurt, Germany; and the universities of Stockholm (Sweden) and Utrecht (in the Netherlands).

Dr. Siddiqui came to Canada in 1967 to work for an oil company in Calgary and the following year joined the geology department of Saint Mary's University.

While in western Canada, he spent six months studying Devonian Carbonate Petrology with the sole aim of locating optimum conditions for oil and gas accumulations.

Since living in Halifax, Dr. Siddiqui says there is "enough here to keep any geologist interested for generations." And with assistance from the National Research Council, research grants from Saint Mary's and close cooperation of the Bedford Institute, Dr. Siddiqui and several of his students have been carrying out geological research in the Halifax Inlet.

He hopes to publish their findings next summer.



BRIEF CHRONICLES

DAVID PARKIN

In the last issue of *The Times* I commented on the possibility of a renaissance of local theatre. If there were signs of renaissance last year, the signs this year already point towards a population problem. At least sixteen temporary theatre companies are planning to invade Cape Breton alone, to say nothing of the many other groups whose missionary zeal will carry them from Kejimikujik to Necum Teuch. Whether or not they will all get into action, even worthwhile action, remains to be seen. But summer theatre is clearly a serious business. This morning I heard of a Montreal company—professional, bilingual, slickly organized—which, in the words of its brochure, "is planning a summer tour of areas in the Maritimes which would otherwise not be exposed to theatre." Should one write and tell them? I wonder. Or perhaps they really do plan to stay out of everybody else's way and offer up Moliere and Doctor Faustus to the sheep and loose shingles of Wine Harbour.

Behind the facetiousness however, the very place names ring more seriously. Wine Harbour — there is a past here somewhere. Whose wine? And going where? And what was that harbour like before it lost even its broken wharves? There is a past, but it is almost gone. There is a present too, flourishing or dying in various communities, but it seems remote even from Halifax, and quite possibly it will be remote from the theatre companies which will play around the province this summer.

Yet one hopes that in their search for material, these companies will find something in the disappearing past and the unexplored present of the Maritimes. The budget, talents and mobility of many of the companies lead them naturally to a type of patchwork repertoire, containing perhaps John Lennon's Working Class Hero song side by side with scenes from Shakespeare. Constitutionally the groups are well adapted to presenting the forms in which local material may well find easy expression — song, dance, sketches, playlets, monologues and dramatised documentary — perhaps the more fragmentary and ephemeral elements of theatre rather than fully-developed "straight" plays.

The latter may appear in due course, but a forced search for them will lead only to a self-conscious parochialism, with characters such as never were. Taking a wider view for a moment, a truly national theatre, a national culture even, will not appear in full strength until we are rid of the expectation that it must emulate the forms sanctioned by the States or Europe, or that it must present unlikely amalgams of "Canadian types." Even Shakespeare at his most clearly national turns delightedly to idiosyncracies of locale. Even Ophelia drowns in a river remarkably like the Avon.

Of course, we could finish up with the theatrical equivalent of souvenirs and "lobster pot" painting, especially as many of the groups expect to draw their audiences largely from the summer influx of tourists. But looking at one's own region does not necessarily inflict a kind of cosy myopia.

The paintings of Siegfried Haase, recently on display in the St. Mary's gallery, are obviously rooted in a region; there are plenty of boats, lobster pots and fir trees; but what a way of looking at them! From the dreariness of the postcard view, there is a fine salvation in the sympathetic view of a man whose technique knows both a wider tradition of painting and the craftsmanship that made the boats. The tradition does not kill what is observed locally.

Yet in the theatre, the outside tradition (or part of the tradition cross-bred with the box office) does kill much that may be of local value. For instance, despite, or because of the "success" of the Manitoba Theatre Centre, there is practically no amateur theatre in its community, and no direct access to the centre for local actors and dramatists. And in what sense do we have a National Arts Centre when it can mount a whole season of drama with no Canadian content? Very well, it's a bad year for plays. But surely there are some good years lost in Wine Harbour, and some equally good ones about to be lost elsewhere for want of the dramatic awareness which will bring them to light, even for a short summer. During that time, 2.3 million tourists will travel round Cape Breton looking for something. Or was it 2.3 million theatre companies...?

