

Note: This document is hosted here for archival purposes only. It does not necessarily represent the values of the Iron Warrior or Waterloo Engineering Society in the present day.

THE IRON WARRIOR



Friday, January 14, 2000

The Newspaper of the University of Waterloo Engineering Society

Volume 24 Issue 1

Renowned Humanitarian Kicks-Off Canadian Tour at UW

Next week, Rae McGrath, a Military Engineer and expert in land mine removal, will begin his Canadian tour at the University of Waterloo, sponsored by the Dean of Engineering and Engineering Society A. His visit to Canada, originally conceived to bring him to Waterloo, has expanded to several universities: Queens, U of T, Carleton, UBC, SFU and the Royal Military College as well as numerous non-profit organizations like Mines Action Canada.

You may not have heard about Rae, but you've certainly heard of his work: he is recognized as an expert around the world and was the key technical person

working with the late Princess Diana to raise awareness of the dangers of landmines and how they impair international development efforts.

Rae McGrath's humanitarian work began when he was in charge of transport and distribution during the Darfur famine in the mid-eighties. From then on he became increasingly involved and interested in working with post-conflict communities. He then moved on to aiding war-torn communities with their engineering needs. This work exposed him to the landmine problem:

"It was then that landmines began to take over - we built a bridge and it could-

n't be used because the road on the other side of the river was mined. We rebuilt an irrigation system but the fields it supplied were mined."

Rae has recently published a resource book on landmines and unexploded ordnance. He spends most of his time travelling to remote areas of the world and is currently establishing an organization composed of engineers who are interested in both raising awareness of and trying to find solutions to this problem.

Several universities and organizations are currently working to develop high-tech solutions to the landmine problem. Rae's visit will serve to help these groups

better understand the landmine problem and to develop mine removal technology.

The topics covered in Tuesday's presentation will include the engineering challenges of developing countries as well as Rae's approach to these seemingly insurmountable real world problems. This event promises to be very interesting and will include both light refreshments and a discussion period after Rae's presentation.

So next Tuesday night (January 18) at 7pm, come out to DC 1302 and learn more about international development work and landmine awareness. This event is open to all UW students and faculty, but arrive early because space is limited.



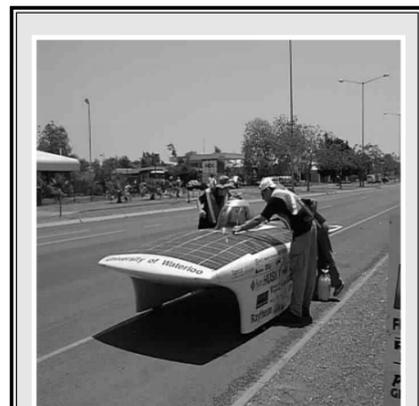
Clockwise from Upper Left

Tower Bridge at Night
(public domain)

Tourists gather outside British Museum
(Chan Kit Shan)

The White Tower, a section of the Tower of London
(R. Peirce)

Considering travelling to Europe? Read the first installment of Jasen Higgins' European adventures on page 8 of this issue of The Iron Warrior!



In This Issue...

Editor's Rant	2
Chem Eng Soc Update	2
Book Review	3
The Big Picture	4
PEO Student Memberships	5
Mutant Dog	5
Exec Reports	6
IRS Guide for 4th-years	8
European Adventure Part 1	8

Life in the South (or Lack Thereof)

I'm going to start this by introducing myself to you, the reader. My name is Ryan Bayne, I'm a 3A Computer Engineer and yes, I did stick my head on the scanner for that photo. How I've made it this far, I'm not certain, but along the way I've learned a very important lesson: you really shouldn't skip an entire term of lectures.

Also along the way I became editor of this newspaper. I recall touring the Engineering buildings back when I was a high school student, and being shown the Iron Warrior office.

Little did I know that I'd become editor less than three years later. To be honest, the thought didn't even cross my mind. While this position promises me lots of late nights assembling the paper you're currently holding, it also promises me something much more valuable: the ability to rant. I can sit and stare at my work reports without a clue as to where to begin, but give me an open forum, and watch out.

This issue, I'm going to try to keep myself relatively focused. This past work term I was employed by Nortel Networks. Everyone who looks at the co-op job postings sees how many students Nortel hires. They also see that most of these jobs are located in the Ottawa region. Not mine. I had the privilege of working in Research Triangle Park, North Carolina. For those of you unfamiliar with North Carolina, (which is probably most of you) the Research Triangle Park is an area between Raleigh, Durham and Chapel Hill that is

home to a number of high-tech companies. This is made possible by these cities being home to North Carolina State, Duke, and University of North Carolina - Chapel Hill respectively.

So you're saying, sounds good, three colleges nearby, U.S. dollars, warm weather, what could be wrong? Well, maybe it has to do with the fact that I grew up in Toronto, and lived, worked and attended school all along the subway line, but I don't have a driver's license. Due to financial situations, and timing, I also ended up living by myself in Raleigh. I made sure to live near the bus line, but here's the thing: public transit is a foreign concept to the people of Raleigh. The bus lines stop running at 7pm. It makes Kitchener Transit look like a well-run system. While I was able to travel to and from work each day, that was pretty much my entire life. Well, work, Wal-Mart, and American television.

See, in most cities, there's this concept of two white lines painted at intersections so that pedestrians can cross safely. Raleigh didn't seem to be very familiar with this concept. Raleigh didn't seem to be familiar with the concept of pedestrians. I often found myself to be the only person walking along the streets, while everyone else zoomed by in cars. It's difficult to find a cab, since it's assumed that nearly everyone has a car of their own. When I went to see the Toronto Maple Leafs play the Carolina Hurricanes, the only people waiting for cabs were Leafs fans. Of course as a side note, I'd have to

say there were about as many Leaf fans in the crowd as there were Hurricanes fans.

Part of the problem is that the Raleigh-Durham area is reported to be one of the worst for urban sprawl in the United States. So not only is the public transit very poor, it is also very difficult for it to cover the city as it expands. It was not uncommon for my co-workers to drive a half-hour each way just to go eat lunch.

So what did I do? I found out why Americans envy MuchMusic. I memorized the layout of my local Wal-Mart. I waited patiently until I could afford to buy a new computer to replace the one that had broken during summer exams. I also made my long-distance company pretty rich. I didn't go to a dance club, I missed Sloan playing a small club, and I only made it to Durham once in the entire term.

So the lesson here is, if you're going to work in some American city, either bring a car, or live with someone who has one. I've learned my lesson and when I got back to Toronto, I just couldn't stop riding the TTC. I even had to be kicked off by the train driver one evening. (Ok, I fell asleep and I was at the end of the line, so what?)

Thanks for putting up with the whining rant of the editor. I didn't even get to complain about 35 cent payphones, the price of a case of pop, arriving shortly before a hurricane, the obsession with college sports, and the desire of my co-workers to feed me every possible part of a pig, edible or not.

