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WINNIPEG, MANITOBA, MARCH, 1969

IRON RING

The Iron Ring received by an Engineer at the Kipling Ritual is a symbol of the responsibilities and obligations which the Engineer took upon himself at the Ritual and is worn on the little finger of the working hand.

From the point of view of the general public it has become a badge of honor which accords the wearer the esteem and confidence of the public in the Engineer and his Profession.

It is unfortunate that this symbol is being usurped by other associations in their effort to enhance their own reputation in the eye of the public, knowing full well that the public, on seeing a plain ring worn on the small finger of the working hand, thinks that the wearer is an Engineer.

The fact that the ring is made of a material other than Cold Iron is only an excuse that tries to hide the intent of wearing such a ring. — W.R.M.



ANNUAL MEETING '68

The 49th Annual Meeting of the Association of Professional Engineers was held on Wednesday, November 27th, 1968 in the Fort Garry Hotel, and in spite of Council's adopting the recommendations in the Bulletin of March 1968, it was still

a pretty dull affair. The business portion of the meeting was speeded up tremendously by the elimination of reading of the committee reports which were published in the Bulletin (with no report from the legislation committee, either printed or verbal), and the increased turnout over last year was hopefully due to the change to the half-day session in the middle of the week.

The dullness of the meeting was due entirely to the lack of participation by the members in attendance in any discussion of Association affairs. Many of the members there have been extremely vocal in private conversation regarding Association affairs but apparently were struck speechless at the prospect of standing up on their hind feet at the meeting and repeating their criticisms and defences of Association policies.

Other than a humorous criticism of our investment policy, a not so humorous criticism of badgering insurance salesmen, and a complaint from our past president (in anticipation of Mr. Trudeau) of the treatment accorded him by the "Press," it would seem that we are one big happy family without a problem in the world. We even gave Council a blank cheque (limited to \$33 per annum) with hardly a question being asked. However, with the help of a single coffee urn in the lobby, everyone managed to stay awake.

The highlight of the day was the address by Dr. A. J. Mooradian who, in much more interesting fashion than this reporter is doing, told engineers to get off their collective butts and do something because there is no one more capable than they are. — W.R.M.

LIMITS OF RESPONSIBILITY OF ENGINEERS

Is an engineer who supervises the design of a structure responsible for that structure even though he may have nothing to do with its construction? Is a construction engineer responsible for any faulty design that may occur on one of his projects? There seems to be some difference of opinion on these questions. We don't pretend that we have the answers but the mere fact that there is some confusion should be incentive enough for council to define these things for the members and to make sure that these responsibilities are defined legally. The responsibility of an engineer should be clearly defined both legally and morally. If these questions are not answered by engineers themselves, and then through our lawmakers incorporated into the law, then the lawmakers themselves may sooner or later seek to define these matters without consulting the engineers. The solution that they arrive at may or may not be satisfactory to the engineering profession. — R.M.S.



UNUSUAL LUNCHEON

An unusual luncheon will be held on Friday, March 28th, from 12:15 p.m. to 1:30 p.m., at the Fort Garry Hotel when Earl Potter, President of Toastmasters International will speak effectively about effective speaking.

This subject should be of keen interest to Engineers and all are welcome. Tickets are available at \$3.25 each from Bill Bishop — Phone 786-5827.

D. FARLINGER, P. Eng.



"TO SEE OURSELVES . . ."

By K. A. MILLIONS, P. Eng.

Much has been written in this Bulletin in the past reflecting concern for a lack of "image" the general public has for the professional engineer. There is even more concern that the general public and politicians have a negative response to the engineering profession. The situation is not improved by editorials appearing in the daily newspapers which are written with an obvious lack of knowledge of what constitutes a professional engineer and what part the Association plays in today's society.

The situation could be dismissed by pessimists either as not being important or with an attitude that it would be impossible to educate politicians, newspapermen and the general public. The optimist might suggest we embark on a massive publicity campaign to educate the laymen by glamorizing, out of all proportion the profession, and those in it. After all, if soap and politicians can be sold by advertising, why not professional engineers?

A look at the profession today, however, makes it apparent that neither of these approaches is realistic. We must improve our "image" if we are to receive the respect and financial rewards we deserve. We cannot do this by a publicity campaign under present circumstances. Why not? In order to sell a product, you have to believe in it. And I don't think most engineers believe in the product they have to sell. This is not to say that most don't believe the job they are doing is important and necessary, quite the contrary. I think nearly all are dedicated to doing the best they know how.

I'm now going to generalize, which is always dangerous, and there are always many exceptions. Thank God for the exceptions, they're the ones who make the profession go. But is there more than a grain of truth in the following description?

Do most engineers know what others in other branches of the profession are doing — or care? Viewed by others in a different category of the profession:

- Engineers in consulting offices are highly paid and are amassing fortunes
- Government engineers are underemployed and overpaid.
- Sales engineers spend most of their time buying drinks for others.
- Engineers teaching at Universities are out of touch with practice.
- Engineers not teaching at Universities aren't keeping up and are mostly obsolete.
- Those who write papers for technical publications are looking for personal publicity.
- Those who don't write papers aren't interested in the profession.

- Those who serve on committees and executives of professional organizations are busybodies.
- Those who don't serve on committees are lazy and expect others to do all the work.
- Field engineers don't realize the significance of design concepts.
- Office design engineers don't understand construction problems.

The list of such assinine observations is endless. But we've all heard them, and if we carefully examine our consciences, have likely thought them at one time or another. We are parochial!!

With such a lack of understanding, and let us be honest, such observations are based on ignorance, how in heaven's name can we expect the layman to understand us?

Let us not for the present worry about our public image. Let's first bridge the gap existing in our own understanding. When we're all doing our best to understand and appreciate the efforts of our colleagues, our respect for the professional (our internal image) will improve. If we are convinced our internal image is good, we can concentrate on improving our public image. If we can't convince ourselves, we haven't a hope of convincing anyone else.



CAMPUS TANTRUMS

By W. R. NEWTON, P. Eng.

Webster defines Wisdom as the "Quality of being wise; ability to judge soundly and deal sagaciously with facts, especially as they relate to life and conduct; knowledge with the capacity to make due use of it; perception of the best ends and the best means; discernment and judgment; discretion; sagacity . . ."

It would seem from all we hear, see and read about the rioting and the general irresponsible conduct on our campuses these days that many of our university students and the Peter Pans on the university teaching staff who support and entice them do not recognize that the degree of education a man has attained is by no means a measure of the wisdom he possesses. The ills of society that purportedly inspire our campus dissidents will not be solved by mob action and the many forms of irresponsible undertaking of these groups but rather through the efforts of

mature men of wisdom attacking the problem in the cool light of reason.

Wisdom is not the express realm of the older person nor does maturity necessarily come late in life. Experience, however, rather than education is more often the catalyst in developing a wise and mature person and it is generally conceded that wisdom and maturity go hand in hand. The actions of our campus malcontents appears, to say the least, to be immature and hence it must be presumed that there is a lack of wisdom in that segment of our university population. This may be a shock to many of us who have been dwelling under the delusion that the university was the seat of wisdom. The delusion fades somewhat when it is realized that those involved in these infantile activities represent only a small percentage (though a noisy percentage) of the student body and a lesser segment of the teaching staff.

All the rebelliousness being recorded from day to day seems to be a continuous chronicle of the temper tantrums of what are supposed to be the intellectuals in our society — those who one day will lead in our business, cultural and community life. The excuses given for these tantrums (and they are really only excuses) range everywhere from student fees and purported discrimination to, I suppose, if not already eventually the subject of the housing crises. However, rather than redressing these ills all of these actions to date seem to have done nothing more than create more problems for those already harassed by the difficulty of problem solving. Everyone knows I am sure that when a child throws a temper tantrum through being denied the sucker or toy he demands (and most children go through this process sometime in their growth) the best way to avoid a repetition of the problem or to ensure that the situation doesn't cause further complications and disturbances for the child is to ignore him during these periods of unreasonable conduct. Possibly the best way to handle our campus adolescence would be to completely ignore them in the same manner while they are suffering from these periods of growing pains.