IT HELPS TO PLAY GAMES

Some say that experience is the best teacher; that one learns by doing. Simply put, this is what SIMULATION is all about. And for the last couple of years history and political science professors at Saint Mary's University have been interested in extending the use of simulation as a teaching tool. Simulations or Games, as they are sometimes called, impart greater insight into whatever event is under study.

"It not only generates enthusiasm but leads our students to more sophisticated relevant enquiry and allows them to gain empathy for real-life decision makers," says political science professor Tom Tynan.

To date, most of the games played by Saint Mary's students have involved recreating the events leading up to World War II with students representing the various points of view of the countries involved.

In one instance, 28 political science students simulated a Cabinet crisis in an imaginary country. The question they faced was whether or not to intervene in the affairs of a former colony on the brink of revolution. After lengthy and heated debate — some of it quite emotional — it was decided to send the issue to the United Nations for settlement.

According to Professor Tynan the use of simulation as a teaching aid and research technique in the social sciences has been increasing at a rapid rate within the past 10 years. Although Saint Mary's seems to be pioneering in the field in Canada, simulation programs are in use in most major U.S. universities and "games" have been designed for students of all ages.

It's not unique to find pupils playing "games" involving poverty, pollution and economic problems in some of the more advanced California elementary schools.

"Simulation itself has vast potential as a tool in theory development and analysis," says Professor Tynan.

Simulation is fundamentally an operating model which displays processes as they develop dynamically and it expresses a specific theory. Simulations are really dynamic, "mobile" functional relations among the structural elements of the system being modeled.

Some of the methods used by simulation to incorporate system processes are those of abstraction, simplification, and substitution.

A simulation often enables a researcher to gain a clearer insight into the inter-relationships of the component parts of the system which he is studying.

"These inter-relationships may be easily reproduced (like instant

replay) and reanalyzed. In attempting to reproduce a selected reference system by simulation one must carefully choose certain features of a system to be represented, while others are built in to the simulation in an indirect manner."

One of the goals or purposes for which operating models (games or simulations) may be used is that of ascertaining alternatives and their various consequences, says Professor Tynan.

"Some of them are designed with the purpose of predicting specific outcomes of events."

Another function of simulations is that of instruction or training. Games and simulations can provide students with a great degree of empathy for those persons involved in the event being re-enacted.

More important, however, simulations also have the capability of increasing the motivation of students in the subject. Simulations for courses dealing with political theory and national political systems can be used to give students more insight and empathy for their subject matter.

"In the field of international relations, simulation provides us with a very useful tool with which to test hypotheses and build theories. An accurate operating model of the international system allows us to investigate various issues, and concepts such as disarmament, bi-polarity, multipolarity, collective security, power block, regionalism, and the like."

As a teaching aid, relatively mixed (man-environment, military-political) games have considerable potential. They have the capability to confront students with many of the problems, conflicts and decisions facing real-life national leaders.

This method usually generates more interest and enthusiasm among students than traditional ways of teaching.

Professor Tynan says it should not be overlooked that students gain tremendous knowledge from actually designing their own games. The student is forced to absorb a considerable amount of

traditional knowledge in order to build a sufficient data base to participate in the game. He is also forced to make explicit assumptions about the subject at hand.

"This entails sorting out the essentials and weighing the pros and cons pretty carefully — a real learning experience."

At present most of the games played are put together in the United States and are therefore more related to problems confronting that country. Local professors and students want to see games designed with Canadian problems and historic events in mind.

It's been suggested that much could be learned from the recreation of such happenings as the various federal-provincial constitutional conferences, Commonwealth problems, and even French-English issues.

It takes time, plenty of research, and skill to design such simulations but Saint Mary's history major Mark Teehan (Class of '72) wants to take a crack at it this coming summer. If a request to administrators to expand the university's simulation program gets approval, a number of Canadian-oriented games could be ready by next fall.

Mark got a taste of what simulation was all about prior to coming to SMU. He spent a couple of years at Westpoint, the U.S.'s military academy, where "War Games" have been part of the curriculum for many years.

Mark is founder of SMU's 48th German Panzer Corps which hosted a war games tournament last year which attracted many participants from local universities and high schools.

He, like many of the professors involved, would like to see an expanded simulation program at Saint Mary's and university credits offered in it.