Notices

Engineering

The Faculty of Engineering Undergraduate Office and the Faculty Exchange Office present "Exchange Day" on Wednesday, January 19. Students who are interested in finding out about engineering exchange opportunities can meet with Professor Peter Roe, the Director of Exchange Programs. These meetings are at 11:30 am and 4:00 pm in Carl Pollock Hall, Room 1320B.

Information about engineering exchange opportunities is also online at <http://www.eng.uwaterloo.ca/groups/exchange/>

Campus Recreation

Black Knight's "A Knight to Remember" Squash Tournament: T-shirts included with registration fee, door prizes.

- January 22 and 23, 10am - 4 pm
- Sign-up by January 18, PAC 2039
- \$10 + gst/person (min. 4 matches)
- 3 divisions: A, B, and C

Heart and Stroke Foundation Volleyball Tournament: staff, students, and community members are welcome.

- March 11, 9:30 am - 9:30 pm
- Open and Co-ed Divisions
- Each team must raise at least \$60 in donations, prizes for top 4 teams and individuals
- Fundraising forms can be picked up in PAC 2039 before March 7

Tennis Tournament: under the bubble at the Waterloo Tennis Club.

- March 12, 9 am - 5 pm
- Register by March 7, PAC 2039
- \$10 + gst/person (min. 4 matches)
- 2 divisions: A& B



Editor's Rant

by Ryan Bayne

Upcoming Chem Eng Soc Events

BRAD CLARK
President
Chemical Engineering Society 'A'

The winter is upon us and the Chemical Engineers have returned to campus. The society would like to welcome everyone back. We hope you all had good holidays and work terms. The Chemical Engineering Society is kicking off the year with it's first general meeting on Jan. 12. This will be followed by a welcome back pub to be held the next day at the Fox and Pheasant.

The society has some new things planned for the term. The first thing that will take place is on Jan. 19 the Chair of the Chemical Engineering department and some other professors will be making a presentation to us on the changes to the curriculum. The next event that currently is in the planning stage is a graduate studies fair. Every term we have T.A.'s come in and mark our labs and assignments but we are not really aware of what they do. The current plan is to tour the various labs and get an introduction into their graduate research. This will be an excellent opportunity to see a more applied aspect of our studies and to give us an insight into post-graduate studies if that is what you are looking to do.

We are also looking to have some technical speakers come and address us. We have contacted Dow and 3M, and have

received a positive response from both. There will likely be hour long presentations from these companies in February and March. We have asked that the topic of the talks be slightly technical but mainly to highlight what a chemical engineer would do at a company like that.

We are also planning tours of industrial facilities. We will embark on a tour of Dow later on during this term and we are also planning a brewery tour.either to the Brick, Gold Crown or Sleemans.

There are two more events on the Chem Eng Soc calendar as well. The first is a student chemical engineering conference that is being held in Thunder Bay at Lakehead University from Mar. 10-12. This conference will have 2 days of seminars and activities geared towards students. If you are interested in going come and see me or e-mail me at bw2clark@gmail.uwaterloo.ca. The last item is that as is tradition now the society will be hosting its coffee house in March. There will be more details to follow.

We are looking forward to an exciting and fun term and hope to see you soon.

THE IRON WARRIOR

The Newspaper of the University of Waterloo Engineering Society

Editor - in - Chief
Ryan Bayne

Assistant Editors
Daniel Clarke
Margaret Parkhill

Layout Editor
Jessica Gross

Photo Editor
Position Available

WWW Editors
Position Available

Staff
Sasha Gutfraind
Jasen Higgins
Raymond Ho
Jessica Lee
Will Patterson

Contributors
Brad Clark
Mark Cesana
Sarah Kamal
Connie Kwan
Andrew Johnson
Jenn Motuz
Ian Pollock
Micah Potechin
Sunny Sodhi
Ian Tien

The Iron Warrior is a forum for thought provoking and informative articles published by the Engineering Society. Views expressed in The Iron Warrior are those of the authors and do not necessarily reflect the opinions of the Engineering Society.

The Iron Warrior encourages submissions from students, faculty and members of the university community. Submissions should reflect the concerns and intellectual standards of the university in general. The author's name and phone number should be included. All submissions, unless otherwise stated, become the property of The Iron Warrior, which reserves the right to refuse publication of material which it deems unsuitable. The Iron Warrior also reserves the right to edit grammar, spelling and text that do not meet university standards. Authors will be notified of any major changes that may be required. Mail should be addressed to The Iron Warrior, Engineering Society, CPH 1323B, University of Waterloo, Waterloo, Ontario, N2L 3G1. Our phone number is (519) 888-4567 x2693. Our fax number is (519) 725-4872. E-mail can be sent to iwarrior@gmail.uwaterloo.ca

Volunteering in Africa

SARAH KAMAL
Math

Wanna volunteer in Africa? Don't know where to start? Read on....

I went on a trip through Africa in the fall of 1999 that taught me a lot about myself and the society I live in. I was fortunate enough to become involved with several organizations with which I could do meaningful work, and privileged to stay with communities which allowed me to share in their lives. It was a beautiful experience for me, and I decided that I had to do what I could to help others in their quests to explore the warm, exquisite beauty of the dark continent and its peoples once I got back here.

I'll be sharing what I know about international volunteering and finding placements over the Internet as well as recruiting for two organizations in Africa over the next two months. The organizations that I am recruiting for are an engineering development organization in Uganda and a streetkid's project in Sudan. Please visit <http://africa.unitycode.org> and come to an information session on Tuesday, January 18th at 6pm in DC1304 for more details.

Sarah Kamal
sarah@unitycode.org

Hey 4th years, how many days is it? 40 days 'til



The One Origin

SASHA GUTFRAIND
1B Computer Engineering

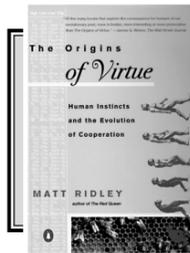
When we celebrate the beginning of the next millennium (at the BOM party on Friday the 7th at POETS), we might not remember a book written two centuries ago by Charles Darwin called "The Origin of Species" (no, it's not a review of that one. Since then, one of the more interesting objections to the theory of evolution by theologians was called "The moral argument". A basic and an irresponsible formulation of their idea is that since humans around the world have often surprisingly similar concepts of good and evil, of what is ethical and what is not, the inevitable conclusion is that it's God's hand. This seems to be Darwin's theory major flaw: while capable of linking us anatomically with Mother Nature, he was never been able to connect Mother Nature with human ethics. Until now, that is.

