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The Manitoba Professional Engineer

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June  
***bulletin 84***



**Sanitary Landfill Development  
Northeast Park, Winnipeg, Manitoba  
The UMA Group**

The Manitoba Professional Engineer  
**bulletin 84**

Winnipeg, Manitoba,  
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Effective July 1, 1984

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*Opinions expressed are not necessarily those held by the A.P.E.M. or the Council of the A.P.E.M.*

## Editorial

### General Manager and Registrar

As of July 1, 1984, Bill Mackenzie assumes the positions of General Manager and Registrar, and we are looking forward to working with him and to seeing the results of his interest and vitality expressed in this publication. The number of letters that have arrived to congratulate him is an indication of the respect in which he is held by those of our members who know him.

Ted Speers, who served for 8 months as interim registrar, brought his usual enthusiasm, dedication, integrity and high standard of ethics to the job. Ted received the Association's Outstanding Service Award in 1980. At that time he had served as Chairman of the Technical Journal File System for three years, Chairman of the Research and Development Committee for five years, a member of the Nominating Committee for two years, the Premises Committee for one year and the Bulletin Committee for eighteen years, serving as Editor for two years. Since 1980 he has continued as a member of the Bulletin Committee and has been the entire Premises Committee for most of that period. Ted has also served for two years as a judge for the Premier's Design Awards and last year served as our representative on the main committee.

In all these endeavours Ted always kept what was best for the Association paramount in his mind. With Ted, the issues, the welfare of the Association, are important, and even in the midst of what might seem chaotic, Ted manages to keep a cool head, a pleasant attitude, and

# President's Message

## Committees

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By R. R. Foster, P.Eng.

**Y**ou have no doubt heard the reference to the camel as being "a horse designed by a committee". Presumably the remark is intended to be a disparaging one, although in actual fact the camel, ungainly as it may appear, is designed in a manner well suited to its environment. One often hears other critical comments on the subject of committees; that they carry on endless discussions but have difficulty in making decisions etc. etc. Although such criticisms may sometimes be justified, perhaps in the case of complex bureaucracies, I do not believe they are justified in the case of largely volunteer organizations such as the A.P.E.M.

Generally, the work of the A.P.E.M. is carried out by three groups; staff, Council and the Committees. Neither the staff nor Council can handle all of the functions of the Association; the Committees are an essential part of the overall operation. The A.P.E.M. committees are hard-working and effective, providing Council with good advice and sound recommendations on a wide variety of issues.

As a sampling of our committee's efforts, a few of the activities which are underway at present are:

- The Salary Schedule Committee has developed and recommended to Council a new Recommended Salary Schedule for 1985.
- The Professional Development Committee has carried out surveys of the membership and of employers of engineers on a number of issues related to professional development and continuing education, preparatory to determining the appropriate role for the A.P.E.M. in this important area.
- The Legislation Committee is working on by-law revisions necessitated by the new Engineering Act. ►

- Hopefully the revisions will be ready for consideration by the membership at the next A.G.M.
- The Consulting Engineers Committee has been asked to review the subject of licensing of consultants. This had not been an issue in Manitoba for some time, but is currently under active discussion in some of the other Provincial Associations.
  - The Social Committee is organizing a Fall social event.
  - An ad hoc Committee is reviewing registration procedures.
  - The Executive/Finance Committee has investigated and made recommendations to Council on investing the Association's reserve funds in longer term cer-

tificates than at present. Work is commencing on the 1984-85 budget.

- Several other Committees of the Association are working hard on your behalf. Some Committees, such as Practice and Ethics and the Board of Examiners are more time-consuming than others, but all are important.

In all, over 125 members of the Association are active in committee work, and at times this is not enough. I would encourage all members of A.P.E.M. to consider devoting a little of your time and skills to the Association. In addition to being of benefit to the Profession, the effort can be a personally satisfying one.

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## Registration Requirements

The A.P.E.M. Offices receives numerous letters commenting or complaining about the Association requirements for writing the Professional Practice exam.

The most common note of concern is the fact that this open book test is required even if transferring Association membership from another province or territory in Canada.

It may be of some interest then to find out what are the requirements for other Associations. The Synopsis of Provincial and Territorial Professional Engineer's Acts, By-Laws, and Procedures (dated January 1, 1984), provides the following requirements for registration:

**Alberta:** Professional Practice Examination required unless equivalent exam written for another Association/Order.

**British Columbia:** No requirements for graduates with satisfac-

tory experience.

**Manitoba:** Professional Practice Exam.

**New Brunswick:** Practice of Engineering exam required for persons who have less than five years of membership in a constituent association.

**Newfoundland:** No examination required.

**North West Territories:** No examination required.

**Nova Scotia:** No examination required.

**Ontario:** 3 hours "closed-book" Admissions exam in professional practice, ethics, law, and liability.

**Prince Edward Island:** No examination required.

**Quebec:** All applicants must have working knowledge of French and all foreign graduates must pass 3 hour Professional Practice Examination.

**Saskatchewan:** No examination required.

**Yukon Territory:** No examination required.

# Council Meeting

## Council Meeting — May 14, 1984

By A. S. Orchard, P.Eng.

**T**he May Council meeting was held on a warm, sunny, spring afternoon, with the temperature sign which is visible from the meeting room reaching 21 degrees C. This was probably a contributing factor to the meeting's moving quickly in spite of the fact it started 10 minutes late at 3:40 p.m because the Executive Committee was slow to finish. In any event if it wasn't for Bob Foster's tight control, the meeting would have been a "sleeper."