Most students and professors give up their Saturdays to participate and although the response has been excellent (even local high school students get in on the act) it could be greater if credits were offered, says Professor Tynan.



PROFESSOR TYNAN



MARK TEEHAN



DR. MARY SUN WITH STUDENTS DURING RECENT SIMULATION RECREATING EVENTS LEADING UP TO WORLD WAR II.





Shown above is Mare Nectaris in southwest region of the moon, 175 miles west of recent Apollo 16 landing site. The Mare is ringed by the old broken walled crater, Fracastorius, and the terraced walls of Theophilus, a young crater. The photo was taken through the 16" telescope at the Rev. Michael W. Burke-Gaffney Observatory April 19 by J.R. MacNiel and R.C. Brooks.

The first white dwarf

By M.W. Burke-Gaffney

Once upon a time (like 3,000 years ago), stargazers in the Euphrates Valley saw animals in the sky, and also men and even women: The Ram, The Lion, The Herdsman, The Virgin, and so on. Centuries later, astronomers were crediting the Iraqi (of old) with vivid imaginations. The names of the constellation did not bear a very close resemblance to the animals or people they were supposed to represent. At last, in 1718, Halley (of comet fame) pointed out that stars in a constellation were moving with respect to one another, and distorting the figures in the sky. He compared the position of some stars, as seen in his day, with their positions as listed in a catalogue compiled in Alexandria about 150 A.D. Stars were not fixed. Each had its own proper motion. Two stars in the same constellation could be moving in different directions and at different rates. The rates were slow. The greatest change that he detected was equal to about the diameter of the moon, in the course of nearly 1600 years.

To measure the proper motion of a star called for long, continuous, tedious and accurate observations, - something right up the alley of 19th century German astronomers. One of these, F.W. Bessel inherited observations made on Sirius, the brightest star in our sky.

To these he added his own. The motion of Sirius had baffled astronomers. It seemed to be changing its direction of displacement. Bessel, with 88 years of records at his disposal, pointed

out that Sirius was not following a straight and narrow path. It seemed to be staggering from side to side. He suggested that it had an unseen companion, and that they were revolving one about the other. Seven years later, in 1851, C.A.F. Peters, another German, showed that the sinuous path of Sirius could be accounted for if there were two stars, Sirius A and Sirius B, revolving about their center of mass and if (again) Sirius B was 250,000 times the mass of our Earth, and distant from Sirius A 20 times the distance from our Earth to the Sun.

Sirius B was never seen until 1862. In that year, Alvan Clark, one of an American firm of telescope makers, was testing an 18-inch refractor built for a client. He turned the telescope towards Sirius. There was Sirius A and Sirius B.

In the second decade of this century, stars were classified according to their luminosity, mass and spectra. Sirius B became the typical White Dwarf, - old, weak in hydrogen, strong in metals, less luminous than stars of equal mass. An old star has used up most of its nuclear energy.

Its outward pressure is less than its inward pull of gravity. It contracts and becomes very dense. A cubic inch of Sirius B would weigh about a ton on Earth. White Dwarfs are the most solid substances we have laid eyes upon. If there be heavier stars, like neutron stars, we cannot see them, and can judge of their existence only from their effects.

Professionalization in nursing

By

Dr. Walter Friedman
(SMU Sociology department)

Many social patterns which develop in the United States are often followed by similar developments in Canada. Therefore, it should be of interest for nurses to examine some of the developments relating to professionalization in nursing, particularly the fate of the three-year hospital-affiliated diploma school of nursing, in the United States.

National leadership in the American Nursing Association is apparently committed to the idea that all nurses should eventually enrol in colleges and universities. The corollary of this arrangement is that diploma schools will be phased out (3).

For those interested in the effective delivery of health services, certain questions can be raised about this policy. Of particular importance is the assumption that a college education is necessary for the professional nurse, who is defined by the A.N.A. as someone who can use "knowledge as well as other research findings to improve services to patients and service programs to people." (2)

There is evidence to indicate that nurses who graduate from baccalaureate programs don't go into bedside nursing (5). On the other hand, there are data to support the contention that diploma schools do not lead to the increased development of professional attitudes among their graduates (6).