The book "The Origins of Virtue: Human Instincts and the Evolution of Co-Operation" by Matt Ridley seem to suggest such possible origin. The fundamental idea of the book would be clear to any engineering student: Doing a

tutorial or a lab alone is literally much less rewarding than doing it, Together. Now, what exactly are the rewards of doing a lab together for early humans is not clear, but for hunting together they are more obvious. In fact, if you double your odds of successfully tracking down a mammoth by going out with a partner (or a whole gang), you might as well do it. You will have twice as many lunches without sacrificing quantity (lacking a fridge, you will not be able to consume most of the food anyway). But one can go further. Suppose you are good at cooking and your friend is similarly crafty at making axes. There is no need to explain that. With a division of labour, there will be more and better axes as well as more gastronomic delights. But you know that already. What you will realize when you read this book, is what an effect this prin-

ciple has on human psychology. Start thinking of your own examples.

One of the truly amazing revelations I had while reading this book is that even as I always grasped the idea of division of labour, I always forgot the word "friend" or "partner" or "team". Basically, for us to



The Origins of Virtue:
Human Instincts and the Evolution of Co-Operation
by Matt Ridley

be able to make friends, have lab partners or to go to parties, we must have social instincts. As the book demonstrates, other animals

(even apes) have nothing close to the complexity that we humans have (no kidding). Our silent yet amazing abilities include various social skills: the ability to identify trustworthy individuals at a glance, feelings like closeness, as well as hatred and envy, and the "quick reward calculator" highly developed among entrepreneurs. When examined closely those social skills are weird. While giving human society an

unparalleled complexity, they develop naturally and seem to have a very solid reason for existence. (Hint: complex society with its advantages can exist if its individuals have relatively strong, build-in behavioural -ethical- guides.)

While humans are really good at social behaviour, we easily fail at other, much less demanding yet evolutionary unnecessary mental tasks (e.g. finding the square root of a real number). Why have we not been created with immunity to brainwashing and manipulation from authority (be it the chief or a dictator)? The answer is simple: The other side of our subjugation, "groupishness" and susceptibility is teamwork and co-operation.

As you read through the book, you will be washed away with really interesting facts, stories about various African lifestyles and algorithms for the so-called "Game of Life". But as the author implies in many places of the book, the emerging picture of human society, as the logical product of evolution, matches reality much more closely, than the familiar Ten Commandments, Heaven and Hell.

Have fun!



The Sandford Fleming Foundation
888-4008

Waterloo Campus Activities
sff@engmail

WELCOME BACK

Why don't you consider including one of the following competitions in your activities this term:

Technical Speaker Competition

You can use your Work Term Report to win CASH. All students are invited to participate in the Departmental Competitions. The presentation should be based on a work term experience, including one or more satisfactory written reports, but not necessarily the most recent report. If you are interested in participating, contact your undergraduate officer. The Faculty Finals will take place on Friday, February 11 at 10:00 a.m. in DWE 2534.

Participants may also be eligible to enter the Explanatory Communications Category at OEC. Contact ENGSOC for further information.

Ontario Engineering Competition

SFF is a co-sponsor of the Parliamentary Debates Category and would like to see a lot of UW participants involved. If you have debated over whether you should enter this competition, contact the ENGSOC office for more details.

Engineering Debates: Held in mid- March. Contact Prof. Xu, Civil Engineering, ext.6882 for more info.

Funding for this award comes from your student contributions and depends on it for continuation.

An organization devoted to the advancement of engineering education.

What Will be on T.V.?

WILLIAM PATTERSON
P.O.E.T.S Programmer

I'm William Patterson, and I'm one of the P.O.E.T.S. Programmers and a TSN (Take Some News) director. You may now be asking what a P.O.E.T.S. Programmer does. We decide what people who hang out in P.O.E.T.S. watch in the afternoons. P.O.E.T.S. is located in Carl Pollock Hall, right next to the C&D (where you can get good food at good prices). Anyone is allowed to walk into P.O.E.T.S. and hangout. But you may be asking me, "Why are you telling me this anyway?" Well, if you're reading this paper, that means you probably care about what happens around here. You may also want to suggest an interesting T.V. program or movie to watch. In future issues

of the I.W., a program schedule for the following two weeks will be published. This schedule will tell what movie or show is playing on which day. That way you will be able to come and watch. But before we can make a schedule, we would like to know what you want to see. Simpsons and X-files are probably going to be played, but other suggestions are welcomed as well. You can e-mail suggestions to wapatter@engmail, write them on a piece of paper and drop them off in the P.O.E.T.S. Managers/Programmers mail box in the orifice, or fill out a suggestion form in P.O.E.T.S. If you include your name and class, P**5 points may be awarded. Remember, good legal programs and movies only. I.E. no porn, extreme violence or offensive material.

Your Inner Child

People who know me well might say that I'm somewhat immature. I'm a silly person. I like to throw things at people during classes. I like to climb trees. I sometimes find it amusing to annoy people. I enjoy making fun of my friends. I like it when people say I'm crazy.

You may think I'm a strange character, but I'm really not much different than anybody else. There is a child inside all of us. We all yearn to be free of worry. We long for the days when we had no responsibilities. Life then was pure joy.

So I'm the same as everyone else. The one thing different about me is that I choose to reveal my inner child, while others choose to conceal or suppress it.

We should all show more of our childish side. Things are far simpler that way. When hungry or tired, we whine. When sad or hurt, we cry. When happy, we laugh uncontrollably.

Wouldn't it be nice if everyone acted this way? It would eliminate all the difficulties brought on when people try to mask their emotions. No more mind games, no more smoke screens. What you see is what you get. There would be much less confusion in the world.

We must, however, be sure not to act exceedingly childish. As children age, one of the most important things that they acquire is the awareness of other people's needs. So young children are very selfish.

In addition, there are a few other undesirable characteristics of a being like a child. I consider myself as an example. I am sometimes very annoying. I sometimes act without thinking. I may unintentionally hurt others or myself. I can be difficult to deal with.

tionally hurt others or myself. I can be difficult to deal with.

Nevertheless, in my experience, these undesirable traits don't show up often enough to deter me from keeping in touch with my childish side. All of the good things that come with it far outweigh the bad.

As adults, we have acquired much wisdom and knowledge. We have learned to be responsible and caring. In exchange, many of us have given up our childhood. You shouldn't, however, be forced to do that. You should not forget what it is like to be a kid.

We shouldn't view growing up as moving on. It should be viewed as becoming a better kid. Use the skills and knowledge of adulthood to refine your inner child. It's possible to be both responsible and free and the same time.

Everyone is somebody's child. Every adult wants to act like a kid. Yet for some



The Big Picture

by Raymond Ho
3A Mechanical

I like to climb trees. I sometimes find it amusing to annoy people. I enjoy making fun of my friends. I like it when people say I'm crazy.

reason, not many of them do. It is probably due to the widespread view that there is something wrong with acting like a kid. This, in my opinion, is ridiculous. There's nothing wrong with wanting to be a kid, and there's nothing wrong with being like one. You're an adult; you can handle it. Just find a balance that suits you.

Silliness is fun. Silliness causes laughter. Laughter is happiness. Look around you and you'll see that the free fun-loving spirits in our world are the ones who most often make us smile.