Apart from the usual agenda items including Licences, Engineering Graduates, Transfers, Registrations, Reinstatements, and Accounts, there were a few items worth noting:

1) Bill Mackenzie was officially appointed General Manager and Registrar effective July 1, replacing Ted Speers.

2) Four to five Council members will be sent to Thompson and Flin Flon before the end of June to meet with members. Similar meetings are planned for Brandon and Pinawa.

3) The Practice and Ethics Committee was requested to review the Code of Ethics, to make sure they conform with the Act and to make recommendations on any improvements deemed necessary.

4) Roger Kane discussed snake pits in the Inter-lake district over Chinese food during the dinner break.

5) The Association's finances are obviously in very good order. There

was a lengthy discussion (with no conclusions) on how to invest our surplus funds, which are presently in short-term deposits. The Executive Committee has recommended investing \$50,000 in a five year term deposit. Len Bateman thinks that interest rates will continue to climb, and that we should wait before investing "long." Outside experts will be consulted. (Why not reduce fees next year?)

6) There was considerable interest in the contents of a report prepared by the Committee of Past Presidents. The report was submitted to Bob Foster, but Mr. Foster appeared reluctant to release the report to Council. After a great deal of persuasion by Council members and in particular by Ted Clarke, Mr. Foster agreed to reveal the contents of the report at the end of the meeting.

At 6:26 the Bulletin reporter was asked to leave so that the report could be discussed in camera.

We wonder, what is in the report?

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### *Editorial — continued*

to maintain his dignity, his integrity, and his professionalism.

He has brought these qualities to the committees on which he has worked for over two decades and to the position of General Manager and Registrar that he held for 8 months.

We thank him for his altruistic efforts and for the example he sets.

# Sanitary Landfill Development Northeast Park, Winnipeg, Manitoba

(Cover story)

**T**he UMA Group was retained by the City of Winnipeg to provide consulting services on the design of a sanitary landfill/recreation development covering 500 acres in Winnipeg. The project consists of a golf course, recreation playing fields, artificial lakes, service buildings and parking areas, all being developed in stages simultaneous with the sanitary landfill operation.

Preliminary topographic plans and architectural arrangements were developed by the Lombard North Group Ltd., Recreation and Landscape Consultants.

Volumetric calculations were undertaken to optimize the layouts and sequences of development to

reflect the over all staged plans and efficient earthmoving and sanitary landfill operations. Also detailed subsurface explorations were required to establish safe cut and fill slopes. Drainage design studies were undertaken for the landfill, park, and lake developments.

The sanitary landfill design reflects daily operational requirements above and below grade cell sequencing, short and long term settlement considerations and internal site drainage. In addition leachate collection and monitoring systems are incorporated in the design. The project included site supervision and quality control inspection for the initial park and landfill development.

## New Members

R. W. Gray; J. D. McIntyre; S. A. Schram; C. B. Rist; B. J. Blackett; A. H. Hachborn; M. R. Bayoumi; F. L. Berard; M.M.L. Boogaart; E. W. Butterworth; S. B. Campbell; E. B. Fetterly; M. R. Hawrysh; S. D. MacSwain; B. R. Malenko; B. A. Mulder; J. L. Mounk; G. M. Ostry; G. E. Ruchkall; N. W. Scheier; D.W.F. Widdows; S. R. Atmuri; M. A. Carlson; W. K. Herwig; R. G. Leach; M.M.A. Abo-El-Saad; J. A. Fedoruk; G. R. Gevaert; D. R. Hurl; B. L. Lau; A. Morris; L.V.V. Oman; K. W. Pidhirniak; K. J. van Loon; J. S. Morrison.

## Licences Issued

J. A. Mastrofini (Ont.); T. J. Varkony (Ont.); A. Apon (Ont.); R. J. Belasky (Ont.); J. R. Brown (B.C.);

S. G. Bruskiwich (B.C.); G. L. Colborne (Sask.); C. Fung (Ont.); G. A. Harris (Ont.); R. J. Krisciunas (Ont.); P. S. Lamba (Ont.); G. R. Lavoie (Que.); N. L. Leipziger (Ont.); D. J. Morrow (B.C.); J. A. Patra (Alta.); E. L. Poole (Ont.); T. W. Purdy (B.C.); H. M. Ragetlie (Ont.); Z. L. Szeliski (Que.); R. C. Bremer (Michigan); D. E. Hills (B.C.); D. P. Allison (Ont.); J. C. Draper (Que.); N. A. Legatos (N.Y.); W. L. Miller (Alta.); H. Miras-yedi (Que.); D. F. Quan (Ont.); A. M. Robertson (B.C.); E. F. Vickers (Ont.).

## Engineering Graduates Enrolled

S. K. Kingwell; C. K. Kwok; G. F. Ortega; J. T. Dunn; J. Kotysan; M. B. Chislett; D. M. Dmytriw; R. G. Lovie; R. E. Platford; P.A.G. Versavel; L. Wong.

## Marshall Haid, M.R.A.I.C.

By K.L.J. Webb, P.Eng.