I have heard these activities on our campuses and their counterpart among societies' dropouts off the campuses classed as Civil Disobedience and justified in terms of those acts of civil disobedience carried out by such persons as Thoreau directed at the unjust laws and government of the historical past. If one considers the description set forth by

George Woodcock in his C.B.C. radio talks on the subject the action fails. Mr. Woodcock says:

"The essence of its meaning, which distinguishes this type of disobedience from mere lawlessness, is contained in the word 'civil' — a word of many and varied connotations. First of all, 'civil' is an adjective relating to the responsibilities of the citizen, and the whole justification for Civil Disobedience lies in the idea that the man who practices it fulfils his responsibilities by demonstrating in action his disapproval of an evil law or social situation which ordinary democratic procedures will not eliminate. Secondly, we think of 'civil' as being opposed to 'military,' in other words as opposed to physical force, and it is basic to the whole philosophy of Civil Disobedience that it be carried out without any recourse to violent methods. The man who disobeys is willing to suffer for his own defiance of the law; he is not willing to make others suffer. Finally, the word civil also suggests all the nuances of meaning clustering around the ideas of courtesy and civilized behaviour; and the advocates of Civil Disobedience enjoin their followers to behave with impeccable courtesy, and to follow in all ways the advice of St. Paul: "Recompense to no man evil for evil. Provide things honest in the sight of all men"" The attempts at the disruption of life on a university campus to the detriment of the majority of those wishing to proceed with their learning process and the destruction of public property does not, in my mind, fall within the realm of justification as set out above. Due democratic process will, in my mind, eventually resolve and can resolve any of the ills complained of by students to date at least in so far as these ills have been explained to this writer.

A matter that seems most often to be overlooked in this time when student revolt, however, is a popular enterprise is the subject of the costs of our institutions of learning and concern for those who pay the bills. The radical socialist students in their depravity rail against big business and shout that education is under the control of that ever popular whipping boy, "the corporation." They claim that by controlling the purse strings the big businesses and that mysterious commodity called "the establishment" dictate that the end result of our university system (the graduates) fit-a-mold dimensioned to suit the corporation, or to stamp out a product in an endless stream each the

same as the other. This, to my mind, is a lot of balderdash and poppycock. I am sure it can be proven that the largest contribution by far towards the upkeep of these institutions comes from the ordinary taxpayer of this country and that in allowing his tax dollars to be spent on education, the taxpayers' only objective is to support a system that will allow for the further development of our most important resources (our youth) in order that the ultimate end will be an ability on the part of the graduate to not only satisfy his own desires for a more fruitful life, but to contribute to the betterment of society and the improvement of our living environment. There is no proof that our educational system does not produce people who are individuals and in fact I think the contrary can be proven to be true.

It used to be that aside from the occasional outburst of panty-raiding and other similar student pranks one could expect that the university atmosphere was one of sanity and civilized conduct. If, however, one is to judge by what is now being reported in the newspapers and television, it would appear that sanity and civilized conduct have forsaken the university. Hordes of radical socialist, so called progressive, pseudo intellectual students and faculty members seem to be continually threatening to illegally occupy or to tear down or burn down some university building or other to satisfy some end or objective which amid all the incoherence and noise is generally obscured to the public. In other cases such as in institutions like Simon Fraser and Sir George Williams, this element seems bent on destroying the institution itself, or an individual member of the faculty (obviously one not supporting student views). If this then is the condition and mental attitude of our students today, then it is possibly time that John Q. Public said "enough," and came to feel that until sanity is regained, contributions from the public coffers should be greatly curtailed. The public might be well justified in asking why the public purse should in fact support institutions of higher learning. The obligation of the public taxpayer might well be justified only to supporting elementary and high schools.

One realizes, however, that student discontent is not as wide-spread as the news and communications media might lead us to believe or, in some cases, might like us to believe. When one discusses the subject with the more rational elements of our student society, it is realized that

the dissidents represent only a small minority of those at university and that this minority seems to come from those faculties generally considered to be of the "arty" type. If this is the case, it might be wise to submit to suggestions set forth by Shaun Herron in the recent editorial on the subject in the Free Press and separate these types of faculties from what we now call our universities. In this way, these groups could do what they please on their own little campuses while the majority of students could continue their serious pursuit of a vocation.

Since the end of World War II and with an ever increasing affluence in our society, the university and government have been struggling just to keep abreast of the demands of higher education. The building programmes at our universities and colleges has been tremendous and anyone who has not seen the University of Manitoba for example, since say 1946, would be amazed at the facilities now being provided. Below university level large technical and vocational schools have been provided from the public purse to accommodate students who do not wish or who are not able to go to university, and in the realm of our public and high schools the tax bill of every home owner is at least 75% devoted to educational commitments. Remembering that this is a Province of limited financial resource and sources of revenue and that the bill is being paid probably by less than a million people, I think that the student dissidents and faculty malcontents should take a second look at their demands. It seems to me that what is being done by them to our institutions of learning is tantamount to hitting a man while his back is turned or his hands are tied.

Also it must be realized that the public coffers produce at least 80% of the cost of educating each student at university. This percentage indicates that an obligation exists on the part of the student to at least act in a responsible fashion.

The last 50 years have seen a greater improvement in the lot of mankind than any other era in history. We in North America are twice blessed in this regard and we in Canada are thrice blessed in that we live in probably the potentially richest country in the world and in a country where there is probably more respect for individual freedom than any other. This is not to say that there are not still problems, but these will be solved. But they will not be solved by permitting

anarchy to reign in the streets or on our campuses or through the mouthings of these loud-mouthed confused pseudo-intellectual malcontents. In this regard I would only say that those students now at university will one day (we hope) be beyond their ivy-covered walls and white-tiled swimming pools and be in a position to take on the matter of solving some of these problems, and if their present talk is an indication of their potential, then we're certainly in for a bright new tomorrow. To those of the faculty teaching staff who are prone to entice these students to rebelliousness, or who are prone to criticize every element of society existing beyond the limits of their university, I would say come on out into the real world, come out where the action is and accept the responsibility for making decisions in respect of solving the ills of the society you talk so much about. The picture is little different when actions have to take the place of words, and when the individual is responsible for his actions and is, himself, open to criticism. If you have the answers, let's have them. In the meantime let's stop trying to destroy the institutions paid for them by the sweat of the ordinary taxpayers and remember that one of the most important undertakings in achieving any of life's objectives is the development of self discipline.

Finally then it may well be in the public interest to consider our universities in fact as higher vocational schools. Our modern society puts a heavy stress on technical skills and the survival of our race in respect of environment and the coping with the provisions of the necessities of existence is becoming increasingly more and more dependent upon technical skills, management and innovation. The responsibility of our publicly supported seats of higher learning should possibly rest in providing training in these lines and leave the arts and so-called cultural fields to private institutions. Public funds then at least would not be used to sponsor rebellion and activities contrary to public order and the democratic process.

EDITOR'S NOTE:

It is interesting to note that in the university students elections to the senate the campus radicals ran a hand wringing last. The seats were filled by two engineering students (Civil) and the remainder by other of the more conservative and stable student moderates. I understand there was great consternation among the radicals.

ARE WE REALLY NUMBER ONE?

By K. A. MILLIONS, P. Eng.

Once a year the Dominion Bureau of Statistics makes a press release advising the Canadian people as to who is making the loot, and once a year my friends and neighbors eye me with suspicion. Yes, once more there I am up there with the lawyers and doctors making well in excess of \$20,000 a year.

I don't know how the rest of you explain the discrepancy between what is reported in the newspapers and what you bring home to the good wife. Although I immediately produce the most recent Report on Salaries, I get the beady eye and I'm sure there is a nagging suspicion in her mind that dirty work is afoot.

I am sure that there is some reasonable explanation for the figure that the Dominion Bureau of Statistics releases to the newspapers as average engineer's salary. If only they'd qualify the release to point out which engineers get this salary and what percentage of the total of the Professional Engineering personnel in Canada these engineers represent, peace at home would reign supreme.



THE ASSOCIATION'S RESPONSIBILITIES

The responsibilities of our Association are primarily directed to ensuring that:

- those practising as Professional Engineers in the Province are, in fact, qualified to do so.
- the quality of engineering carried out in Manitoba does not present a hazard to the public.

With regard to the first responsibility, the officers of your Association have done a conscientious job of separating those who are from those who aren't qualified in order that there is reasonable assurance that the second responsibility is met.

With a vigorous campaign being carried out abroad to recruit engineers and technicians by representatives of the Department of Manpower and Immigration, the work load carried out by the A.P.E.M. executive and office staff has greatly increased in the past few years. The following will give you an indication of the magnitude of the increase.

While the number of registrations each year has varied by only about 10% since 1958, the total membership has steadily increased from 977 in 1958 to 1653 in 1968. This naturally increases the number of inquiries and the volume of bookkeeping. Inquiries from other parts of Canada have increased about 100% in the ten year period and the volume of foreign inquiries has increased from approximately 20-30 in 1958 to over 600 in 1968.

It is obvious from these figures that the work load in processing inquiries has reached unreasonable proportions, especially when compared with the number of persons who were actually registered. This situation is common across Canada. It is for this reason that Mr. L. Nadeau, P. Eng., General Manager, The Canadian Council of Professional Engineers, forwarded a Brief to the Minister of Manpower and Immigration on October 8, 1968. This report was published in the November, 1968 issue of The Canadian Professional Engineer. Unfortunately, it was only in French. For those of us who don't read French, it is being reproduced here in English. We certainly hope that the Brief will bring about the desired results and that the load on our executive and office staff will be reduced to manageable proportions. — K.A.M.