So what am I trying to say? I'm telling you to let loose occasionally. Go ahead, pick your nose. Blow bubbles in your milk. Bark back at dogs. I guarantee

New Midnight Sun

Recruitment Meeting

CONNIE KWAN
UW Midnight Sun Team - Business Manager

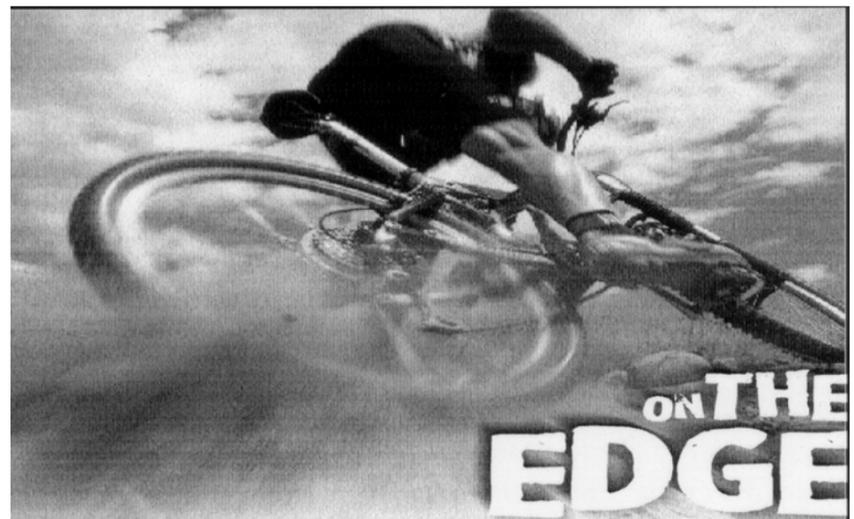
As you may or may not know, last term Midnight Sun V solar car team came back from World Solar Challenge in Australia with a Battler's Award. As MidSun V draws to a close, we are ready to welcome the birth of MidSun VI! Come join a dynamic team of talented students in the pursuit of alternative energy. All years and faculties welcome. There are

tasks to be completed in the areas of design, mechanical, aerobody, PR, sponsor, education (including new this year, we're co-hosting a high school solar car competition), electrical, etc. etc. Develop team skills and practical experience. We invite you to check out:

SLC Multi Purpose Room
Tuesday January 18.
4-6pm



Midnight Sun team poses with Midnight Sun V 440 km from Adelaide, during World Solar Challenge in Australia. While placing 25th overall, they received the Battlers Award for their perseverance. (Photo courtesy Midnight Sun)



That's where we started, and we've never looked back. With innovative products like two-way pagers, wireless PC cards and radio modems, we take technology to the edge every day. So if you're looking for a career that takes you to the edge and challenges you to achieve your best, consider RIM.

We're looking for innovators – people with the drive to develop the next generation of wireless technologies. Whether you're a co-op student, a recent grad or someone with experience, if you've got the creativity and drive to be the best, join us on the edge.

SALES AND MARKETING

ACCOUNT MANAGERS
BUSINESS DEVELOPMENT MANAGERS
INSIDE SALES AND SOLUTIONS EXPERTS
MARKETING PRODUCT MANAGERS
TECHNICAL SUPPORT REPRESENTATIVES
WEB CONTENT DEVELOPERS

MANUFACTURING

PROCESS ENGINEERS
QUALITY ENGINEERS
TEST ENGINEERS

HARDWARE ENGINEERING

COMPLIANCE SPECIALISTS
ESD SPECIALIST
DIGITAL ASIC DESIGN ENGINEERS
RF ENGINEERS
RFIC DESIGN ENGINEERS

SOFTWARE ENGINEERING

EMBEDDED APPLICATIONS DEVELOPERS
EMBEDDED O/S DEVELOPERS
SOFTWARE QUALITY SPECIALISTS
TECHNICAL WRITER
WIRELESS SOFTWARE DEVELOPERS



The RIM
Interactive
Pager

RESEARCH
IN MOTION



Send us your cover letter and resume in confidence and let us know that you're ready to join us on the edge.
Please quote reference #IW0100.

We thank all applicants, but only those selected for an interview will be contacted.

295 Phillip Street, Waterloo
Ontario, Canada N2L 3W8
Tel. 1.519.888.7465
Fax. 1.519.888.7884
E-mail. careers@rim.net

Visit our web site at www.rim.net

Got Art?

**Iron Warrior mailbox in Orifice
is where we'd like to see it**

PEO Sets January 1, 2000 as Launch for Student Membership Program

Professional Engineers Ontario (PEO) announces new millenium program, a student category of membership

What began three years ago as a collaboration between Professional Engineers Ontario (PEO), the province's engineering regulatory body, and a group of enthusiastic engineering student leaders is now reaching fruition. Starting January 1, 2000, all undergraduate engineering students enrolled at Ontario's 13 engineering schools can register in PEO's new Engineering Student Membership Program (SMP). Registration is easy; engineering students simply log on to PEO's new student website at www.engineeringstudents.peo.on.ca and fill out a registration form. Automatically student members will be formally recognized with a student membership card, receive PEO's regular engineering publications and have access to student-related and professional information - AND THE MEMBERSHIP IS FREE.

"With increases in tuition and the cost of books and supplies, it is hard to justify any extra burden to already strapped students. The student membership program is important to our association, and will recognize the value and importance of engineering students to the profession."

Patrick Quinn, P.Eng., President, PEO

Primarily Internet-based, the SMP promises to be unlike any PEO program in the past.

"It's a bold new venture for some - a cyberspace student association; for others it's a program whose time is way past due. PEO can only be strengthened and enriched by a diverse student membership."

Johnny Zuccon, P.Eng., PEO's deputy director of professional affairs

The initiative began in 1996, when student leaders from the Engineering Student Societies Council of Ontario (ESSCO), the provincial umbrella organization for Ontario engineering societies (Eng. Socs), started to work with the Eng. Socs on a more formal recognition for engineering students within the engineering profession. In 1998, ESSCO approached PEO with a proposal to develop a student membership category. According to ESSCO, engineering students felt little connection to the profession and wanted more contact

with PEO. After receiving the proposal, PEO quickly established a working group of PEO councillors, student leaders and PEO staff to flesh out the program. PEO Council embraced the idea of a student membership category at its April 1999 Annual General Meeting, and completed the circle this past September, when it formally approved funding and resources for the SMP start-up in January.

"It's a bold new venture for some - a cyberspace student association; for others it's a program whose time is way past due. PEO can only be strengthened by a diverse student membership."

PEO has had a longstanding relationship with Ontario engineering students. Starting with the "Recorded Engineering Students" program in the early 1960s, and followed by the PEO/UES annual conference first held in 1969. PEO was also instrumental in helping to establish ESSCO in 1989. PEO participates regularly with engineering students through sponsorship of a variety of such programs as the Ontario Engineering Competition, fourth-year lectures, information booths at career/job fairs; engineering speakers and student projects like solar cars and

concrete toboggans. There are now about 18,000 engineering students enrolled in Ontario's 13 schools and the will has never been greater to help bridge the gap between students and their future profession.