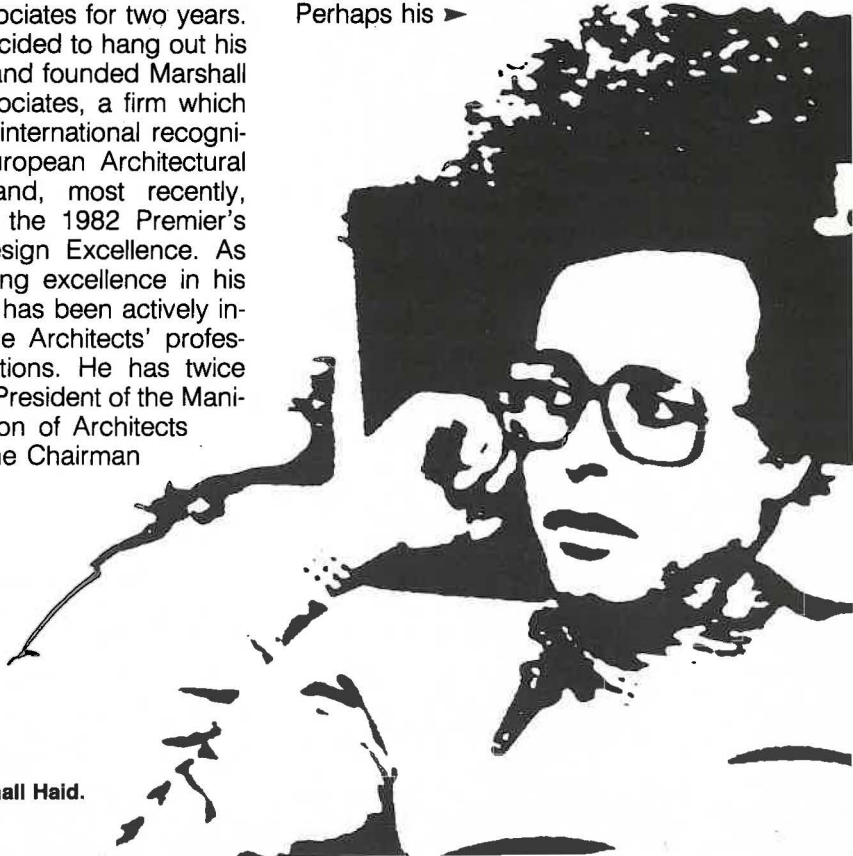
**T**he recent provision to appoint two members of the local professional community to Council is a significant departure from the past practice of having only Professional Engineers sit on Council. The Association is fortunate to have Marshall Haid, M.R.A.I.C. as one of these Appointed Councillors.

Marshall, who is a native Winterpegger, received his Bachelor of Architecture from the University of Manitoba before journeying to Sweden where he completed his post-graduate studies at the University of Stockholm. After two years in Sweden he returned to Winnipeg (he couldn't stand the cold Scandinavian winters), where he practised with GBR Associates for two years. In 1968 he decided to hang out his own shingle, and founded Marshall Haid and Associates, a firm which has achieved international recognition in the European Architectural Competition and, most recently, was awarded the 1982 Premier's Award for Design Excellence. As well as pursuing excellence in his work Marshall has been actively involved with the Architects' professional associations. He has twice served as the President of the Manitoba Association of Architects and also as the Chairman for the Legal

Documents Committee of the Royal Architectural Institute of Canada and as an accreditation examiner for the Architectural Schools Commonwealth Association of Architects.

Between the demands of his thriving practice and his many professional activities, Marshall enjoys the challenge of parenting his three teenage children, Darcy, Erin and Phillip, as well as the more leisurely activities of printmaking, photography and travel. He is a true patron of the arts and is actively involved with them through his position as Chairman of the Planning and Priorities Committee of the Manitoba Arts Council.

Perhaps his ►



Councillor Marshall Haid.

addition to Council will add some cultural enlightenment to the profession which has long been symbolized by the rowdy self-indulgent images so earnestly crafted in our undergraduate years. (Actually our Council members are already enlightened and are not in need of social refinement — just ask them!)

Although the addition of an architect to Council may restrain some engineers, (no more architect bashing!), it is an excellent choice. The two disciplines share many of the same professional concerns and are often intimately entwined with each other in major engineering, (or is that architectural) projects.

Computer-aided design systems are having a profound impact on both professions and the question of continuing education is a major concern to architects as well as engineers. Marshall is a strong supporter of continuing education for professionals and hopes that his membership on Council can help promote a better understanding and improve communications between the two professions. We can only benefit from the wealth of experience Marshall brings with him, both as an architect and an active member of his professional Association, and we welcome him to Council.

# Cabaret Fall Social



FRIDAY, NOVEMBER 9, 1984  
VASA LUND, CHARLESWOOD

**Be There. More Later.**

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## **C**HALLENGE!!!

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The Bulletin Committee issues a challenge to other committees to wrest the Drama Cup, held by this committee since winning the Shakespeare Festival in 1964.

We challenge you to put on a winning skit, play, dance, or whatever original wholesome entertainment, suitable for engineers and their guests, that you can dream up.

## Registrar's Report

By E. A. Speers, P.Eng.

**A**s I leave the position of General Manager and Registrar of the Association, I want to thank Council for giving me the opportunity to serve in this manner for the past 8 months. It has given me an opportunity to better understand the workings of the Association, the operations of the various committees and to meet many of our members.

I would like to repeat a couple of the comments I made in my February report. "Things are operating extremely well in the office, and I am grateful to all the ladies on staff for their pleasant co-operation in doing everything they can to make my job easier." They work harmoniously together, and I have thoroughly enjoyed my association with all of them. Also, in February, "I am enjoying the whole experience." I continued to enjoy the whole experience.