BRIEF TO THE MINISTER OF MANPOWER AND IMMIGRATION ON IMMIGRATION OF ENGINEERS AND TECHNICIANS

1. GENERAL OUTLINE

The number of foreign engineers, or individuals claiming to possess engineering qualifications, who are considering immigration in Canada, has been steadily increasing in recent years and is likely to continue increasing in the foreseeable future.

In addition, since all prospective immigrants claiming professional status are now instructed to obtain an assessment of their qualifications from the appropriate licensing bodies in Canada, the number of inquiries and applications for assessment received by the professional bodies will naturally increase.

As an indication of the load this places on some of the professional bodies involved, a recent survey shows that the rate at which inquiries are received by the Canadian Council of Professional Engineers and its eleven constituent provincial and territorial associations is presently close to 40,000 per year.

By conservative estimate, the cost of handling these inquiries is at least one dollar per unit. This does not include the cost of processing applications for formal assessment of qualifications, for which a reasonable fee is charged.

The Canadian professional engineering associations are generally not equipped to deal with such a volume of work without serious effects on their normal activities and although they are willing to assume any necessary responsibility in this field, it is their feeling that the current practices can be substantially improved in the interest of all concerned. For further details see Appendices A, B and C.

This brief has been prepared after numerous discussions with various officials of the Department of Manpower and Immigration and serious consideration by the professional bodies involved.

2. OBJECTIVES

- 2.1 It is imperative that the current methods and procedures used by the Department of Immigration and by the engineering profession in the handling and processing of inquiries and applications be reviewed and improved in the interest of fairness, efficiency and cost, and with due consideration to the requirements of the economy of the country and the reputation of the profession.
- 2.2 It is also evident that close co-operation between the profession, the federal immigration authorities and provincial immigration services, will be required to achieve the best possible results.

3. RECOMMENDED IMPROVEMENTS

3.1 Counselling and Immigration Service

- 3.1.1 A brief but fairly comprehensive information pamphlet, approved by the profession, should be published by the Department of Manpower & Immigration and made available to prospective immigrants at all immigration

offices abroad. This pamphlet to be reviewed periodically by the profession and brought up-to-date as required.

- 3.1.2 A considerably more comprehensive manual should be produced which would delineate specific acceptance levels, examination levels, and the various levels with respect to partial and no exemptions from the compulsory examination; it might even contain agreed on "specifics" as to degrees, institutions, etc. . . . which could be used by immigration department officers for reference. The manual would be prepared and maintained up-to-date by the profession and printed by the Department for the exclusive use of its field officers.
- 3.1.3 An improved system of specific instruction of immigration officers before assignment to foreign offices and a follow-up information service should be established. The profession would participate in these two functions.
- 3.1.4 Improved methods of measuring actual demand for engineers should be adopted and advice obtained from the profession at regular intervals. (It is understood that the Department plans to adopt an improved system early in 1969.)
- 3.1.5 Up-to-date information on salaries and other employment conditions should be made available to immigration officers. The profession will supply to the Department as much of this information as possible.
- 3.1.6 The handling of inquiries by the profession to be improved and steps taken to avoid duplication. This could involve among other measures referring all inquiries of a general nature to CCPE headquarters with inquiries concerning specific provinces being answered by the appropriate provincial association. A standard form of inquiry has been developed and should be distributed by immigration officers.

3.1.7 The giving of information concerning job opportunities, prospective employers, employment agencies, etc., and assistance in finding employment must be the responsibility of immigration officials. All prospective immigrants with engineering qualifications should be clearly advised that the engineering profession cannot provide these services, and should be discouraged from seeking such services from the professional bodies.

3.1.8 Applicants should be advised that replies to inquiries will be sent by surface mail unless an adequate amount of International Postal Union coupons is enclosed with their inquiries to cover air mail costs.

The information pamphlet described in 3.1.1 should stipulate details required from the applicant to enable the professional bodies to give a complete answer. It should also discourage applicants from writing to several associations.

3.2 Assessment of Individual Qualifications — Examinations

3.2.1 The professional associations and CCPE will continue to informally assess the qualifications of prospective immigrants, but the Department is requested to minimize the number of such inquiries by urging applicants to obtain a formal assessment from a specific provincial association. A fee will be charged for formal assessment by the association concerned.

3.2.2 Application forms of all Associations agreeing to carry out such assessments would be made available at all appropriate immigration offices abroad.

3.2.3 Consideration will be given by the Associations to the adoption of a system of confirmatory examinations for all candidates holding non-recognized engineering degrees and the possibility of writing such examinations at point of immigration under Department supervision.

3.2.4 Consideration will be given by the Associations to the possibility of entering prospective

immigrants into their regular examination program and conducting regular examination sessions in various foreign centres under Department supervision.

3.2.5 The profession will intensify its efforts to achieve greater uniformity in the interpretative rules applicable to registration and examination requirements.

3.3 Assessment of Foreign Engineering Curricula

3.3.1 The Department should give serious consideration to providing financial support for teams of experts who would assess "on the spot," education systems and facilities in critical areas where substantial numbers of prospective immigrants are located. The reports from such teams and policies deriving therefrom, would then be fed back into the information service to immigration officers as noted in 3.1.2.

3.3.2 The profession would provide expert personnel and instructions and guidance for the teams mentioned in 3.3.1, receive and process their reports and initiate policies.

3.4 Co-operation with Provincial Authorities

Some provincial governments are presently active in the field of immigration. Provincial associations will offer their assistance to the appropriate authorities on the same basis as proposed at the national level, and will keep the Canadian Council of Professional Engineers informed of their activities at the provincial level so as to avoid any unnecessary duplication.

In Ontario, the Immigration Branch of the Department of Economics and Development has recently published a pamphlet prepared by the Association of Professional Engineers of Ontario for distribution to prospective immigrants to that Province. A similar publication is presently being contemplated in Quebec.

In Quebec, a new Department of Immigration is being established and

the Corporation of Engineers of Quebec has already undertaken, in co-operation with the provincial authorities, a special study of engineering schools in France.

With adequate co-ordination and exchange of information all such activities will assist in achieving the desired results, and serve the best interests of all concerned.

The Canadian Council of
Professional Engineers
by
L. M. NADEAU, P. Eng.
General Manager.

Ottawa, October 8, 1968

♦ ♦ ♦

WHAT PRICE A BROAD EDUCATION?

By R. J. JEWELL

To most engineers who can remember their University years, the concept of a student power revolution is difficult to comprehend. Engineers have never been predominant in student politics or in any of the previous forms of protest against authority such as the nuclear disarmament group. Quite possibly there are very few engineering students actively involved in the present day demonstrations. This may be due to an apathetic approach by engineering students to situations not immediately affecting them, a rigorous and time consuming course, or a different reason for attending University than the protesting groups.

Most students in the engineering and similar faculties such as medicine and chemistry have the aim of attaining professional qualifications as the initial requirement for a career. In contrast to this, there are many students in other faculties who attend Universities "as the thing to do" to obtain a liberal education. This is a state of affairs in our society, partially prompted by a requirement of employers for continually rising educational achievements on entry to a job and also by pressure from a society which has made the attainment of a University education available to all who pass the entry requirements. This means that there are more and more young people who find themselves at University but with no real aim or desire, and it appears that these are the students who are promoting the present situation.

Many Universities have problems of overcrowding, inadequate academic staff and even inefficient administrations and it is no wonder that there is unrest among students at these institutions. There has always been a degree of unrest among a section of the student body about these factors and it is natural that thinking students should question the rights and wrongs of the institutions in which they are obtaining their "education." However one of the current problems is the outbreak of violence by students in their attempts to achieve their aims. This has had the effect of drawing the attention of the news media and hence the public to the student unrest. The publicity given to the dissenters has two main effects. Firstly, it encourages similar demonstrations and violence in other institutions, and secondly, it raises anti-student feeling among the general public who quite rightly feel that they are paying for the educational facilities and don't care to see the privileges offered to the students abused.

The financial backing given by society through taxation to the tertiary educational system is based upon the premise that the education gained by students will somehow be beneficially plowed back into that society. The logic in this is reasonably evident in faculties which lead to professional qualification in fields such as Engineering, Medicine, Law, etc. However the value of a "liberal education" to society is less tangible, and this must be carefully assessed when considering that it is these students who appear to be the most dissatisfied group and are providing the basis of support for the revolutionaries.

The vast majority of students do not condone the violence used by the reactionaries and take no part in the demonstrations, except possibly where there is some really serious grievance such as was evident in the Sorbonne riots. The general situation appears to be such that a small group of active dissidents on campus can incite, dominate and lead a larger group of the aimless and dissatisfied students into protesting against authority or whatever happens to be their target. Some of the tactics employed by the reactionaries and the student unions which they are said to dominate appear to have a strong political flavour. An implication of this is that these people have ideas of using the Universities as a lever in their quest to implement their ideologies on society as a whole.