For more information contact your Faculty Liaison representative or your Engineering Society representative. The Faculty Liaison representative at your school is:

Royden Fraser, Associate Professor
 CPH-3375I - Department of Mechanical Engineering
 University of Waterloo
 Waterloo, Ontario, Canada N2L 3G1
 main line: 1 519 888-4567
rafraser@uwaterloo.ca
 (519) 888-4764 fax: (519) 888-6197

The future of the engineering profession holds great promise and exciting opportunities. PEO is committed to your success and is pleased to introduce the Engineering Student Membership Program to support you and your studies.

Mutant Dog

by Ryan Bayne
 Copyright 2000

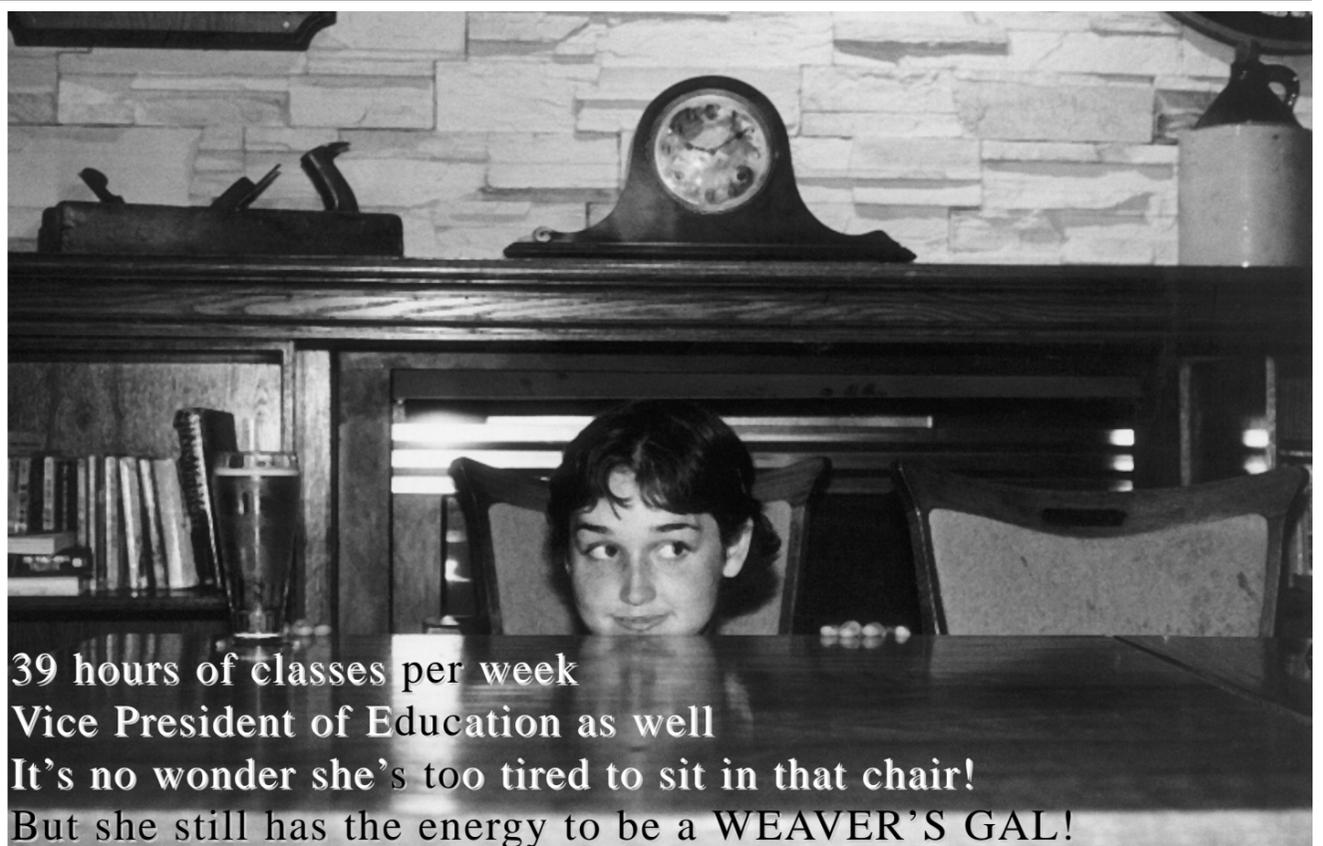


Weavers Arms



Pub, Restaurant,
 Pizzeria, and
 Pool Place

Open Monday, Tuesday and Thursday 12 noon to 1a.m.
 Wednesday, Friday and Saturday noon to 2 a.m.
 Sunday noon to midnight



39 hours of classes per week
 Vice President of Education as well
 It's no wonder she's too tired to sit in that chair!
 But she still has the energy to be a WEAVER'S GAL!

Fun Activities Planned

Hello all and welcome back! I trust that you have all made the most of the holidays, and are ready for the upcoming term.

To all the new frosh classes, congratulations on completing your first term. I hope you'll take advantage

of all the activities and services that your EngSoc has prepared for this term.

Things to watch for over the next four months include indoor soccer and volleyball tournaments, a ski trip, many guest speakers, workshops, and seminars, as well as numerous lunchtime events. The traditional term pubs, Brunny trips, and



VP-Internal

by Ian Pollock
3B Mechanical

Bus Push will highlight a busy semester. Oh, and I think that IRS is in there somewhere.....

There are still positions open within the directorate. Check the whiteboard outside the Orifice for the list, and contact any exec. member if you're interested. There was a meeting for all directors on Tuesday, January 11th in POETS.

Free pizza and pop were served.

I was away at CCES in Winnipeg until January 9th, in case anyone needed to see me. I did try to check my email at least once while I was out there, though.

Once again, welcome back and good luck this term.

Budget Forms Due!

Hello and welcome back. I hope your work terms were fun and profitable. Mine

was fun. My name is Sunny Sodhi and I will be your VP Finance for the next two school terms. I'm in 2A Systems Design. I don't really have much to say right now except watch

for any news or events that may be coming up. A good place to look for info is on the EngSoc website (<http://engsoc.uwaterloo.ca>). The website has the most current listing of events and announcements that has anything to do with EngSoc. Or feel free to ask me any questions that you may have and I will try my best to answer them or

direct you to someone who can.

Here are some useful dates for those

of you doing some financial planning for the term. Directorship Budget Proposal Forms are due January 20th. The new budget will be presented at the 2nd EngSoc meeting on January 26. Also, student projects and teams looking for

money should start looking for more information about the EngSoc donations.

My office hours will be Wednesday @ 1:30 to 2:30 and Thursday @ 12:30 to 1:30. My email is gsodhi@engmail.