I have been particularly impressed with the dedicated efforts of the members of Council. The decision-making process is not always easy, but they carry out their duties in a responsible manner.

In July I will return full-time to the operations of my own plant, and Bill Mackenzie will assume the duties of the General Manager and Registrar on a full-time basis. I have offered to assist him in any way I can. I know that the members on staff will give him the same sincere, dedicated support they gave to me, and that he can count on those who serve on committees to continue giving of their various talents in the best interests of the Association. My experience with the staff, with Council and with those committees with which I was associated, was a very

rewarding one for me.

I wish Bill well, and I urge all members to give him their best support. In announcing Bill Mackenzie's appointment to the membership, President Bob Foster said "Bill Mackenzie is known for his integrity, his high ethical standards, his humour, and his good business sense." We should all support him with these same qualities.

Although I will have served as General Manager and Registrar for 8 months out of the current fiscal year, it will fall to Bill Mackenzie to submit the annual report of the Registrar. So I would like to take this opportunity to thank our long-time friend Loreen Dunklee for her co-operation and support, and other staff members Joan McKinley, Bettie McDonald and Elaine Ryan for all their efforts, the members of the committees who serve the Association so well and made my job easier, the members of Council for whom I have more appreciation after I had a close-up look at the service they render to the Association, and to the members with whom my contact was limited but pleasant. I wish Loreen good health in her retirement. Again, my thanks for the opportunity to have served as your General Manager and Registrar.

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### Philosophical Engineer

*"To be is to do".*

(Socrates)

### Younger Engineer

*"To do is to be".*

(Jean Paul Sarte)

### Youngest Engineer

*"Do be do be do".*

(Frank Sinatra)

## Thompson News

By A. D. Murchie, P.Eng.

It's news time and super reporter Blake Maxfield, Maintenance Manager, INCO, Indonesia, is moving out in preparation for his role as Far Eastern correspondent (Indonesia) leaving yours truly in the vacated northern post. In my endeavours to get news I can concur with Blake that our northern members are not very free with the words. It seems that we're mainly in covert operations, but that makes good copy. So let's get on with it.

Firstly, we are advised that the Thompson Open Pit project at INCO is moving ahead rapidly, and project engineer Roy Prochera informs us upwards of 5.8 million yards of overburden were moved in 1983. Starting in April dredging operations commenced for 1984. The \$100 million project is gaining interest in the community and the schedule is pointing to start-up late 1985.

Adding to the excitement around town is a new project S. & R rounds. It too is giving a boost to engineering and construction activities

and Bryan Clements, project engineer, has been asked to deliver the impossible — start up in September.

This year INCO Manitoba Division is playing a bigger role in providing employment for graduate engineers. Keith Somerville, INCO vice-president, was pleased to advise of these activities. Seven placements have been made this spring and additional to this summer, course-related work has been provided for four undergraduates. Things are looking up.

On a different vein, the Knights of Columbus will be having a province-wide curling bonspiel in Thompson on February 1, 2 and 3 of 1985. Dave Phelan, refinery engineer, brought this to my attention and suggested that engineers belonging to the Order might want to know so they can plan on attending. Dave also revealed on intensive questioning, modest as he is, that he and Atef Boctor were this year's Thompson Duplicate Bridge Club pairs champions. Blake and Martha Max-



Registrar Ted Speers, Councillor John Fulton and horticulture at the April Council meeting.

field had to settle for second place — pity. Further to bridging bits, the team of four consisting of George Stewart, mine engineer; Smiley Hallum, supervisor civil section; Blake and Martha Maxfield, represented Northern Manitoba in the Western Zone duplicate bridge play-downs in Calgary recently and, as that famous Scottish bard Robbie Burns would say — "great expectations sometimes 'gang af to glea.'" Anyway, Blake will be providing the team standing in five years when he returns from Indonesia.

The white water boys are getting ready again. Bryan Clements and the hardy boys from the engineering office are planning another canoe trip up the river on or about June 1st. The event usually brings back tales of near drownings and magnificent angling prowess that treat the office staff to great glee.

Speaking of glee, tourist trade will improve as a result of an event that transpired last month. Barry Hadfield, Mine Superintendent, and two of his associates, Bob Barton and Bob Fleming took part in a research study involving full scale testing of the ultimate shear load of spring ice on Paint Lake. As in good destructive testing, the ultimate was found and the three who had chosen the comfort of the cab for the duration of the test had to make a hurried exit. The truck and contents sitting on the bottom of Paint Lake will be a fine tourist attraction for scuba divers seeking new sightings. The three-some are considering turning professional this winter and joining the Icecapades.

INCO Engineering held their annual bonspiel on March 31 and wouldn't you know it, Blake Maxfield and Susan Fulton, wife of Councillor John Fulton, were members of the winning rink, while John Fulton skip-

ped the runner-up rink.

Bob Cottrill, city engineer, has promised to bring me news about the potential for a northern golf tournament. So get out your clubs — all you duffers.

Finally, a cheery note. Malcolm McKenzie, acting mechanical section supervisor, has become (with the assistance of Judy, his wife) the proud father of a boy, Sean William, weighing in at 8 lbs. 13 oz. Malcolm is not going to steer his son into any profession but he'll start teaching him basic programming language next week.

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## Coming Events

The 4th International Symposium on Organization and Management of Construction will be held in Canada July 23-26. For further information contact Prof. V. K. Handa, Department of Civil Engineering, University of Waterloo, Waterloo, Ontario N2L 3G1.