It is quite proper for nursing leaders to re-evaluate the position of nursing relative to medicine and to the public in general. However, the issues in this matter are quite complex. The further professionalization of

nursing may not require the abolition of the diploma school. One nurse raised some fundamental issues when she asked some questions about the aims of nursing:

What are we seeking—prestige or sound products: status in educational circles, or respect for a job well done; change for change's sake, or change in our own programs which will provide graduate nurses who are better able to fill the health needs today, in 1960, or in 1980? (8)

There are other possible alternatives to facilitate the continuing professionalization of nursing which do not require the abolition of the diploma school. However, any recommendations about nursing must be made within the context of North American culture, particularly within the traditions governing adult sex roles. For example, nursing is a feminine occupation: it is not just a feminine occupation, but the most feminine occupation. Hence, it is an occupation particularly subject to the career ambivalences of women in our society. (1)

In view of the above discussion, I suggest nursing educators could examine the following ideas:

1. **Recruiting the Career-Oriented:** In view of the irregular career patterns followed by many women in the labor force, it is doubtful whether stressing career development plans would alter the plans of the young women entering diploma programs.

Diploma programs may simply have to recruit more men. To facilitate this aim a change in occupational title may be necessary to offset the traditional image of nursing as a feminine occupation.

Furthermore, it may be necessary for diploma schools to develop some institutions for men only, although this development would be in the opposite direction from the one occurring in most schools which were formerly limited to one sex: i.e., most schools are becoming coeducational.

Nevertheless, the all-male institution may be a temporary necessity.

2. **Retaining Recruits:** Many structural changes have already been made in diploma schools which help retain recruits, e.g., allowing students to marry while in school to remain in school (7).

However, it appears that one important curriculum change has yet to be made on a wide scale, one which would allow students to proceed through training as individuals rather than in class groups.

In other words, if diploma schools were to pattern themselves after colleges, an individual could fail a course and still proceed with training. Courses could be given twice in one year to accomplish this end.

3. **Greater Role Differentiation:** Greater role differentiation involves several aspects, such as role expansion, i.e., "Role expansion involves a broadening or enlarging of nursing functions." (4)

Furthermore, role differentiation could involve the restructuring of occupational roles and titles in nursing into a system similar to that existing in government service, where many grades could come under the same occupational title but would be rewarded differentially. This plan would allow for a career progression currently nonexistent in nursing, thereby encouraging further education, training and professionalization.

In addition, nursing education

could also be altered so that those students who showed strong interest in professional development could be located and assisted in furthering their education by means of grants for service such as are offered in the field of social work, e.g., a year's free education for a year's service.

In addition to stimulating professional development, this plan could keep a greater supply of practising nurses available for various health services.

This writer rejects the notion that a college degree necessarily leads to professionalization. Therefore, it is proposed that in order to enhance role expansion, nursing schools develop in-service programs, similar in principle to those in teaching, whereby the practitioner would be rewarded for taking courses (usually at a college) not necessarily leading to a degree, but rather to professional development and role expansion.

Salary increments and promotions could thus result from taking these courses.

Finally, this writer recognizes the "fact" that the majority of diploma students will probably not continue their education in any form. Therefore, in order to facilitate role expansion and role differentiation, it may be necessary to make certain additions to the basic nursing school program.

Courses in techniques of supervision and group dynamics are accordingly recommended for all nursing students, not just for those who are interested in supervisory positions.

In addition to courses related to supervision, courses in hospital organization and administration would acquaint nurses with the nurse's role in the total organizational framework of the hospital.

The above analysis and suggestions about nursing education are made in the spirit of scientific inquiry, i.e., in order to expand the available knowledge about professionalization and role expansion in nursing, and to promote further research into these complex questions.

It is the hope of this writer that this paper might help to promote greater understanding of professionalization and role expansion among nurses and ultimately help nurses to continue to provide the best possible in health services.

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FACULTY NOTES :

In a recent issue of Condor, a German newspaper published in Santiago De Chile, reference was made regarding the research carried out by History professor George F. Young on Bernardo Philippi, Initiator of German Colonization in Chile. The following is an excerpt from the article, translated from the German:

"As offprint from the Hispanic American Historical Review (Vol. L1, No. 3) there has recently appeared a detailed presentation of the character and colonization of Bernardo Philippi in the English-speaking world. "The author of this richly documented article is a history professor at Saint Mary's University, Halifax, Canada — Dr George F.W. Young who, in 1964, stayed among us in Chile to research his doctoral dissertation.