Good luck with this term and have fun.



VP-Finance

by Sunny Sodhi
2A Systems Design

WEEF is Still Good!

So it is the year 2000 and nothing has gone horribly wrong. Well I'll tell you something scary that has nothing to do with the Y2K bug, this will be the 4th year that a Cesana has run WEEF on A-Soc. My brother held the position for two years and now I will usher us into the new millennium as I start my second term in office.

As my first official business in the 21st Century, I would like to thank those engineers who have donated their \$75 to the Waterloo Engineering Endowment Foundation. I think those who donate and even those who don't, forget that WEEF is a charitable organization where all donations are voluntary and tax deductible. Like I've said in the past, if you are going to give to at least one charity this year (and everyone should give a little to char-

ity) why not give it to an organization that gives back to you.

The last time we were all on campus together we had the worst participation (65.63%) in over 5 years. I think we can do better this term and I believe that people inherently want to give. Giving your money and time to help others is a lot like studying for school.

We usually won't think about doing it until our backs are to the wall and someone is forcing us to do it. I wish I could force every single person to believe in WEEF as I do and give their \$75, but I

can't. I can tell you, though, that \$75 is very important and it will benefit the education of many people. It is true that you

can take your money back and help pay for a book that will improve your education. But if you give that money to WEEF, WEEF will give a little back to you this year, and then it will give a little bit

more back the next year and so on and so on...and as time goes by the benefit of that initial donation increases exponentially for not only yourself but for all the future engineers attending Waterloo.

I will leave you with these final words. If you don't believe in WEEF and you want your \$75 back then by all means sign the refund form in the WEEF office. If you get your money back then at least think about giving it to a charity because there are a lot less fortunate people in the world than us. There are many sick, poor and underprivileged people who need help and your \$75 can make a difference. I am personally pretty selfish and will leave my money with WEEF to help improve engineering today and especially in the future.

Anyone who wants to know more about WEEF can get more information from me anytime. Just drop by the WEEF office sometime in CPH 1323C (x4893). Ciao for now.



WEEF

by Mark Cesana
3A Mechanical

Make the Most of Your Education

Welcome back everybody! Hopefully everyone had a great work term (or in the case of the 1Bs and some 4Bs a great school term) and that classes are going well.

This is the first term that there's been a Vice President Education on ASoc, so there is a lot of room for me to add new ideas and responsibilities to the position. Here's a (partial) list of what I hope to accomplish this term:

1) Get rid of the differential tuition for Complimentary Study Elective (CSE) correspondance courses

Right now, any engineering student who takes a correspondance course (PSYCH 101 for example) pays 20% more than someone in other departments taking the same course. The reason for this being that we'll make more money when we graduate. However, since this course is not part of our engineering curriculum — we take CSEs, on the most part, to round out our education rather than to get better jobs — I disagree with this differential fee. I hope to make some headway on this this term. If you feel strongly about this,

put your thoughts in writing and leave it in the box on my desk and I can bring your views to the powers that be.

2) Keep you informed and pass on your views

This term I will be representing all of the undergraduate engineering students to the Faculty Council, Academic Policy Committee, Co-op, SFF, and any other academic/curriculum committees. I will also be working closely with Veronica Chau (FEDS VP-Education) to ensure that we know what the FEDS is doing and can be involved and benefit from their actions.

3) Academic Rep Organization

I will be meeting with all of the academic reps by discipline (i.e. all the CIVs on one day) to make sure that all classes are on the same wavelength for dealing

with their department. This way, there is good communication between upper and lower year students, and puts me in a good position to deal with the department in a way that compliments the academic reps' activities.

4) Ensure that we see the benefits of our increased tuition

We saw a 20% tuition hike in 1999, which was difficult for a lot of students. The departments have made a significant effort to ensure that the students see a corresponding improvement in our education.

I would like to work with the departments to advertise what they have done with the extra money. Additionally, I would like to get feedback from the students to bring back to the departments on whether there are better uses for this money. In case you're wondering, we've already asked if they could just cut us each a cheque for \$400 or so ;)

5) Start setting up some grad school resources

A lot of UW engineering students are looking at doing graduate school either in Engineering, Business or Law. I would like to get some resources together to help these students understand what is involved in applying, what kind of student aid is available, and what programs UW offers for further study. If you have done a lot of research into this for yourself already and would like to save me a lot of time, I would love to hear from you.

On a less pleasant note, in case anyone needs it, I will be the student appealing on the Examinations and Promotions committee so contact me if this is an issue.

I can be reached at jmotuz@engmail or in the Orifice (CPH 1327) Tuesdays and Thursdays from 11:30-12:30. Please come by and talk to me if you have any ideas, concerns, or are interested in finding out more about what we can do as students to influence the academic goings-on at this university. I look forward to serving you this term and into the fall.



VP-Education

by Jenn Motuz
3B Mechanical

Ouija Boards are the Devil. Or Are They?

Do you believe in magic? I used to think that there was some sort of all powerful intelligence that made everything run right at Waterloo, you know, like a super-computer or a wizard or a big brother or something. Something that would prevent decisions from being made on the basis of bias or insufficient information. Something that would protect the interests of the students. Something that would keep us safe.

It turns out that this something does not exist. There is no Waterloo magic. Decisions are made by people, and people can make mistakes.

Fortunately the engineering society has some say in a lot of what goes on at Waterloo. When a new dean comes in, we get representation on the committee that reviews the candidates. When a student makes an academic petition, we get a seat on the committee that decides the outcome. We are the largest, most active, and most well-run student association on campus.

This is a big responsibility.

What is the purpose of the Waterloo Engineering Society?

The engineering society exists to serve students through representation, services, and the organization of society events. Services include, but are not limited to: the C+D shop, the P.O.E.T.S. lounge in CPH foyer, and the photocopiers, exam bank and novelties store in the Engineering Society student office (room CPH 1327).

We also publish our own newspaper, the Iron Warrior (side note: If you want to write for the Iron Warrior, you can e-mail your articles to <iwarrior@engmail.uwaterloo.ca>. Please

include your name, your program, and your graduating year).

How does the Engineering Society get stuff done?

Services and events that occur every term are organized by directors. Anyone who wants to be a director can be one. Directors are appointed by the engineering society executive and they each fulfill a specific body of work each term.

The term Engineering Society executive sounds corny. It kind of implies a class system, like there exist "exec people" and "non-exec people". Ooooo, look at me; I'm on the exec, I'm soooo cool. You're not on the exec, you're not cool like me. I use air quotes.

What is your role?

Waterloo engineers are smart. Because you are smart, you owe a duty of care to our university. When you see something dumb you must say "Behold! Dumbness" and you must draw attention to said circumstance. Then we can all work together to make things better.

Every class has Engineering Society representatives (if your class has not selected your representatives, please e-mail Ian Pollock at <irpolloc@engmail.uwaterloo.ca>). Please take the time to talk to these people and ask them to bring up any concerns you might have at the next society meeting. Or you can just drop by a meeting on your own and say something.