The present situation is such that a few basic questions have to be answered:

Are Universities to remain as education institutions or to be turned over to the radical students with a desire for political power?

Are students capable of governing the Universities, making staff appointments and setting courses?

Is the system of providing a liberal education a suitable or necessary requirement for entering the modern business world? In other words, what is the

value of a "degree" unless it is used to attain certain professional goals?

Are professional faculties properly placed in a University, or should they be established separately as Institutes of Technology?

Are the students in these professional faculties involved to any extent in the present situation? If not, should there be some premium placed on tuition in the faculties providing a liberal education (and the reactionaries)? This would have the effect of discouraging aimless students and obtaining a more tangible return from education costs.



FINDING A CAPSTONE FOR A PYRAMID

There was a Canadian Council meeting held in Ottawa on November 7th and 8th, 1968, in preparation for which our Council had a special meeting on November fourth.

Uppermost in council's mind was the question of how could the various facets of engineering life be brought under one Dominion roof. Remember that at present each province has its own legally constituted association or corporation, there is

the Engineering Institute of Canada, the Canadian Council of Professional Engineers and of course all the technical societies of the various disciplines.

Because they had done their homework our representatives: Frank Fowler, Larry Blackman and Terry Algeo were able to take meaningful part in the discussions at Ottawa. After meeting with other interested engineers, the following seed crystal was produced.

ENGINEERING COUNCIL OF CANADA

TECHNICAL AFFAIRS

LICENSING AFFAIRS

AFFILIATED SOCIETIES

AFFILIATED SOCIETIES

CONSTITUENT SOCIETIES

PROVINCIAL ASSOCIATIONS AND CORPORATION

If you substitute EIC for "Technical Affairs" and CCPE for "Licensing Affairs," you will see that without exotic empire building we are almost in the happy

position of having a United Engineering Profession in Canada. So near and yet so far. Let us be glad that our Manitoba Council is dedicated to professional unity.



CAN YOU GET AHEAD?

Can you get ahead without new developments—without innovation? Can you get ahead by letting others do things for you—by letting others write the feasibility reports and build the required plants?

today, 4 billion in 1980 and 6.4 billion at the year 2000 A.D., the demand for everything we now consider necessities will double over thirty years. Will you be asked to share in satisfying this demand?

The food problem in new mouths to feed in the under-developed countries will need some 300 million tons of

With a world population at 3.4 billion

additional grain annually by 1980, an amount approaching the present total production of North America and Western Europe **combined**. Can we find satisfactory means of food product development and marketing to share in this trade with under-developed and politically restless countries?

Our present handling, transport and harbour facilities are not equipped to handle the increased demand we may expect over the next ten years. Are you involved in innovation and development to resolve these problems?

We put it to you that we are not equipped; that we are not utilizing the know-how we now have and that to be equipped in our useful lifetime is going to take a major political financial and engineering effort. We invite your support for Industrial Research and Development.

Attend the Smoker on this subject, March 26. Come and hear informed speakers talk on the urgency and importance of this subject at the Charterhouse Motel.

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COUNCIL MEETING

Council meeting of January 22, 1969 was off to a brisk start with L. W. Blackman in the chair, four councillors and the registrar on hand. Three more councillors showed up a few minutes late. Under registrations, there was an application from a former resident EIT now living in another province. After discussion the non resident was admitted.

A Community planning report from Councillor Hood was put aside for further discussion at a special noon meeting.

Approval of CCPE minutes of November 1968 was expedited with an explanation from F. Fowler. The only item debated was the merits of paying dues for non resident engineers. The minutes were approved. A letter from Pat Feschuk, chairman of the APEM continuing education committee was studied. This letter advised council that the EIC has appointed a standing committee on continuing education. Council were delighted to leave this area to the EIC.

A fine review of activities of the committees was presented by the Registrar. Don't expect much change in operation for the coming year.

Membership Committee is being instructed to arrange for a special meeting on "Applied Research and Development." The meeting was called for in a letter signed by six members of the Association.
— S.J.A.

As 1970 is the 50th Birthday of several provincial associations the Alberta Association has taken the initiative to book the Jasper Park Lodge for May, 1970. It is hoped that engineering societies will choose this as the time and place for their meetings so that the sum of the components will have maximum impact under the banner "Western Congress of Engineering."

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BULLETIN COMMITTEE ATTENDANCE DOWN AT COUNCIL MEETING OF FEBRUARY 6, 1969

Bulletin Committee members seem to be a particularly busy and active breed which unfortunately results in the occasional missing of important events. Such was the case at the last council meeting. This reporter feels particularly distressed about this course of events since he has yet to cover a council meeting in spite of all good intentions. His first attempt to do so ended in failure on the steps of the President's residence. Through a communications mixup, cancellation of the meeting didn't get back to him till the morning after. (And reporters are supposed to be the first to know!) He is, however, most hopeful that before the year is out he will have the opportunity to report first hand on the proceedings of at least one council meeting. (Not in the near future though. It now appears that both reporters assigned to this beat will be taking simultaneous though widely separated holidays — one in Europe, the other in Mexico — during the end of this month. A well qualified replacement has already been picked in the interim.) For our report of the last council meeting we are in debt to Mr. Algeo, in whose office we hastily and we hope accurately, assembled our coverage. — A.O.P.

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COUNCIL MEETING — February 6, 1969

After accepting the minutes of the last meeting, council discussed certain new procedures which could be adopted to streamline the handling of routine matters

such as accounts and registrations. At present these items are handled individually and council members feel that measures such as combining motions could save a great deal of time at future meetings, thereby allowing more time for less routine items.

A motion was passed that Mr. R. Hood be asked to form a committee to investigate aspects of community planning such that the Association can formulate a general policy on this subject.

A motion was passed that a letter be sent to officials of the Canadian Federation of Mayors and Municipalities to the effect that the Association supports the objectives of the first Canadian Urban Transportation Conference and that the Association is in general agreement with the approach taken in the position paper of the Manitoba Regional Group.

A motion was passed that, until more convenient arrangements can be made, Mr. Algeo act on the CCPE Committee for certification of Engineering Technicians.

The minutes of the premises committee meeting of January 24, 1969 were presented. This committee feels that the Association should negotiate to be relocated at no additional expense. If this can be achieved, it is recommended that relocation to offices acceptable to our Association and that of the Architects be carried out. At present, premises of the Winnipeg Chamber of Commerce are leased jointly by the two Associations. The Chamber of Commerce has found itself in need of more space and has suggested that we might consider an alternative location.

It was generally agreed that a meeting should be arranged between a committee of council and a similar committee representing the North Dakota Registration Board following receipt of a letter encouraging such a step from Mr. G. J. Toman of the North Dakota board. It is anticipated that such a meeting could pave the way towards greater contact with American engineers and further progress towards the recognition of each others' professional status.

The Association President and Vice-President have been requested to discuss with the University of Manitoba's Dean of Engineering, Mr. J. Hoogstraten, the proposed agricultural engineering syllabus

with a view to provincial accreditation. The question of national accreditation has also been raised since the Canadian Council of Professional Engineers has recently formed a board to deal with such matters. Although the provincial associations remain the sole licensing bodies for professional engineers in Canada, it is felt that a nationally recognized syllabus would ultimately benefit the student.

Council discussed possible changes in Metro's building by-laws as they affect safety and the responsibilities of the engineer. The discussion concluded that further investigation of this matter by Mr. Algeo and Mr. Earp in consultation with the Association's legal council should be undertaken. An informed legal opinion is sought as to the limits of responsibility implicit in the use of the professional engineers' seal. — A.O.P.



TIGHT MONEY DAY OVER AS LARGE MAJORITY VOTE FOR NEW FEE BY-LAW

1642 ballots were sent out and the following returns were received:

540 in favour
176 against

in addition there was one unsigned envelope, seven were late (including two from the university), two members voted for council.

This significant majority indicates confidence in our Council to run the association unhampered by a squeeze for money.



OLD ENGLISH CUSTOM REVIVED

We are told that Englishmen do not speak to people who have not been properly introduced to them. Your Council wishes to hear from engineers resident outside Metro Winnipeg. If you are interested in Manitoba Engineering Affairs and live outside Winnipeg, please drop a line to: Larry Blackman, President APEM at the Association office. Mention that you were introduced by the bulletin.

LETTER OF INTEREST

T. W. Algeo, Esq., P. Eng.,
Registrar.

Gentlemen:

Re: Testing and Inspection

The members of this Association are mainly engineers interested in the design and supervision of construction of projects in Canada and overseas. There are a few, but not many, involved in testing laboratories and inspection work. We all do, however, rely heavily on the results of the tests made, not only to design the project, but also to maintain quality control during construction. We are therefore somewhat concerned about two practices in conjunction with testing.

The first is a tendency for Government departments to do their own work and thereby not make available to the rest of the economy the experience and skills which would be available if they hired commercial laboratories.