The 1984 Atlantic Professional Engineers Conference will be held in St. Andrews-by-the-Sea, N.B., from August 29 to September 1. For further information write to P.O. Box 2585, Saint John, N.B. E2L 4S8.

The 4th Canadian Workshop on Wind Engineering will be held in Toronto, November 19, 20, 1984. Further information may be obtained from Mr. K. Charbonneau, National Research Council of Canada, Ottawa, Ontario K1A 0R6.

The 10th annual conference of the Solar Energy Society of Canada will be held at the University of Calgary, August 2-6.

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## ***Bizness Correspondence***

A generation ago people writing business letters had available a whole plethora of flowery phrases such as: "Your letter of the 16th instant to hand and contents noted", "Your humble and obedient servant", and the like. All a letter writer had to do was insert a pod of these in the proper order and presto he had a three page letter that flattered the reader but all it said was "no".

Today we are much more blunt in our letter writing but there are certain vestiges of the old phrases left. Take for example the salutation "Dear". It must be hard indeed for a contractor to address a city engineer or commissioner as Dear. It seems to have a sexual connotation that is hardly in keeping with what the contractor had in mind.



**Reg Blackman, looking serious at a Legislation Committee meeting.**

Following the "Dear" bit is often the word "Sir". Unless one is writing to the Viscount Gort Hotel there are few titles around, so why give him a phony title. Anyway "he" may be a "she". It would be more accurate to merely start the letter with "You" or, if you do not want to be so terse, "He, She, or It".

Then there is the word "Messrs". This is usually used to refer to a committee of more than one. As such there is no need to use abbreviations. Just put the "e" where it belongs and accept the fact that the subject matter will be thoroughly messed up anyway so there was no need to write the letter in the first place.

Letters often conclude with the phrase "Yours very truly". I doubt if the contractor wants to be "Yours" (ie possessed) by anyone, except perhaps the friendly bank. If the contractor suggests he is possessed by the city engineer or commissioner one might suspect collusion or at least hanky-panky. With regard to the word "truly". To paraphrase P.E. Trudeau "There is no place for truth in the bedrooms of business."

Some people, particularly politicians-at-the-trough, conclude their computerized mass-produced answer to all questions with the word "Sincerely". Oscar Wilde said "A little sincerity is a dangerous thing and a great deal of it is absolutely fatal." Engineers should refrain from running such risks. It would be better if Sincerely were abbreviated to "Sin" which is in more common usage and more applicable.

*Your Humble and  
Obedient Reporter.*

## The Not Party

**T**he polls have shown for months the people of Canada do not want the Liberal Party to get re-elected. Mulroney in declaring that his opinion is the only opinion that can be expressed by Conservatives ("My way or the doorway") makes many wonder if the Conservative Party should get elected either. The Big Government ideology of the NDP is not popular either. So what do we do? The solution is simple — form a new party.

The sure fire way of getting elected federally in today's political climate is to have on the ballots the words "NONE OF THESE". This would collect all of the disgruntled voters — an estimated 90%.

The Party of NONE OF THESE Members would be called NOT for short. The NOT members would not need to go to Ottawa because the TOP person of the Party would not only think for them but vote for them. At the end of five years the leader would disappear (Mafia style). Then a new election could be called and undoubtedly a NOT NOT Party would win to get rid of the excesses of the NOT Party.

In the long run the country would be better off with this simplified form of government. The accumulation of friends on which to lavish patronage takes time. In five years the TOP NOT would not have reached Full Patronage Flow (FPF) and so deficits would undoubtedly be reduced.

The Other Place, usually referred to as the Senate with its red carpet and snoring senators could be made into a Roman Bath and house Loto Canada. To gain admittance one would have to have a gold card identifying one as a Patronage Reci-

pient (PR). By having the PRs in the Bath and accompanying senatorial delights it will keep them out of the real world where they could dispense largesse to yet another layer of PRs.

All we need now is a leader. The TOP NOT should be chosen democratically in a smoke filled room by people under 11 or over 70 — preferably sober. It would seem best if the good people of Toronto would make the choice. Since all news media thought emerges from Toronto it stands to reason that Torontonians know more than we do. If they would only give us a leader for the "NONE OF THESE" movement we would then know who to vote for and could turn off the months of political hysteria which are now ahead of us.



New member Kathy Van Loon, P. Eng. and fellow-worker-oldtimer John Miller, P. Eng.

## **Bulletin Budget Review**

For those of you who wonder if the Bulletin Committee has even a tinge of a shadow of sensibility, notes were kept at a recent meeting which, in part, discussed the forthcoming committee budget and upgrading required thereto. Be assured that all is not foolishness, and there is true concern for each and every membership dollar. We provide the following key points out of context and for your illumination:

1. The "Past Editor's Pension" has been re-evaluated and is now to be increased and indexed to match Manitoba aluminum productivity.

2. All salaries are retroactively quadrupled and shall be annually increased at an inverse ratio to the mosquito population. Retroactive adjustments will be made back to 1906.

3. The purchase of a new throne enscribed "Head Honcho" for the editor was turned down.

4. The cookie allotment was noted as adequate, but further funds were directed to the "Imported Wines" and "Caviar" categories of the "Secret Luncheon Fund". This was unanimously accepted by everyone except Bruce Crawley who thought the latest crate of caviar tasted a little "fishy."

5. Overseas travel allotments, Health Spa memberships, shoe lace and pencil expenses are still covered to the previous extent.