"Here he decided to do a scholarly study on the German colonization of the southern provinces of our country, a doctor-thesis whose publication is still in the offing (German Immigration and Colonization in Chile, 1849-1914).

"George F.W. Young, in this work on Bernardo Philippi, has brought together a great deal of historical material, beginning with Philippi's specimen-gathering trips for the Berlin Natural History Museum, his exploration of, at that time, our unknown southern provinces, on up to his indefatigable efforts to settle this region.

"The results of these efforts are very fully described, both Philippi's work in Chile and his recruitment of colonists in the Germanies of that day, his map-making and his publications.

"It is astonishing how abundant the historical documentation, which the author was able to bring together during his limited stay in Chile, turns out to

be. "We know well how scattered such documentation is with us here and how difficult at times it is to get at the historical sources. The 20 pages of this publication produce a genuine picture of the historical context in which Bernardo Philippi with his idee fixe both contributed his amazing part of the German colonization and actually participated in it."

Dr. Gerry Gordon, chairman of the psychology department, attended a recent meeting of the Association of Psychologists of Nova Scotia which discussed the future of psychology in the province.

The association's aims include advancing the training of psychologists, furthering psychological research and its legitimate applications, and establishing standards by which the public may judge the competence and integrity of persons practising as psychologists and rendering services to the community.

Dr. Gordon serves on the executive as a member-at-large.

Dr. Ervin John Doak, economics department, will give a paper at the annual meeting of the Canadian Economics Association in Montreal June 3-5.

The paper, based on Dr. Doak's doctoral work at the University of Toronto and part of his on-going research in this field, is entitled: "Theoretical Criteria for the Assessment of Government Financial Intermediaries in Canada Since 1867."

Institutions thoroughly analyzed in the work include the Industrial Development Bank, Farm Credit Corporation, Central Mortgage and Housing

Corporation and Industrial Estates Limited.

During this past winter Dr. Doak has served on the Nova Scotia Health Council's task force on dental care services. The group's interim report was presented at a recent session of the provincial legislature.

Dr. W.J. Friedman, sociology department, will present a paper on the "Sociology and Interdisciplinary Approaches to Social Investigation" at the annual meeting of Cheiron — The International Society for the History of the Behavioral and Social Sciences to be held at the University of Calgary June 28.

This will be the four-year-old society's first meeting outside the United States. With a steady growth in membership, the society has been able to attract scholars from virtually all the behavioral and social sciences, as well as from related disciplines such as philosophy and archival studies.

"SENSELESS"

(contd. from pg. 3)

or anything else for that matter. But it's how I feel sometimes.

"When I was 17 and 18 years old I was idealistic. Now, I guess most would call me a cynic. I used to talk to everyone, now I'm more withdrawn. I find it's the old nostalgic things which interest me and I like old movies.

"One thing I have learned over the past two years, however, is never to take myself too seriously or to lose my sense of humor because when a person does this, he's really no good to anyone. And I guess that's worthwhile knowing."

BEHIND THE STACKS

RUTH HAFTER

When I lived in New York, I looked forward to Sunday morning when I could luxuriously recline in bed, munch on a bagel stuffed with lox and work away at the New York Times crossword puzzle and double crostic. By the end of the day I was in a state of total euphoria having pieced out that "IO" was the half brother of some obscure Bessarabian merchant, or that a three-toed sloth was an "ai".

Since the Sunday Times never arrives in Halifax before Tuesday, I've had to resort to other sources for my Sunday morning entertainment. One expedient has been to attack problems in famous puzzle books and to see how far I can get. To me these books offer prime examples of what should be done with information — that is, they require the reader to go two steps beyond reading by forcing him to evaluate and arrive at conclusions about the material within the volume.

The following problems come from Henry Dudeney's *The Canterbury Puzzles* (New York, Dover Publications, 1958) and are imaginative recreations of puzzles that have or might have been posed by famous historical characters:

THE SPHINX'S RIDDLE

What animal walks on four legs in the morning, two at noon, and three in the evening?