The second is the tendency of a large number of clients, including some consulting engineers, to call for tenders for testing and inspection with awards being made on the basis of bid prices. We feel that such practice discourages the use of competent professionals in laboratories and reduces the availability of skills at a time when more and more competence is required. For example, with the advance in the chemistry of steels many engineers need advice and help in specifying and testing of steels and welding. It would appear that there is an ever increasing need for technical advice in such widely divergent, but rapidly developing fields as plastics, soil mechanics, metals, chemistry, electrical apparatus and wood. Often the test specification evolves from the state of the art at the time it is written, but a professional is needed to point out the limitations of the test for a particular application. To illustrate the magnitude of tests, the American Society of Testing Materials has 32 volumes of tests and this is only one of a number of Associations who publish standard tests.

It is therefore imperative that the Province have a pool of competent professional people in laboratories and inspection companies to give the design engineers their judgment in the testing and use of materials and advice when problems develop.

If we want a professional service from

these laboratories we must make a climate that will attract professionals. By calling for tenders for testing and inspection and accepting the lowest bid accomplishes the opposite.

We are projecting these ideas to our own members and hoping that we can improve the situation but wonder if this is not a matter of interest to all professional engineers and perhaps worthy of discussion in your association.

Yours very truly,
Association of Consulting
Engineers of Canada

C. H. TEMPLETON, P. Eng.,
President.

Editor's Note: This letter was also sent by the Association of Consulting Engineers of Canada to all other Provincial Associations and the Quebec Corporation.



ASSISTANT REGISTRAR THE ASSOCIATION OF PROFESSIONAL ENGINEERS OF ALBERTA

Duties

To generally assist the Registrar with such matters as the promotion and development of the Alberta Society of Engineering Technologists; publication of the Association magazine, The Alberta Professional Engineer; office correspondence, enquiries, etc.; extensive committee work; preparations for general meetings of the Association and for meetings of the Council; and various other items related to administration of the Engineering and Related Professions Act and to the general work of the Association.

Qualifications

Membership in the Association of Professional Engineers of Alberta.
Keen interest in professional affairs and a sincere desire to contribute towards the development of the Association and the professions with which it is concerned.

High degree of aptitude for and interest in administrative work.

Some experience in general administration and committee work desirable.

Rewards

Opportunity for challenging and satisfying career in rapidly developing field.

Excellent working conditions.
Salary to be discussed but will be dependent on qualifications and experience.

Applications should be directed to the attention of

The Registrar,
The Association of Professional
Engineers of Alberta
604 Royal Trust Building
Edmonton 15, Alberta



ENGINEERS ON THE COMMISSION ON TARGETS FOR ECONOMIC DEVELOPMENT

The code of ethics of the Association states that "it is the duty of the engineer to interest himself in the public welfare and to be ready to apply his special knowledge for the benefit of mankind."

Demonstrating their awareness of the above precept are those engineers who have served in various committees of the Commission on Targets for Economic Development. We would like to congratulate W. J. Adams, R. E. Chant, W. F. Hayes, W. D. Hurst, A. M. Lansdown, V. S. G. Lewis, A. F. McDonald, H. Meronek, K. Nixon, A. Penman, and W. L. Wardrop for donating their time and talents for the benefit of the citizens of Manitoba.

—R.M.S.

USE OF P. ENG.

Following Engineers used title "P. Eng." on outer envelopes when mailing Ballots to APEM Office—December, 1968. Out of a total of over 700 who returned ballots, these members professionally added "P. Eng." —

R. E. Chant, H. W. Argent, L. G. Scott, E. E. Lach, S. Fedorowicz, E. Enns, J. G. Malus, A. Shecter, E. W. J. Clarke, A. R. Pick, N. L. Anderson, C. A. Sankey, H. A. Dalkie, R. J. Wazney, C. R. McBain, R. T. Harland, F. A. Jost, N. Partyka, B. L. Barry, L. Billinkoff, J. Jablonsky, E. H. Hamilton, G. A. Dring, D. S. G. Ross, A. J. Pluhar, D. Demedash, B. Ketcheson, C. J. Connolly, C. P. Wright, Herbert Hunter, L. M. Hovey, S. A. Jabbar Khan, A. Turek, J. D. Mollard, C. B. Dawley, G. Langman,

Peter J. Nelson, J. F. Mills, D. E. M. Allen, J. H. Berger, Jr., R. R. McKibbin, H. J. Strain, A. McGregor, J. W. A. Godfrey, B. Laxdal, M. Mindess, C. Zeglinski, C. R. Bouskill, S. Dolhun, J. S. P. Toye, Jack Ediger, R. H. Glassford, C. H. Howard, G. C. Cartwright, G. W. Argle, G. R. Kirk, A. R. West, E. B. Clark, Angus G. MacKenzie, S. Sur, P. A. S. Bertram, D. M. Kilgour, E. Leith, W. S. Lakevold, P. Feschuk, L. A. Bateman, Clifford H. Tottle, G. A. Nicholas, J. A. Bell, C. E. Ireland, K. L. Foster, K. J. Kramer, J. H. Kennedy, J. H. Dick, J. F. Church, E. R. Wilbee, O. T. Djamgouz, B. Jacobs, T. L. Woodhall, Tony deVette, C. I. Biegler, H. Bonne, Robert Ross, G. A. Smith, W. H. Kasperski, H. E. Thiessen, Wm. R. Newton, Hans P. Brunger, W. A. Mildren, Neil J. Duncan, R. A. Pollock, F. Moolbroek, A. G. Mensforth, S. Purmalis, J. W. Brako, A. F. Klymchuk, R. J. Clark, L. Romanchuk, M. Dimentberg, Erwin Weiszmann, J. B. Corkal, J. H. Jakobs, S. M. Kennedy, A. J. Lemoine, H. F. Burns, K. W. Spencer, E. J. Conway, J. H. C. Wilson, A. F. Buelow, R. J. Mongeau, A. Melnick, W. J. Thiessen.



FEES, PENALTIES, RESIGNATIONS, ETC.

A reminder notice was **not** mailed to members this year advising of the \$3.00 fee penalty which applies after February 28th. Considering the increased mailing costs this year, and intervals between regular mailings, the expense of a special mailing could not be justified.

The following information is presented in order that misunderstandings with respect to payment of fees, penalties, resignations and deadlines may be avoided:

By-law 32

"... If any member so registered fails to pay the said fee prior to July 1, in any year, the Registrar shall remove his name from the roll of Professional Engineers of the Province of Manitoba."

By-law 33

"Any member whose name has been struck off the Register for non-payment of fees may be readmitted to full membership in the Association at any time upon formal application to the Secretary, approval of Council, and payment of the Annual Fee for the year in which his membership was cancelled, and the Annual Fee for the year of reinstatement."

ment, together with an amount equal to the registration fee."

After June 30th, any member whose 1969 annual fees are not paid will be removed for non-payment of dues. If any such member should apply for reinstatement on July 2nd, he would have to remit the sum of \$53.00 to be reinstated. Should he apply for reinstatement during some future year, he would have to remit \$78.00 under the existing fee structure.

Under the by-laws, any member who is no longer practising professional engineering in Manitoba, may resign from membership effective June 30th, by remitting half the annual fee (\$14.00). If he wished to be reinstated at any future date, any member so resigning from membership would be required to remit only the annual fee for the year of reinstatement.

If you do not intend to maintain your membership at this time, we would suggest that you remit the sum of \$14.00 before June 30th and resign effective June 30th. If you do intend to maintain your membership, remittances must be postmarked on or before June 30th.

We do not wish to see our members written off for non-payment, particularly in the light of the heavier fine that is imposed per By-law 33, and we trust that the information provided will be helpful.

— T.W.A.



ROTARY INTERNATIONAL FELLOWSHIP

The Winnipeg Rotary Club, together with all other Rotary Clubs in Manitoba, is looking for a candidate that it can nominate for a Rotary International Fellowship worth at least \$3,500 a year. It is an all-expenses paid fellowship for the academic year 1970-1971. It is to go to an outstanding young man or woman who is interested in world affairs and who can fulfill a dual role of student and unofficial "ambassador of goodwill." The Rotary Foundation Fellowship offers a qualified student an opportunity to contribute to better understanding between the peoples of his home and the study country while advancing his academic career.

The award covers full transportation, educational, living and miscellaneous related expenses for one academic year, plus, in certain cases, a period of in-

tensive language training in the study country prior to the commencement of the regular academic year. The awards are made for study in any field and are tenable in more than 130 countries in which there are Rotary Clubs.

Application must be made through the Rotary Club nearest to the applicant's permanent address not later than March 15, 1969. The address of the Winnipeg Club is as follows: Winnipeg Rotary Club, Fort Garry Hotel, Winnipeg 1.