6. It was generally agreed that the Committee limousine needed a new raccoon tail and that one of the Turn — Signal — Dog's eyes had burned out. Funds were immediately drawn from petty cash to upgrade these safety items.

7. A number of members were dismayed at the amount of money

spent on publishing the Bulletin. — (in fact, almost all of our budget). Stunned by this realization, it was suggested that we eliminate this money-consuming sideline of the Bulletin Committee.

While appearing to make sense on the surface, it soon becomes evident that without our beloved Bulletin, no one would know what we weren't doing and would have no way of not knowing how we were not doing it. It was decided to table this concept until the next budget.

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## **Amazed, Amused, Dazed & Confused**

In the February issue we explored the fascinating world of escalators and how they related to our personal reality, vis-a-vis, gravity and how more gets you less.

We have still yet another undiscovered phenomena for your perusal and wonderment.

Firstly, turn your thinking to the theory and science of mechanical refrigeration. One concrete form which you can relate to is encompassed in the big white box in your kitchen. The great ice box holds a whole lot of cold while rejecting the heat out the back of the unit where the spiders and dust bunnies live. It seems that there is actually a motor in there somewhere which causes the heat from inside the fridge to be pulled out of the store wars survivors and let loose at the back of the unit. Now the amazing part — along with the heat removed from last night's pizza goes all the energy

input by the motor — the result is that there is more heat rejected than cooling effect! Wonder of wonders!

Case Study 2: The fireplace.

At home I have a Manitoba Hydro poster of a fireplace taped on the wall where I hope to someday have a real imitation fireplace (but that's another story). The poster shows a nice fire burning behind a set of glass doors and the wording on the poster states that "glass doors save money."

My research has dug up some facts of scientific interest. It would seem that an open fireplace will draw a lot of air from the room which must be made up by air from another room, window, door or

chimney. In any case this air is probably heated up by the house furnace before it gets to the fireplace and is lost up the chimney. Some wise person has determined that although there is some heat being given off by the fireplace, it is somewhat less than the heat required to warm up the incoming air. Really doesn't seem fair to me.

But now the real mindbender in this whole exposé, the true unfairness in this reality.

Why should it be that opening a fridge door heats up the house while opening the fireplace door cools down the house?

Methinks the gods do jest with mortals. J.L.

## Our Favorite Season

I knew it was going to be a bad day when I got up this morning and put on my shoes and socks (in that order). From that point, things were downhill, right to the worst possible

of The Winnipeg Tribune which explained the ins and outs of filling out one's own tax form. Included in the data was the following table of Graduated Rates of Tax:

### GRADUATED RATES OF TAX

CALCULATED ON TAXABLE INCOME OVER \$550

Between	\$1 and \$	500	Rate of Tax is 30%
Between \$	500 and \$	1,000	Tax is \$ 150 + 33% on excess over \$ 500
Between \$	1,000 and \$	2,000	Tax is \$ 315 + 37% on excess over \$ 1,000
Between \$	2,000 and \$	3,500	Tax is \$ 685 + 41% on excess over \$ 2,000
Between \$	3,500 and \$	5,000	Tax is \$ 1,300 + 45% on excess over \$ 3,500
Between \$	5,000 and \$	8,000	Tax is \$ 1,975 + 50% on excess over \$ 5,000
Between \$	8,000 and \$	13,000	Tax is \$ 3,475 + 55% on excess over \$ 8,000
Between \$	13,000 and \$	20,000	Tax is \$ 6,225 + 60% on excess over \$ 13,000
Between \$	20,000 and \$	30,000	Tax is \$10,425 + 65% on excess over \$ 20,000
Between \$	30,000 and \$	50,000	Tax is \$16,925 + 70% on excess over \$ 30,000
Between \$	50,000 and \$	70,000	Tax is \$30,925 + 75% on excess over \$ 50,000
Between \$	70,000 and \$	100,000	Tax is \$45,925 + 80% on excess over \$ 70,000
On \$100,000			Tax is \$69,925 + 85% on excess over \$100,000

(Surtax of 4% also applies on Investment Income in excess of \$1,500)

depth, filling out my income tax forms! A non-pleasant situation I'm sure we can all appreciate. I don't think there is much to make tax time any better, but maybe the following data can make it more interesting.

I was reading an out-of-date copy

Can you imagine over 56% taxes on \$30,000 taxable income? Not pleasant reading at all. But what vintage is the Data? Surely not 1984 and not 1994. Would you believe July 11, 1942? Maybe we don't have things too bad after all!

## Heads They Win—Tails You Lose

I had been playing the only Government-supported ongoing gambling game in town for some length of time now, and have only just realized it for its true self!

All that's required to play this game is a vehicle which has a 125 litre gas tank and gets about 7.2 miles per gallon. To play the game, drive said vehicle at or very near the "E" reading on the gas gauge and keep an eye on the pogo-sticking gas prices.

This creates the gambling situation in which, of course, you always lose. At this point, there are only two options. Buy gas now or wait for the

morning drive back to work. Experience at the game will teach you which is the wrong choice because it is inevitably the path taken.

Through a complex set of monopolistic pricing policies and state-of-the-art monitoring devices, it is very easy for the gas pump to win every time. If there is a desperate need for fuel which causes the driver to fill the tank, the standard result is a drastic price drop within 12 hours of an amount which varies directly with the litreage purchased. (or simply stated: The More You Buy — The More You Cry).

