

Mathie Cyclist Wins engSOC Bike Fiasco

Laurel Creek - special to mathNEWS - In an astounding feat combining both brilliant deception and extraordinary athletic prowess, John Plaice, one of our very own "mad cyclists" completely dominated all opposition (albeit a trifle drunk from Oktoberfest) to clinch a resounding victory in the 1st annual engineers bicycle race on Sunday.

The race started late (as was to be expected) since only one of several engineering officials who were supposed to be officiating arrived. This situation forced some mathNEWS supporters to be delegated as track marshalls. Only 9 of 20 competitors showed up to race, probably due to the fact that Oktoberfest was still on the night before. The race consisted of three laps around a three mile course of paved straights and gravel corners! The gravel was almost our hero's undoing as he took a near fatal spill. Luckily, however, his bicy-

*STOP PRESS!!
Bondage on page 8!*

cle was undamaged and he was able to continue. Despite this setback, John was able to complete the race in record time and even lapped one of the other bikers.

By the time this article comes to press, John will have already received his trophy from the unbeknowing engineers and returned triumphant to the sanctuary of the MathSoc office. He will receive from date of publication full protection from any nefarious retaliatory actions perpetrated by members of the now jealous and severely humiliated engSOC.

John's historic victory is not only a personal triumph but also a symbolic reminder that mathies reign supreme in all forms of competition. Congratulations on a job well done from all mathies.

Alan Munn
The Other Mad Cyclist

Social Director's Report

The band for the Math-Kin Pub on November 6th is Rendezvous. The tickets for the Pub should be on sale in MathSoc starting this Friday, October 24th. They cost \$1.50 for Mathies and Kin students and \$3.00 for others. It looks like there will be at least one prize given away (for the most tackily dressed; remember, the theme is "Dress Tacky") but it doesn't look like there will be any free munchies. There will only be 325 tickets for Mathies (and their friends) so you should buy yours right away! It's only \$1.50!

... Marnie

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mathNEWS

Campus Improvements?

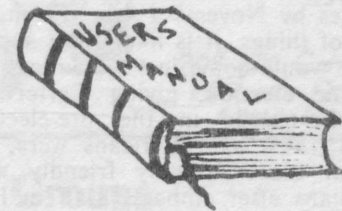
Recently there has been a considerable amount of construction on the campus. Supposedly this construction is meant to improve the campus. Some of these projects will certainly improve the campus, but some of the others may do much less than that.

Most noticeable is the construction of the new ES2 building. The Environmental Studies Faculty definitely needs this building. However when building this building the university could have added to the tunnel system by building a connection from ES2 to Psychology and Humanities. This was not done now when it would be the most convenient, thus students will have to walk in the cold again.

Two new parking lots are being built on campus. One is at Minota Hagey, however it seems as if the residents there do not want it. The other one is lot B2, located just outside the Math building. It replaces B1 which will now be a money-making

proposition like lot D. The presence of lot B2, however, seems to preclude the future construction of a separate EMS Library which had been planned by the university for a long time. However another problem exists with B2. It is not an efficient parking lot. The double lines between parking spaces reduce the number of cars that can be parked in that lot. *(Ah, but it helps prevent the mandarins' cars getting dented! -co-ed)*

The last major improvement on this campus is the installation of lights along the road to the Bauer Warehouse (Radio Waterloo). Hopefully by the time you read this the lights will be working. (They have been taking a long time.) However I wish they would really improve this road by actually paving it as well. (The potholes can be dangerous.) At least they could pave a narrow path for pedestrians and bicyclists. Hopefully the university will make improvements to these "improvements" before too long. Don't hold your breath.



The Programmer's Prayer

Our programme who art in core,
Hallowed be thy registers.
Thy output come,
Thy number crunching will be done.
Interactively as it is in batch.
Forgive us our syntax errors,
As we forgive infinite loops.
Lead us not into round-off errors,
But deliver us from system crashes,
For thine is the CPU,
For ever and ever.
Amen.

Ted MacNeil

Monologue with Brad Templeton

Due to the mathNEWS policy of providing equal time for opposing views, the following column is printed, as there will surely be people with opposing views.

Today **Monologue** leaves the confines of our small university to enter the realm of international politics. As one can not help being aware of, citizens of the United States will be going to the polls next month. They will (supposedly) be choosing their leader from three major choices, although only two have any real chance. My point this week concerns what appears to be the verification of a prediction I made at the beginning of the term.