Requirements:

- A. **An applicant for a Graduate Fellowship must:**
be unmarried and between the ages of 20 and 28 inclusive as of July 1, 1970; have a bachelor's degree or equivalent prior to the beginning of his Fellowship year.
- B. **An applicant for an Undergraduate Scholarship must:**
be unmarried and between the ages of 18 and 24 inclusive, as of July 1, 1970; not have a bachelor's degree or equivalent, but have completed two years of university level work, prior to the beginning of his Scholarship year.
- C. **An applicant for a Technical Training Award must:**
be male, either married or single and between the ages of 21 and 35 inclusive. There are no educational requirements except those established by the institution of learning.
- Other regulations concerning eligibility should be referred to the nearest Rotary Club.



NEWTON APPOINTED EDITOR

W. R. Newton has been chosen as the new editor of this publication.

Born in Duluth, Minn., Bill moved to Manitoba at an early age and was raised in the Stony Mountain district.

He graduated from the University of Manitoba in 1952 after spending 3 years overseas with the Royal Canadian Navy. After graduation, he joined the Drainage Branch of the Department of Highways and is currently Chief of Operations Division, Water Control and Conservation Branch, Department of Mines and Natural Resources.

Bill is married with four good looking children, three boys and one girl.



W. R. NEWTON, P. Eng.

He was a member of the A.P.E.M. Nominating Committee in 1968, is a member of the EIC, and is active in the Masonic Lodge.

Among his hobbies he includes upland game hunting, fishing, and oil painting.

Our new Editor's cohorts tell us that Bill is a firm believer in the "Proper Prairie Chicken Hunting Approach," which apparently involves walking, more walking, and then some more walking.

They state he is in the throes of an athletic renaissance and classified him as a has-been rover and a re-emerging curler.

He is also known for his assortment of ribald Irish Folk Songs which he has been known to cut loose with on occasion.

Asked for some thoughts and ideas on the Bulletin, Bill observed that he would like to see important Council activities, decisions, and discussions reported in fuller detail.

He feels that our house organ should be a sounding board available to Council, Committees, and individuals—not for the publication of technical papers and data, but as a means of communication to let the public know our viewpoints on such subjects as the recently published Hellyer Report, etc. The Bulletin, he feels, should exhibit a certain dignity while creating

an environment of thought. At the same time it should certainly include a selection of lighter articles, accounts of our activities (Wine and Rose Ball, Golf) etc.

During his stint on the Bulletin Committee, our new editor has become known for articles such as, "How Does Our Act Stand," "Essential Government Services and the Strike," "Revise the Benchmark." We look forward to more of his articles and editorials. — D.A.F.



SPECIAL COMMITTEES

Special Committees should be "Self-destructing." Council, in reviewing all committees, should check to see if the committee's existence is justified. Amongst the "diseases" chronicled by Dr. Parkinson is that of creeping government-by-committee, ad nauseam.

By avoiding the decision-making syndrome the Board of Directors augment the spread of unnecessary committees. Efficiency is lost and valuable engineering time may be involved in pursuits better suited to secretarial execution.



McBAIN WINS AGAIN

Clyde McBain followed up his fall golf triumph by winning the annual Engineers' Bonspiel in a grudge match with the rink of Bob Gottfred.

McBain and his rink of Bill Farnell, John Ross and Ron Morris dynamically exhibited that they are a foursome not to be meddled with. After losing to Gottfred and crew via an extra end in their opening game, they came back to run their opposition off the scoreboard in the finale. The winners each received a curling broom.

The Ralph Gamble aggregate won the prize for the most points scored (39 in four games). He and his rink of G. Minaker, B. Thompson, T. Monastyrski, and Chester Zeglinski each received 4/5 of a crescent wrench. The significance of the crescent wrenches is unknown at this time.

Terry Bork and his rink were awarded the booby prize for four straight losses

and given trim brushes to brush up on their game.

Sports Committee Chairman, Keith Walker stated that the oddity of the 'spiel was the Fisher rink which thought the Bonsel was on Friday not Thursday.

The 12 competing rinks thoroughly enjoyed the outing and unanimously agreed that the 6 o'clock go-go show at the Highlander was far superior to the noon edition. — D.A.F.

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COUNCILLOR KENNETH HALLSON



K. HALLSON, P. Eng.

Ken Hallson was raised in West End Winnipeg, graduating from Daniel McIntyre High School and subsequently from the University of Manitoba in 1945 in Electrical Engineering. Ken and his wife Dorothea have two daughters, Aldis, 16, and Hilary, 13 and a son Paul, age 4.

After a period with the Royal Canadian Signals, he joined Winnipeg Hydro where he is at present the General Superintendent in charge of Distribution.

Registered in 1956 he has been constantly active in the Association, serving 3 years on the Social Committee, 2 years as chairman; 4 years on the Bulletin Committee and 3 years on the Membership Committee.

In addition to his association participation, Ken is member of the E.I.C. and the C.S.A. and he is currently on the executive of both the University of Manitoba Engineering Alumni Association and the Winnipeg Professional Employees Association. — C.E.A.

♦ ♦ ♦

"WESTERN CONGRESS OF ENGINEERING"

The above event is being planned as a major convention. It is being organized by the Association of Professional Engineers of Alberta in celebration of the Association's Jubilee Year and will be held from Monday, May 18 to Saturday, May 23 inclusive, 1970 — in Jasper Park Lodge in Jasper National Park in Alberta.

The facilities of the Lodge and the special convention rates will be available beginning Friday, May 15 although the meetings connected with the convention will not begin until the beginning of the following week.

The Canadian Council of Professional Engineers will be holding its 1970 annual meeting in Jasper Park Lodge during the week of the convention. A number of other organizations (for example, the Engineering Institute of Canada) have expressed keen interest in participating with the Association of Professional Engineers of Alberta in the Congress and in some cases have commenced their planning. A number of the Provincial Associations of Professional Engineers will be celebrating their Jubilee Years in 1970 while others will be approaching the 50th anniversary.

The Association of Professional Engineers of Alberta believes the 1970 convention will provide an outstanding opportunity for a co-operative effort to develop a meeting which can properly be called a "Western Congress of Engineering" and which will mark the "coming of age" of the profession in Canada.

♦ ♦ ♦

CANADIAN EDUCATIONAL TRAVEL AND EXCHANGE

The Canadian Service for Overseas Students and Trainees is in the process of establishing an information bureau concerning educational travel, study and work programmes available to Canadians

in overseas countries, and to Canadians and non-Canadians in Canada.

For the first few months of operation, the bureau will concentrate on collecting all the information available regarding such programmes. It is envisioned that the organization will provide the following services:

1. The collection of information regarding programmes overseas for Canadians; programmes in Canada for visiting groups and individuals; programmes in Canada for Canadians.
2. The provision and publication of this information to individuals and groups in Canada.
3. The publicizing of Canadian programmes through comparable agencies in other countries.
4. The referral of requests, from individuals and groups wishing to take part in such programmes, to the appropriate organizations.

CSOST is a non-governmental service organization, and enjoys the support of the Department of the Secretary of State, the Canadian International Development Agency, the Canadian National Commission for UNESCO, the Department of Education of the Province of Ontario, the Youth Department of the Province of Alberta, the Ministry of Education of the Province of Quebec.

It is hoped that the bureau will be in full operation within the next few months and relevant information about programmes involving work, study or travel, either overseas or in Canada can be forwarded to the Headquarters of this organization at 151 Slater Street, Ottawa 4, Ontario.



SUMMER EMPLOYMENT FOR STUDENTS — 1969

Each year, during the late spring and early summer, thousands of University, Technology and High School students enter the labour market. For some, it will mark the beginning of their search for a permanent position. Others will be endeavouring to secure employment for the summer period, with the hope that they may be able to earn enough money to pay the required costs for the next year of studies.

This year, approximately 1,200 Engin-

earing students and 250 Engineering Technology students will be seeking work in the Winnipeg area.

Many of those seeking summer employment possess valuable skills which should be fully utilized. In addition, summer work experience gives both the student and the employer an opportunity to assess one another with a view to a more permanent position with the company upon graduation.

The success of their efforts will depend on many factors, such as the availability of job opportunities, individual initiative and finally, co-ordination of activities.

What is meant by "co-ordination of activities"?

Basically it is the channelling of employment information into a common centre, in which the data is compared and analyzed and positive measures are taken to facilitate labour market transactions, between the employer and the prospective employee.

As an integral part of its "free" and complete employment service to the community, your Canada Manpower Centre provides this focal point for manpower activities.

University undergraduates, working under the close supervision of a Senior Manpower Counsellor, in conjunction with qualified Manpower Counsellors are hired for the specific purpose of finding employment for students and interviewing and referring students to employers seeking temporary staff during the summer season.

It can be readily appreciated that the task is not an easy one. Investments in terms of time, money and energy will not bear fruit unless an ample supply of job opportunities are made available.