Scenario Two is the intelligent monitoring of dropping fuel prices. By actively observing market conditions on a daily basis, it is very easy to see when prices have bottomed out. And of course, at that point, the decision is made to fill up on the way to work the very next morning. That night, the alarm is forwarded from Pricing Command Headquarters and while you sleep that fickle fossil fuel appreciates 10 to 15 cents per metric mini-gallon. The price rise is quite naturally determined by past purchasing history and according to your fuel requirement ratio. The largest increases occur just before the road trip to Regina and the fuel gauge is on the dark side of "E".

I don't know what the answer is, — I'm sure that all of the work that goes on behind the scenes must be adding 8 cents per litre. Maybe if we all admit defeat, and sign a document certifying that we will give up gambling, maybe some level of reason and sedateness will take over.

If you can believe this, I've got a bridge being renovated which will soon be up for sale.

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*We never catch up! The phase of life we're ready for is always the one just past ... We are always behaving in a way, very appropriate for the phase which has just ended.*

—John Knowles

*A public person should be completely without artifice. In public life, he should do what seems to him best to do, without undue regard to the consequences to one's self. This quality has become increasingly rare, especially in political life. We are increasingly urged to do what is pragmatic, what will work, what is popular, what has been approved as acceptable by the polls. I sometimes think that many men in public life would be hard put to commit themselves on whether or not it was raining without first finding out what reply would be most acceptable to the electorate.*

—Dean Acheson

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Letters to the Editor are the opinions of the authors and not necessarily those of the Bulletin Committee or Council.

## Letters

### Community Service

J. Lucas, P.Eng., Editor

Sir:

Our President's Message in the April issue of The Bulletin has inspired this letter.

The 135th Winnipeg (Fort Richmond - Kings Park) Scout Troop has established a record which may be hard to equal. This year, I have, amongst my Patrol Counsellors:

One B.Sc. (Agriculture) — Master of Business Administration

One B.Sc. (Civil Engineering)

One B.Sc. (Agricultural Engineering) — M.S. (Entomology) — Ph.D. (Entomology)

One Ph.D. (Civil Engineering)

One Technician (Mechanical Engineering)

One Mechanical Engineering student in his final year.

In addition, our Group Committee Chairman is an electrical Engineer while the Akela of one of our Wolf Cub Packs is a Civil Engineer.

The Engineers are: Michael Helm, David Rogowsky, Ed Timofichuk, and Fred Nicholson, while the student is David Whitmore (the son of another Engineer, Don Whitmore, who was also one of my Scouters for four years).

Jim Roik, B.Sc. (E.E.) is the Akela for the 100th Winnipeg Group.

The Profession may well be proud of these men and the contributions they have made, and are continuing to make, to Canadian Scouting.

Very truly yours,

*V.L. Dutton, P.Eng.*

*Troop Scouter, 135th Winnipeg  
(Fort Richmond-Kings Park)  
Group Boy Scouts of Canada*

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## MANAGING DIRECTOR

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**required by The Association of Professional Engineers of B.C.**

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The present Managing Director, Dan C. Lambert, P.Eng., will be retiring in a few months and Council is seeking a Professional Engineer to manage its operations. This position requires a mature, professional engineer with excellent interpersonal skills and experience. The Managing Director is responsible to the Council of the Association for the day-to-day activities of the Association, including overall direction of a staff of 14. The successful applicant must be prepared to accept demands on time that will extend beyond usual business hours and to travel as required on Association business. The Association has a membership of 11,000 and an annual budget of \$1.25 million. The salary and benefits are attractive and professional engineers interested in this challenging position should submit complete resumes to:

G.T.J. Hughes, P.Eng., President  
Association of Professional Engineers of B.C.  
2210 West 12th Ave., Vancouver, B.C. V6K 2N6  
before July 31, 1984.

Please mark envelope — **"Application — Confidential"**.

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## The Forces of Nature

**R**ocks, yaks, trees, and trucks, are all creatures of nature and should be left unexploited and in their natural state.

Very little is ever accomplished by opposing the forces of nature. Very little electricity has ever been produced with water running up hill, and surfing with the waves is much easier than going the other way.

I have determined that nature has survived, and will continue to do so, without us and even in spite of us.

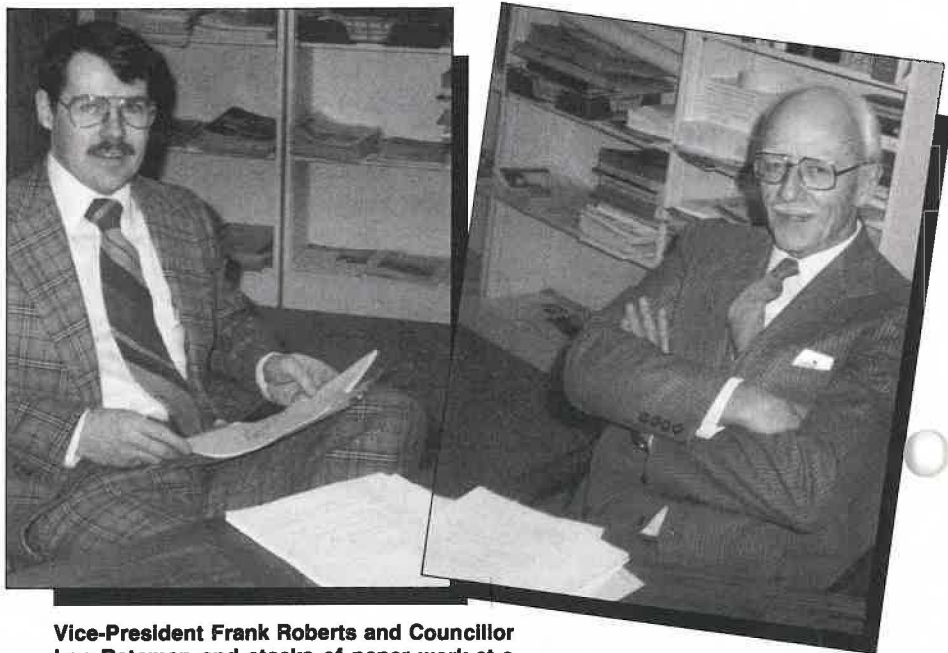
I have never heard of anyone collecting money and going forth into the wild to clean and polish rocks, vacuum and shampoo yaks or manicure the mighty Douglas fir. These products of the unknown do quite well without us, thank you.