Everybody is familiar with the situation of the American hostages in war-torn Iran. This situation will, in my mind, make this presidential election an unusual one. This time, the election will probably be decided to a large part by a non American, namely the Ayatollah Khomeini. He has, through the hostages, the ability to make or break Jimmy Carter in his election race. All that the Ayatollah need do to get Carter elected is to release the hostages and make Carter look like a hero. On the other hand, should he wish to ruin Carter, Khomeini need only break off negotiations, blaming his decision on clandestine operations of Carter's that he discovered, or just in general on the President's foreign policy.

It appears that the Iranians are definitely in favour of keeping Carter in office this year, because deliberate actions are now being taken to free the hostages by November 4th. From the looks of things, it is likely that such a release would come just a few days before the election, giving Carter the push he needs in the pre-election stretch. Just as Americans were, for no real reason, highly friendly with Canadians after embassy staff in Iran spirited Americans out of the country, they will no doubt show great appreciation to the man in charge when the hostages come out.

If the world does begin to feel that Iranian actions have played a large part in American presidential politics, what will be the reaction? Assuredly, it will become more certain in many minds that American dominance in the world is on the decline. It may lead to the encouragement of more terrorism against the United States if terrorists feel the Iranians got some part of what they wanted. Should this impression get out, the results could well be quite disastrous.

The Iranian hostage incident is one of the rare cases of terrorism aimed at or taking place within a highly civilized country. I believe such



Scavenger Hunt

A somewhat delayed MathSoc scavenger hunt is now well under way, as lists were distributed on Tuesday to the six competing teams. This weekend will probably be very hectic since all teams must present their articles for inspection at 4:30 Tuesday afternoon.

Some of the more humorous items on the list include: a piece of Skylab, a female U of T artsie in a gunny sack, a TTC transit bus, and "twenty feet of shoreline"!!!! Other things on the list are the likes of "a SciSoc president sitting on a SciSoc filing cabinet" or a parking ticket from Thunder Bay.

Competition will be stiff since the prize is a case of beer and fifty dollars. Also: a note of warning - *you* may be on the list!!!

Alan Munn

cases of terrorism are rare because of the hard line advanced western countries have taken against terrorists. If one thinks back to cases of organized terrorism among western countries, several cases stand out the most. Ten years ago, during the FLQ crisis, our government reacted by turning the crisis area into a police state, attempting to bang down every door until the criminals were found. In London, an attempt to take over the Iranian embassy was met by advanced weapons teams, killing all the terrorists. In Munich, during the Olympics of '72, the terrorists were met with guns and death as well.

With the above track record, terrorists have had to think twice about striking at people such as us in the civilized western world. If Carter allows his election desires to result in a settlement of the crisis that looks good for Iranians, this may be the go-ahead for further acts of terrorism against the U.S.A. and other countries. Let us hope this does not happen.

C.C. Pub Still Loud

The renovated version of the Federation of Students' Campus Centre Pub, called the C.C. Bomshelter, has now been open for over a month. The renovations are now complete. In addition to a much cooler, less foamy and better tasting draft beer (Export ale and Blue lager), a much wider variety of domestic bottled beer is now available for sale. A Food Services sandwich and pay-by-the-ounce salad bar is now open in the pub weekdays from noon until 8 p.m..

The pub is much roomier than it was before and thus has been able to accommodate the larger crowds that have visited the C.C. Pub this term. In addition to the traditional crowded Friday afternoons, the pub is also crowded on Wednesday, Thursday, and Friday evenings. More pinball machines have also been added, but one major problem still persists.

Unfortunately the pub staff tends to play the music MUCH TOO LOUD and it is almost impossible to carry on a conversation without straining one's vocal chords. Apparently one cannot turn down the volume in the bar and TV room, without turning down the volume in the dance floor room. As long as this problem persists it will not be possible to fully utilize the bar and TV room to its full potential, which would include the installation of a large screen projection-style television unit.

J.J.

HIDDEN DESIRES

OH! I wish I was an accounting student at U.W. I could go to the GREAT PARTY this Friday. Everyone I know would be there after the meeting. OH! I wish I was an accounting student.

FASSen Your Seat Belts...

Hello, and welcome to another FASSinating update from your roving (or should I say raving?) reporter.