The employer is the real key to the success of this program. The door to the future, for many of these students, can be opened by careful planning of summer manpower requirements now, followed by positive action. All concerned can help push the door open but first it must be unlocked.

If you, as an employer, have any plans for hiring students during the summer or require additional information on the Summer Employment for Students Program, please call any of the following numbers or if you wish, visit one of our offices.

CANADA MANPOWER CENTRE
UNIVERSITY OF MANITOBA
123 FLETCHER ARGUE BLDG.
TELEPHONE: 269-3561

STUDENT PLACEMENT OFFICE
MANITOBA INSTITUTE OF
TECHNOLOGY
2055 NOTRE DAME AVENUE
TELEPHONE: 786-5653 - 4

MRS. A. R. McINTYRE
CANADA MANPOWER CENTRE
344 EDMONTON STREET
TELEPHONE: 943-0861

Editor's Note: The placing of students in summer jobs, especially engineering students with engineering firms and engineering departments of government and industry, would be infinitely easier to sell to employers if the University year were adjusted so that the students arrived 6 weeks later in the spring and left 6 weeks later in the fall. This might be a subject which Canada Manpower could pursue with the Universities.

"The company that doesn't have an organized system for renewing, through education, its technical manpower resources will not be a company in the year 2000." — Electronics Engineering.



FIFTH E.I.C. REGION II TECHNICAL DEVELOPMENT PROGRAMME

The Fifth Engineering Institute of Canada Region II Technical Development Programme will be held at the University of Manitoba during the weeks of May 12th and 19th, 1969.

The Technical Development Programme consists of a number of introductory or updating courses on a variety of subjects with instructors drawn from the Universities of Manitoba, Saskatchewan and Western Ontario as well as from industry and government. The following courses will be offered.

- Basic Statistics for Engineers
- Pleistocene Geology and Airphoto Interpretation
- Air Pollution Control
- Business Management for Engineers
- Law for Engineers
- Water and Sewage Treatment
- Critical Path Methods
- Transistor Circuit Design
- Fluidics

- Wind on Structures
- Structural Connections
- Finite Methods

The first six courses listed are of 5-day duration, the remainder 3-day duration with the exception of Finite Methods which is 4 days. Tuition fees are \$65.00, \$80.00 and \$95.00, for 3, 4 and 5-day courses respectively. Registration brochures will be mailed to Association members in early March. Others may obtain brochures by applying to: Professor E. Shapiro, Extension Division, University of Manitoba, Winnipeg 9, Manitoba.



NEW MEMBERS

We welcome the following new members to the fold:

M. H. Baker	P. W. Hotte
G. Adalan	D. Y. W. Lam
C. D. Anderson	A. Popkevich
C. M. Arkell	N. Raz
J. Karlinsky	B. P. Grover
S. M. H. Naqvi	D. J. Palanuk
B. D. Stone	H. O. Seigel
A. C. Thom	L. E. D. Hill
E. L. Wilson	R. L. Hemeon
J. T. Ziyone	H. K. Matthews
G. W. Zbitnoff	J. A. Winterbourne
G. B. Conquergood	R. J. Hamlin
S. K. Ghosh	R. W. Menzies
A. K. Y. Loh	T. E. Tymofichuk
G. R. Ritchie	M. E. Carlson
B. W. Gulay	W. R. J. Cole
G. S. Anderson	T. J. Sherman
R. Shortreed	W. J. C. Sissons
A. R. Robertson	R. C. White
N. E. Dams	A. R. Goar
L. Q. Chow	R. V. Milne
W. A. Collier	S. S. Takhar
J. H. Fenton	R. W. Newbury



FLIN FLON NEWS

By M. N. COLLISON, P. Eng.

The Flin Flon Men's Bonspiel has just been completed and I did not see any P. Engineers taking home any of the prizes. In fact, I wonder how many of the prizes in the Winnipeg Bonspiel went to P. Engineers? Are they too busy or just not good enough curlers? The local Ladies' Bonspiel has started so that promotes me to Chief Cook and Dish Washer for four or five days and if the wife comes home with another trophy I'm going to have to really smarten up.

J. R. Bray, P. Eng., returned from four months in South Africa at the end of January. While there Bob spent most of his time in Johannesburg on research in connection with the evaluation of mineral deposits. He visited gold, diamond and coal mines in South Africa; the copper mines in Zambia and further mines in Rhodesia. It was not all work while there as he also went sightseeing in Cape Town, Durban, Victoria Falls and Kreuger Park. Bob reports it was a long time to be away from home and family but well worth it. A most enlightening and enjoyable visit.

H.B.M. & S. recently announced changes in their operations which affect several members of this Association. W. A. Morrice, P. Eng., has been appointed Executive Vice-President in charge of mining, metallurgical, exploration and metal sales operations of the Company. He was formerly Senior Vice-President. Mr. H. A. McKenzie has been appointed Executive Vice-President in charge of development. Both of these members as well as E. S. Austin, P. Eng., President of H.B.M. & S. Company will be moving to Toronto later this year.



FIFTH E.I.C. REGION II

Technical Development Programme



- UNIVERSITY of MANITOBA
- MAY 12th TO 24th 1969

E. I. C. TECHNICAL DEVELOPMENT PROGRAMME
WINNIPEG, MAY 12 - 24, 1969

This announcement received at the time of going to press is the most up-to-date received on the Technical Development Programme and differs slightly from that contained elsewhere in the bulletin. For additional information contact: Prof. E. Shapiro, Extension Division, University of Manitoba, Winnipeg 19, Manitoba. Prof. E. Shapiro can be reached at 474-9623.

—Editor

The Winnipeg Branch of the Engineering Institute of Canada will pay \$10.00 toward the fee per course of participating member of the E. I. C. Tuition fees below are for non-members. All courses will take place at the University of Manitoba.

STATISTICS FOR ENGINEERS

Instructor: Professor R. Billinton, University of Saskatchewan.

Five-day Course, May 20-24.

Tuition fee, \$95.00.

An introduction to statistics with emphasis on the acquisition of practical skills. Sessions will be divided between lectures and workshops. Topics to be covered are:

1. Distribution, tabulation, grouping and graphical representation of data.
2. Distribution characteristics, central tendency, and dispersion.
3. Basic probability theory.
4. Binomial distribution, application in sampling.
5. Poisson distribution.
6. Normal distribution and its uses.
7. Samples, accuracy of the mean.
8. Chi-square test and its applications.
9. Comparison of means, inference, normal test and Student's t-test.
10. General considerations.

NEW APPROACHES TO STRUCTURAL DESIGN AGAINST WIND ACTION

Instructors: Professor A. G. Davenport (Course Director) and Professor B. J. Vickery, Faculty of Engineering Science, The University of Western Ontario.

Three-day Course, May 12-14.

Tuition fee, \$65.00.

The purpose of this course is primarily to introduce practising structural engineers to recent development in the treatment of wind loading in the design of structures. Several aspects of the new methods discussed are already incorporated or proposed for use with codes in Canada (National Building Code), the United States (U.S.A.S.I.), Europe (Danish

and Swedish Codes of practice), and elsewhere. Several of the new developments arise from a proper recognition of the importance of the dynamic action of the wind; these aspects will be stressed in the course. The rate of innovation in structural design today makes an appreciation of the dynamic influences particularly relevant. The statistical aspects of wind loading and wind climate will also be stressed.

AIRPHOTO INTERPRETATION AND SURFICIAL GEOLOGY OF WESTERN CANADA

Instructors: Dr. J. A. Cherry, Dr. D. T. Anderson, Department of Earth Sciences, University of Manitoba.

Five-day Course, May 20-24.

Tuition fee, \$95.00.

The object of this course is to outline the nature, distribution and the origin of the surficial geologic deposits of Western Canada (with emphasis on Manitoba and Saskatchewan) and to familiarize the participants with the principles and techniques of identifying these materials by means of airphoto interpretation. It will mainly involve consideration of the deposits and processes of continental glaciation that occurred in this region during the Pleistocene epoch.

Morning sessions will be primarily formal lectures and afternoons will be devoted to laboratory sessions using air photos and other sources of surficial geology information.

The course will be of interest to: highway location and materials engineers, engineers working on hydro power and river basin investigations, soil mechanics and foundation engineers in general, foresters and geographers interested in land use or land inventory studies.

TRANSISTOR CIRCUIT DESIGN

Instructor: M. Yunik, Department of Electrical Engineering, University of Manitoba.

Five-day Course, May 12-16.

Tuition fee, \$95.00.

The purpose of this five-day course is to enable the participant to design simple transistor circuits. Participants should have a rudimentary knowledge of network theory. No past experience in electronics is required.

The terminal behaviour of a transistor is postulated without the physical background. It is shown then how this device can amplify signals and how it may be biased for various applications. The students will spend most of their time directly in the lab where they will set up and test their own designs.

FINITE ELEMENT METHOD

Instructor: Dr. Glenn Morris, Department of Civil Engineering, University of Manitoba.