PLATO'S PUZZLE

There once was a worthy man at Athens who was a mathematician and a mystic. He was deeply convinced of the magic properties of the number nine and was perpetually bothering poor Plato with his ideas about this lucky number. Plato devised a method of getting rid of him. He set him a puzzle. He arranged three nines in the following way so that they would equal 11: 99/9. The puzzle he then propounded was to arrange the three nines so that they would represent the number 20.

It is recorded of the old man that, after working hard at the problem for nine years, he one day, at nine o'clock in the morning of the ninth day of the ninth month, fell down nine steps, knocked out nine teeth, and expired in nine minutes. Can you finish his work and solve this problem?

BYRON'S PUZZLE

One day Byron saw a man staring at a portrait. The man was mumbling, "Brothers and sisters have I none, but that man's father is my father's son." Byron walked away extremely puzzled but he never could figure out the relationship of the man in the picture to the man who was speaking. Can you?

I'm not going to give the answers to these puzzles. If you're curious ask at the Reference Desk of the Library. Meanwhile, I'll end my praise of puzzles by quoting a famous letter of Fitzosborne: "The ingenious study of making and solving puzzles is a science undoubtedly of most necessary acquirement, and deserves to make a part in the meditation of both sexes. It is an art, indeed, that I would recommend to the encouragement of both Universities, as it affords the easiest and shortest method of conveying some of the most useful principles of logic. It was the maxim of a very wise prince that 'he who knows not how to dissemble knows not how to reign', and I desire you to receive it as mine that 'he who knows not how to riddle knows not how to live.'"

E par André Côté, professeur, Université Laval

dans la société et fait que l'université devient centre d'études « nationales » (américaines, canadiennes, canadiennes-françaises...) et, en même temps, agent de la société ambiante, c'est-à-dire en même temps un agent de conservation et un agent de chan-

POUVOIR DU PROPRIÉTAIRE

de cette diversité de fonctions, l'université se voit assigner de multiples objectifs; à cause des fonctions multiples possibles que l'on peut faire de ces fonctions, elle se voit accorder des rôles différents. Dans une étude préparée pour la Commission Rowat-Hurtubise, le professeur Michel Brûlé nous rappelle qu'en Angleterre, l'université est conçue comme un « milieu d'éducation »; en Allemagne, comme une « communauté de chercheurs »; aux États-Unis, comme un « foyer de progrès »; en France, comme un « moule intellectuel »; et en Russie, comme un « centre de production ». En mettant l'emphase sur certaines fonctions plutôt que sur d'autres, l'université reçoit des rôles « nationaux » différents. En se pliant de plus en plus aux besoins et aux demandes de la société ambiante, l'université de type « tour d'ivoire » peut vite se transformer en une université de type « manufacture de diplômés », « laboratoire supermarché de recherches », « station de service », « cellule de révolution », ou « pavillon de prestige ». Ces aberrations sont le fruit d'ordres de service qui ne respectent pas la fin propre de l'université. Si l'université « tour d'ivoire » est celle qui n'a pas assumé ses responsabilités sociales en raison de son isolement de la communauté universitaire, les autres universités ont dépassé le but en raison de la tendance à ne se rien refuser et sont devenues de mauvaises serviteurs encore de la société.

L'université « tour d'ivoire » résulte du « pouvoir pro- » exercé sans contrainte de l'extérieur; les autres universités du « pouvoir du consommateur », étudiants, professeurs et futurs employeurs des étudiants, sont représentés par l'Église ou la Communauté am- » soit du « pouvoir du propriétaire », la société » représentée par le gouvernement. Il semble

bien qu'à l'heure actuelle au Québec, c'est le « pouvoir du propriétaire » qui est prédominant.

Il semble donc que dans la conjoncture actuelle, les universités québécoises doivent de toute urgence développer leur rôle de « partenaire » du gouvernement. Est-il suffisant de leur accorder à cette fin une certaine mesure d'autonomie? Non.

This is the first of a two-part series by Professor André Côté of Laval University, Quebec, and is reprinted from "Au fil des événements" — a journal published by the information office of that university.