Following this reasoning, I cannot fathom why people would question my genealogy because I do not

bathe my truck! This monolith born of blast furnaces and technology which is more powerful than a herd of horses and certainly more mobile than a rookery of rocks or a ton of trees?

Why on earth would I debase its noble stature by stroking it with warm, slightly soapy water and a natural sponge, caressing it dry with the skin of a chamois (whatever that is) and then apply several layers of wax squeezed from turtles?

All of this work just to strip the natural dignity from the most functionally noble of mortal creations. — The Pick-Up Truck! This is not your silent sensuous dream machine with upholstery on the outside of the roof and computerized radio dialing, but a truck — that social outcast of the working class which may only be seen at service entrances.




**Vice-President Frank Roberts and Councillor Len Bateman and stacks of paper work at a Council meeting.**

I would feel very petty if I should degender this noble steel steed by applying a man-made external environment just to make it look presentable to the unknowing and uncaring masses. I have found that the only proper and almost spiritual treatment of this chariot of the people is to ensure exposure to the properly balanced and environmentally soothing forces of nature. The gentle rains for untraumatized cleaning, and the calm winds for drying.

These are the true honourable and time-tested forces applied to rocks, yaks and trees, and should certainly be used on trucks. At least, by people who appreciate life on a higher plane and with a deeper understanding of the greater forces of the universe around us.

Then again, maybe people who hope the rain will clean off their trucks are like me and are just lazy.

*For Uncle Moe*



**SCIENCE  
CORNER**

Good day readers. Welcome to P. Eng's Science Corner where we poke into the curious crannies and novel nooks of the whole wide world around us (sorry about that, I mean around us).

Today's extremely technical treatise is on that modern day, high-tech component, the wheel.

Now this is an observation which has been passed on to the old Professor by an older and wiser person, so I cannot take full credit for the following mega question mark.

The simple picture is a rubber-

tired Volkswagen rolling along at 60 miles per hour. All four tires are running on dry pavement and the highway is straight. Looking closely at a single tire, we will note that the centre of the wheel is moving forward at the same speed as the "People's Car". The bottom of the tire is somewhat compressed and is in contact with the pavement. While this is happening, the top of the tire is moving forward at twice the speed of the vehicle. Now I wish I could understand how something that seems as simple as the wheel can possibly even work. How does the tire stay together when the bottom is stationary and the top is moving at 120 miles per hour? The old Professor certainly doesn't have the answer, just thoughts on the matter.

Maybe the tire stretches when it changes speed from 0 to 176 feet per second? Perhaps that's why tires are made out of rubber. But then again, ox carts had solid wheels, but very few ox carts travelled at 60 miles per hour. I think there was some federal restriction on the operation of ox carts back in the olden days, but that's another story.

If there are any bright ideas or even questions for Professor Eng, please forward your cards and letters to P. Eng. c/o the Bulletin.

## Fore!

Some big-name golfers finally made it into the prizes at the Falcon Lake A.P.E.M. tournament. Larry Greer won low gross honours, with Ken MacCharles a close second, tied for that position with Art Lachance. Bill Boyaniwsky was only three strokes behind Larry Greer to come in fourth, so with a little practice who knows what may happen next year.

In the low net department Jim Terris was in first place, followed by Doug MacQuarrie, Gordon Marshall and Chuck Whalen. Barry Mulder celebrated his entrance into the Association with the longest drive of the day. Bob Harris was low on the front nine and Tony Bork on the



**Councillor Roger Kane congratulates Larry Greer, who won the Landon Cup for low gross at the golf tournament.**

back nine. Roy Houston was the most honest golfer, and had the most swinging exercise of the day, taking 159 swings and misses to go around the 18 holes.

The weather was terrific, and the barbecued steak dinner was excellent. As usual engineers behaved themselves very well, so well in fact that the bill from the restaurant was accompanied with a note: "I would like to take this time to tell you that it was a pleasure to serve you and your group. All the staff mentioned how well mannered and courteous everyone was."

Jasha Boge masterminded the event, and Roger Kane presented the cups on behalf of Council.



**Jim Terris who won the Sullivan Cup for low net.**

*Most of us still have a lingering belief that every choice, even every political choice, is between good and evil, and that if a thing is necessary, it is also right. We should, I think, get rid of this belief, which belongs in the nursery. In politics,*

*one can never do more than decide which of two evils is the lesser, and there are some situations from which one can only escape by acting like a devil or a lunatic.*

—George Orwell