Four-day Course, May 20-23.

Tuition fee, \$80.00.

The Method

This powerful analytical technique which was developed in the nineteen fifties, is applicable to a variety of problems, in continuum mechanics such as plate and shell problems, planar and three dimensional elasticity problems (stress and displacement distributions in shear walls, deep beams, fills, embankments, dams, etc.), seepage through porous media, distribution of electric potential, heat conduction.

While it is in some respects similar to the finite difference technique, the finite element method is considerably more powerful. Its practical use depends on matrix methods and the digital computer.

The Course

The course will consist of a series of lectures covering the theory of the finite element method and development of finite element computer programmes, and problem sessions where each participant will prepare data for solving practical problems on the IBM/360. A knowledge of FORTRAN programming would be an asset to participants.

WATER AND SEWAGE TREATMENT

Instructors: Staff of the Province of Manitoba Department of Health and Social Services, and The Water Control & Conservation Branch.

Five-day Course, May 12-16.

Tuition fee, \$95.00.

The course will cover the water and waste treatment field with emphasis on treatment processes used in rural communities. The course is suitable for individuals who are looking for an introductory course in the field as well as an updating course for those who are involved in the design of water and waste treatment facilities. Areas to be covered include health standards, water chemistry, public health safety, disinfection, principle of water treatment, lime soda and zeolite softening, desalination, package water treatment plants, examination of a number of Manitoba treatment plants, chemical characteristics of sewage, principle of sewage treatment, package sewage treatment plants, oxygen ditches, lagoons and aerated lagoons, septic fields, virus and bacteria considerations. The following texts will be provided: Manual of Instruction for Sewage Treatment Plant Operations, New York State Department

of Health; Manual of Instructions for Water Treatment Plant Operations, New York State Department of Health Drinking Water Standards 1962, U. S. Department of Health; Manitoba Water Supplies Treatment and Standards, Manitoba Department of Health.

AIR POLLUTION

Instructors: E. Gelus, Shell Canada Ltd.; H. Holland, Imperial Oil; B. Drysinger, Ontario Department of Mines; Staff of Province of Manitoba Department of Health and Social Services.

Five-day Course, May 20-24.

Tuition fee, \$95.00.

Topics to include Manitoba Clean Environment Commission legislation, chemistry of air pollution, health aspects of air pollution, air pollution effects on vegetation, Manitoba community air monitoring programme, testing methods and results, meteorology and pollution dispersion, pollutant removal, design criteria, engineering methods, stack design and the economics of pollution control.

FLUIDIC DEVICES AND SYSTEMS

Instructor: Dr. J. N. Wilson, Department of Mechanical Engineering, University of Saskatchewan.

Three-day Course, May 12-14.

Tuition fee, \$65.00.

An introduction to fluidic devices and systems. Topics to be covered include: a description of the operating principles and performance characteristics of both the digital devices (wall attachment bistable and monostable amplifiers, the turbulence amplifier, the diaphragm logic units) and the analog devices (beam deflection proportional amplifier, the vortex amplifier, the impact modulator), various fluidic sensors for measurement of flow, temperature, pressure, velocity, acceleration, and a discussion of some fluidic applications indicating advantages as well as limitations.

Approximately one day will be devoted to laboratory work illustrating the operation of several devices and their use in simple control systems.

PROJECT PLANNING AND CONTROL USING CRITICAL PATH METHOD

Instructor: Mr. T. R. Leczynski, Manitoba Hydro.

Two-day Course, May 15-16.

Tuition fee, \$50.00.

This course considers the development of network techniques to demonstrate project planning and control in terms of

cost, scheduling and performance. The basic rules for arrow diagrams, critical path calculation, and uncertainty of time duration for individual activities will be studied. Participants will apply manual methods to an example problem to show the major benefits of the technique for small and medium size projects. Computer data processing methods will be introduced to indicate the effectiveness of networking on very large and complex programmes. The PERT statistical approach will be briefly discussed including notes on comprehensive multi-project scheduling systems.

STRUCTURAL CONNECTIONS— BEHAVIOUR and DESIGN

Instructor: Dr. A. M. Lansdown, Department of Civil Engineering, University of Manitoba.

Five-day Course, May 20-24.

Tuition fee, \$95.00.

The purpose of this course is to examine the real behaviour of various types of structural connections, as far as is known today, to develop rational design method, and to discuss aspects of codified design on the basis of this knowledge. Emphasis will be placed on the plastic or ultimate strength of the connections, their deformation under load, and special aspect such as fatigue, premature fracture and overall ductility requirements. Connections in steel, aluminum, timber, reinforced plastics and concrete (reinforced, precast, and prestressed) will be discussed. Those attending the course will be expected to participate in design and problem discussion sessions. Laboratory tests demonstrating the behaviour of connections will be organized.

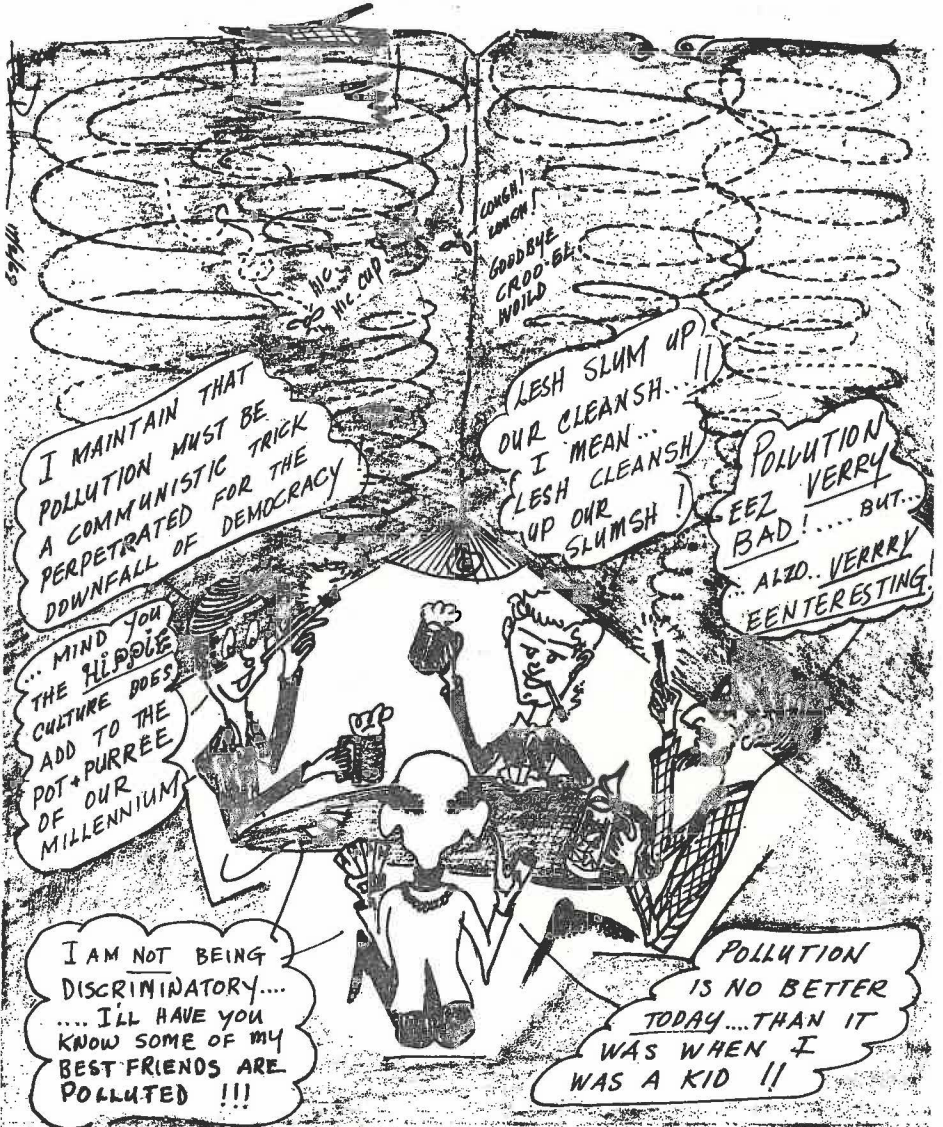
LAW FOR ENGINEERS

Instructors: Professor Arthur Braid, Faculty of Law, University of Manitoba (Course Director); with the assistance of practising lawyers.

Four-day Course, May 12-15.

Tuition fee, \$80.00.

The purpose of this brief course is to make engineers aware of some of the legal problems relating to their profession. It is not intended that participants acquire legal expertise, but that they may more easily recognize legal pitfalls in advance and thereby avoid them. Sessions will include fundamentals of contract, negotiation, tenders, estimates, variation, extras, supervision, certificates, bonds, breach, damages, warranties, mechanics' liens, duties and responsibilities of engineers, and standard form building contracts.



A.P.E.M. COMMITTEE'S *

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