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MISS HARRINGTON AND FRIEND — Athletic director Bob Hayes looks pretty pleased with himself following presentation of an Honorary Athletic "M" to Miss Mildred Harrington at this year's awards banquet. In making the award, Hayes said: "Back in the prehistoric days of academic disciplines, students, including some athletes, were required to be knowledgeable in subjects such as Mathematics, Latin and French. Indeed, it was essential that they had some foundation in these subjects before they were even allowed in the front door. For the countless hours of time and tutoring given freely by Miss Harrington, I take great pleasure in presenting her with this Honorary Athletic "M" on behalf of those many students she helped."



Halifax artist Jane Shaw, centre, held a weekly art class for members of the women's faculty club of Saint Mary's University during the past winter. The paintings produced were on display recently in the university's art gallery. Also included in the picture above, left to right, are Mrs. Pat Harrison, wife of Dr. G. J. Harrison of the English department, and club guest Mrs. Ida Moore. Artist Shaw is the wife of SMU artist-in-residence Anthony Law. (James photo)

ATTENTION WOMEN FACULTY

Anyone wishing to be addressed by their own name (Mrs. JANE Doe) instead of by their husband's name (Mrs. JOHN Doe) please advise secretary Heather Davis in the academic vice-president's office. Also if you would prefer Ms instead of Mrs. or Miss.

(This courtesy is extended on the request of the Committee on the Status of Women Faculty Canadian Association of University Teachers)

BEHIND THE BENCHES

STEVE ARMITAGE

The 1971-72 athletic year at St. Mary's wasn't a very good year. It was a frustrating year for Athletic Director Bob Hayes and his coaching staffs, despite AIAA championships in football and hockey. I say frustrating because this was to be "the year" for Bob Boucher's hockey Huskies and Al Keith's football team had everyone convinced they could go all the way.

With the stepping down of Les Goodwin as basketball coach and the hiring of Brian Heaney as a replacement, the basketball team was an unknown quantity. As it turned out Heaney molded a contender in one season, combining experience with untried talent.

With Heaney's success this season a great deal more can be expected from his squad next season. In fact, it should be a three team battle in 1972-73: St. F. X., SMU and Acadia. And if coach Heaney can find one or two "big men" to compliment his excellent shooting and running guards, the Huskies should be the team to beat.

Al Keith's football Huskies will be a year older and hopefully that much wiser when the pigskin season rolls around next fall. Lack of experience and size cost the Huskies an Atlantic Bowl crown and a trip to the National final in 1971.

With the addition of more size at the linebacker position and along both defensive and offensive lines the Huskies could make a serious run for National honours. The club has ample depth in the backfield, but could use a big fullback to take the pressure off the talented passing arm of quarterback Bill Robinson.

Al Keith, has put together an impressive 15 and one record during his two-year stint as head coach at SMU. With a little bit of luck, there's no reason why that mark shouldn't surpass 20 in 1972. With improved pre-season opposition (Western Mustangs), SMU should have little trouble in winning its second straight Bluenose Conference title.

Bob Boucher, and his hockey Huskies have had three cracks at returning the National Intercollegiate hockey title to SMU, but on all occasions have drawn a blank. To hang the label of "choke" on Boucher would be a mistake. This year in Sherbrooke, Quebec, the Huskies were simply outplayed by the University of Toronto Varsity Blues. In their first two championship encounters with the Blues, the Huskies were outlucked.

Next year is another season for Boucher, and, as always, the man who is quickly establishing himself as one of the most successful collegiate hockey coaches in North America will be back for another shot at that elusive National title.

It would be putting it mildly to say that the response to the Athletic Department's appeal for advance purchase of 1972-73 season tickets was disappointing. At press time only one sale. The Huskies need your support. Purchase of a season ticket, for one or three sports by you will certainly help.

A word to the wise at this point. Next season the Huskies basketball team will be playing the majority of its games in the "old gym". Needless to say, seating is at a premium. By obtaining your season tickets now, you can guarantee yourself a seat and avoid disappointment. The same can be said of hockey (limited seating in the Arena) and football.

Another suggestion in regard to season tickets. Why not get a group of alumni together in your area and plan a reunion at SMU around a featured athletic weekend, thereby making use of your season tickets? Whatever you do, plan to purchase a season ticket, the Huskies need your support for the '72-73 season.