Remember, \$14 of your tuition fee each term goes to the Engineering Society. You have every right to use society services, attend society events, and voice your opinion at the meetings.

When I was in grade six we had a Ouija board in our classroom. You can buy these things at Toys R Us, they're made out of plastic. We played Ouija board at school sometimes during recess, you would put your hands on the Ouiji thingy and concentrate real hard on a question, then the thingy would move over the letters on the board and spell out your answer.

I knew someone who had one of these boards when she was a kid. Then someone told her dad that Ouija boards ran on magic and were the product of the devil. Her dad took the Ouija board and burned it because he thought it was evil.

I don't think Ouija boards run on devil magic. We'd ask it stuff like "Does what's her face like me?" and we'd sub-consciously push the thingy to spell out the answer we wanted to hear (yes, yes).

Ouija boards are no more magical than Magic Eight Balls, or puppet shows, or Pentium chips, or the University of Waterloo.

As engineers, we have a duty. We have to make things un-suck.

We must fix things that suck, but more importantly we must be able to identify things that suck, things that are unfair, things that hurt our university, things that compromise the qual-

ity of our education, things that sacrifice our personal liberties.

We must be ever vigilant in preserving our unsuckyness and in making unsucky what once was sucky.

So watch out. Watch what people are doing. Watch what's going on.

And now for the miscellaneous presidential spew:

We're trying a few new things this term. We have directors working on resources for students who want to start their own business. We're working on creating a more efficient way of accessing Engineering Society resources over a shared drive on the Polaris network.

We're also working on a system to digitally archive documents. This term, we'll be asking instructors to donate original academic materials (like problem sets, old exams, etc.) to be digitally stored and made available to students as supplementary study material. We'll be archiving other documents as well, such as newspaper and magazine articles featuring Waterloo achievements, as well as historical materials, such as a frosh handbook from 1971 with a twenty-nine year-old version of the Plummer's Hymn.

With the help of the offstream Engineering Society (EngSoc B), we've purchased a high-speed scanner with a page feeder. When everything is set up properly, we should be able to just drop in a stack of notes and have it easily digitized and made available on the network.

That's the plan. We have the scanner in place, but we get errors when we try to install the scanning software. The network doesn't seem to like it. < sigh >



President
by Ian Tien
3A Computer



VP-External
by Micah Potechin
3B Systems Design

Get Involved with the Outside World

Happy New Year! I know I'm not the first to welcome you back from work term (or in the case of 1B and 4B, welcome you over from B-Soc), but I'm going to: Welcome back from work term. To those of you switching over from B-Soc, welcome to A-Soc.

Throughout the term, you will find this article to be a run-down of what is happening that strengthens the ties between Waterloo Engineering and other schools and organizations. We hold events during each term to maintain a good relationship with other organizations, and send Waterloo engineering students to conferences to keep in contact with other schools.

Several conferences took place during the final term of 1999, and were attended by a host of talented people from Waterloo and other schools across Canada. The ESSCoFIQ conference provided an opportunity for engineering societies from Ontario and Quebec to learn

about each other and exchange ideas. The Conference for Women In Engineering was an opportunity for men and women to understand the challenges and possibilities for women in technical professions, where they are still a vast minority. CCES, the Canadian Congress of Engineering Societies, took place early in January. It is an annual event in which engineering students from across Canada meet to review the past year and set goals for the next one.

Ian Tien, A-Soc president, attended NAESC, similar to CCES but on an international level, and OESP, an Ontario-wide meeting of Engineering Society executive members.

The major conferences we will see this term are the First Year Integration Conference (FYIC), which deals with

issues surrounding first year students, and ESSCO'lympics, which is an all-around good time. Applications for ESSCO'lympics are open now, and will be available soon for FYIC. The Ontario Engineering Competition (OEC) happens each winter term.

Your projects, as well as your speaking and debating skills are matched against those of colleagues from around Ontario, with winners invited to compete on a national level. Come to the Engineering Society office, or go to your department offices for further details.

You don't have to travel to participate in events with outside organizations. This winter there will be several things happening to further our relationships with indus-

tries, or to reach out to the community. Rae McGrath, a military engineer specializing in post-conflict rehabilitation, will lead off this term's guest presentations. You can read more about this seminar on the front page. Other guests will also be speaking at the university later in the term.

Each term, the engineers host a large event to get in touch with the community. In March is our annual Bus Push for Big Sisters of Kitchener/Waterloo. The annual Explorations symposium will be taking place; an evening dedicated to presenting engineering to young children. Also this term is National Engineering Week, designed to further expose the community to the work of engineers.

This is just a sampling of the events happening this term. If you would like more information, don't hesitate to stop me in the halls, or e-mail me at <mipotech@engmail>. I hope everyone has a great term.

The Iron Warrior:

We can't do it without

YOU!

Contributions are always welcome.

E-mail us at iwarrior@engmail or drop by our office, CPH 1323B.

40 Days and 40 Nights: A Guide for 4B's

Well, we're finally here. 4B at last. Didn't think you'd ever see the day? Trust me, you weren't alone. But now we've got 1586 days down and only 40 left until February 23rd, the day we get our Iron Rings. You only live this experience once, so I'm sure you want to do it right, right? Fear not; this simple checklist will help guide you through these next forty days.

First, let's lay out the terminology so there's no confusion.

IRC: Iron Ring Ceremony (or, more formally, the Ritual of the Calling of an Engineer)

The IRC is a Canadian tradition that dates back many years. It is a solemn and private ceremony, administered by the Camp Wardens, in which the graduating Engineering student is granted his/her Iron Ring.

IRS: Iron Ring Stag

The IRS is a Waterloo Engineering tradition that has been around almost as long as UW itself. It has no ties to the IRC or the Camp Wardens; it is an unofficial celebration, planned and run by students, to celebrate the achievement of four years and eight months of study. It is tradition-

ally held in the evening, after the IRC.

So, now that you have a basic idea of what we're talking about, there are a few things you need to do before the big day. Here's a simple checklist:

1. Find out more.

In order to receive your Iron Ring, you **MUST** attend the scheduled introductory talk; there are no exceptions to this. The talk will be on Wednesday, February 9th (two weeks before the IRC) in EL-101 at 4:30 p.m. for Chems, Geos, Mechs, Systems, and Enviro and at 5:30 p.m. for Civs, Comps, and Elecs. At the talk, the Camp Wardens will go over some logistical details of the IRC, the significance of the Ring itself, and lots of other useful information.

You also need to get fitted for your Ring. Ring fittings will be on Wednesday, February 16th (one week before the IRC) in CPH 3385. The times are 4:00 p.m. for Elecs, 4:30 for Chems and Comps, 5:00 for Civs, Enviro, and Geos, 5:30 for Mechs, and 6:00 for Systems. When you go, line up at the west door if your last name starts with A through L, the east door if M through Z. Make sure you keep the card that they give you at the ring fitting; you'll need it to get into the IRC.

2. Find your graduating butt some funky threads.

One tradition of the IRS is for everybody to find the nuttiest, goofiest, ugliest clothes they can find, and wear them to IRS. You're outta here, you cool cat, you wanna go out in STYLE! The black clothing rule is in effect, though. Don't know what the black clothing rule is? Ask your class reps.

3. Buy an IRS ticket and pick up your boxers.

Watch for IRS tickets to go on sale in the CPH Foyer at lunchtime a couple weeks before IRS. If you miss them in CPH Foyer, go and ask at the Orifice (CPH 1327). The exact price is to be determined, but it has typically been \$15 in the past.

4. The Day We've All Been Waiting For.

I suppose you **COULD** go to classes on the big day...but you'll probably be too excited to pay attention. If you are, come to POETS instead! Hang out! Wear your IRS outfit, if you want, and show it off! Just make sure you change before the

IRC; it's a serious ceremony, so job-interview clothing is in order.

The details of the IRC will be covered in the Introductory Talk. Dress nice, and make sure you bring the card from the ring fitting.

Once the ceremony's over, come on out and celebrate! IRS is at Fed Hall; the doors will open sometime around 8 p.m. You are responsible for getting yourself there. You need to bring your ticket, ID, money to buy beverages (if you wish) and a bag with a warm change of clothes. Don't worry, though, there will be free coat check at IRS, so you don't have to lug all that stuff around with you all night.

Well, that's about it. Everything you need to know. A yellow handout on the IRC, introductory talks, and ring fitting has been distributed to class mailboxes, so your class reps should have it. If by some chance you have a question that the handout or this article haven't answered, feel free to contact any of the IRS chairs:

<acjohnso@engmail>,
<mhermann@engmail>,
<abadhwar@atccanada.net>, or
<orateste@engmail>.

See you on the 23rd!

SO, you think you want to TRAVEL...

Backpack... Check. Hiking boots... Check. Sunscreen... Check. Prophylactics... Yeah BABY, Check. Sounds like you're ready for Europe... but hey, is Europe ready for you? That, my friend, is something that you'll have to find out for yourself, much like me and two buddies did, April 23rd, 1999 as we embarked on an 8 week European adventure. So allow me, gentle reader, to entertain and perhaps educate you on the efforts and rewards of an extended vacation in Europe. In the next few issues of the IW, I'll attempt to walk you through a European expedition with excerpts from my emails home. Not only are they witty, (at least my MOM thought so) but you might find them valuable in planning and executing your trip. Our destinations will include: England, Ireland, Scotland, Belgium, Netherlands, Germany, Czech Republic, Hungary, Vienna, Italy, Switzerland and France. And so, with nothing more than a ticket and a rough itinerary, Mike, Eric and Jasen, set off on a voyage of self (and beer) discovery. But, **FIRST**, let's talk about what you need to know **BEFORE** you go.

CAN I AFFORD IT?

Whether you've got a job offer or not, money is probably pretty tight, especially for you stream 4s, but here's what I say. The hell with money... you'll make enough in your lifetime and if you want to be working for that company, they'll wait two months while you bugger off in Europe. GO, get a line of credit (good interest rates, and they should give you about \$5K), get a ticket, get a Eurail pass and get the hell outta here. Bank cards are also a great, worry-free way of carrying cash. My card on the C-Plus system

worked everywhere (except Belgium for some strange reason) and gave local currency with great exchange rates. But, it never hurts to have some hard currency with you lest you get nabbed for fare dodging and have to bribe somebody; US Dollars or Deutschmarks work well.

GETTING EQUIPPED

There's enough reading available to tell you what to pack and what not to, so I'll just hit the high points. Get a comfortable pack, spend the money, you'll thank me. Comfortable hiking boots or shoes, ditto. Good camera, preferably small and lightweight. Underwear, it's small, light and the Guinness gift shop doesn't sell it, so bring extra. Beyond that, I dunno, you figure it out.

GETTING THERE IS HALF THE FUN...

unless you're flying Air Transat. You are about to learn what cattle class means. But hey, the body forgets pain and my flight was soon a distant memory. Check out departing from a different airport that you landed at though. We flew into London - LGW and out of Paris - CDG and it cost less than leaving from Gatwick again. It also saved us having to get back to the British Isles. Eurail is a great way to travel as well, we got the 10 day pass and it worked great. Don't plan on scamming a bunch of free travel days though,

our erasable pens went unused for the duration of the trip.

RECOVERING FROM JETLAG

What's the first thing to do when you arrive in a city? Well, finding a place to stay is always a good idea, either that or getting drunk enough to not mind sleeping in a park. In my case, I attempted to do a bit of both. After getting very little sleep on the plane, I couldn't even manage to fall asleep at 9pm that night (4pm EDT) so I went out to try and find something interesting going on in the city of London.

Naturally the first thing on any good Canuck's mind is to find some hockey scores. So, I sauntered into the first pub advertising satellite TV, ordered a pint and asked about hockey. Note for later, the English don't give a damn about anything but snooker, cricket, rugby and football (not the American kind either).

A BIT ABOUT LONDON

London, Enguhlund, is a big bustling city with tons of touristic opportunities and lots of signs saying to look right when crossing the street. But, unless you're staying with someone you know, spend a couple of days and then get the hell out. Roughly two dollars and fifty cents Canadian buys a Pound Sterling, and you know, prices are the same as in Canada except in British pounds. London is expensive as hell, and as we found, very difficult to meet people in. The sights are great, but after 4 days, we were hoping

that the next 8 weeks weren't going to be like this. The following day we did the British Museum and St. Paul's Cathedral. The BM is very big and very cool (free entry too), you could easily spend days in there but we only had a few hours. St. Paul's is the second largest cathedral in the world and you haven't seen London until you seen it from the top of St. Paul's dome. That's 530 steps up and not for the faint of heart as some of you may know.

LONDON MUST SEES

St. Paul's Cathedral, Tower of London and Madame Tussauds all should be on any traveler's list. Don't forget to try the Whispering wall at St. Paul's, wait for a Beefeater tour of the Tower and spend the ten pounds to see Mme. Tussauds, it's all worth it. For those more cultured than I, the British Museum is great but be aware that you can spend a week in there and still not see everything. Other than that, make extensive use of the parks if for no other reason than to avoid noxious exhaust fumes and looking the wrong way when crossing the street.

LONDON MUST AVOID

London Dungeon. The scariest thing is the 8 pounds 50 pence to get in. Mark my words, there's nothing worth seeing south of the Thames. I didn't heed this and regret it still. So, with smiles on our faces and beer in our bellies we left London. In our next segment, the three Canadian hosers brave the Welsh backroads on our way to liquid happiness at the Guinness brewery.

Cheerio!



No Fixed Address

by Jasen Higgins
RINGed