As many of you may already be aware, FASS (that weird and wonderful theatre troupe) is currently planning for its upcoming production. The theme this year is cloak and dagger, spies and spying. In keeping with the theme, the plot is being kept under-cover, a closely-guarded secret. (Not really, but it sure sounds neat, doesn't it?)

Fass has had a fairly illustrious 18-year history of comedy, singing, dancing, and general good times. In recent years, its productions have ranged from hi-jinks on the high seas to mad scientists and alien cats from outer space, and have had titles to match. Who can forget 'The St. Valentine's Day Fassacre', 'Days of Future Fass', or 'Ships That Fass in the Night'?

What really surprises this reporter is that so many people still ask the innocent question, "What is Fass?"

The simple answer is that Fass is Fun. Fun for the actors, the singers, and dancers; fun for the tech crew and production people (you should see some of the parties those techies have!); and most importantly, fun for the audiences.

The show will be put on the first week in February, and tickets are expected to go on sale later this term (watch for posters). Popular opinion has it that the Friday night late show is the best, though in recent years the Friday early show has gained a substantial following (or show I say foolowing?) (*no, you shouldn't. -coded*) In any case, all five shows are worth seeing, and if previous years are any indication the tickets are expected to go FASSt.

One of the most difficult tasks each year is choosing a title for the show, and this year is no exception. That's where you come in. Yes, you.

You see, this year Fass is running a sort of mini-contest, to help get a title for the show. Nothing fancy, you understand, just a simple little 'Name the Fass' competition. The rules are simple. Just put your suggested title, along with your name, phone number, and userid (if any) on a small slip of paper and leave it in any of the following three places: the official Fass Office (South Campus Hall room 234-B), the SciSoc office (ESC lobby), or the MathSoc office (and if you don't know where THAT is, what are you doing reading this paper?).

Better still, if you have a Honeywell userid just mail your suggestion to userid FASS. In any case, the winner will be chosen by this year's producer (with a little help from

the various writers) and all results are final.

Prizes? Did I hear someone ask about prizes? Well, as a matter of fact, there are a few. The winner will not only receive a free Fass t-shirt and two free tickets to the upcoming production of Fass, but will also be given an honourable mention in this year's programme. Not bad for just picking a name, eh?

If you're totally blank as to what name to choose, just ask your friends for suggestions. (Don't tell them about the contest though - we'll just let that be our little secret). The title should have something to do with this year's theme (if you've forgotten already, go back to the start of this column and try again), and should preferably have some clever play on words (why break tradition?). If the title happens to have the word 'FASS' in it, so much the better (though this is not absolutely necessary). For inspiration, look at the titles of previous FASSes (you've forgotten those, too? Gosh, you have a short retention span. Go back a few paragraphs and you'll see some examples).

Simple, right? Deadline is fairly flexible, but to give you some sort of guideline we'll say one week from the publication date of this issue of mathNEWS. If more than one person submits the title that wins, the one we receive first will get the prizes. (Remember to put time and date on written submissions!)

Well, that's all for this week. This is your still-roving (and still-raving) reporter signing off. (I've gotta go now, my shoe is ringing.)

Bernie Roehl

Martha and the Muffins

Our live broadcast of the mind comes to you today from the world-famous Humanities Theatre, University of Waterloo. As the Clash's "I'm Not Down" fades away on the PA system and the house lights go down, the audience sits, waiting...

Then, on comes the rhythm box, center stage... Stage left, the keyboards... Stage right, the bass guitar... Then the guitar and drums...

And last of all, Martha herself, leading the Muffins into what was certainly a very tasteful yet tuneful hour of music. This band has recently become well-known in Britain as well as here in Canada; the excellent sound quality and superb timing of this performance shows that this fame is well-deserved.

Notes in passing:

1. The opening band, "The Fabulous Spoons", featured a keyboard player suffering from "Terminal New Wavitis", which has two tell-tale symptoms: attempting to pogo one's way to the ceiling, and wandering about like a shock therapy patient/drunk/engineer (choose one).

2. The I-wouldn't-want-to-be-in-your-shoes award goes to the poor roadie that had to replace the guitarist's broken string and then attempt to tune the instrument. He did not succeed in this thankless task, but at least he tried.

I think I'll leave this now and go and have some "Cheezies and Gum"; bye for now.

David Till



20¢ at C+D;
12¢ at SCH...
SWIGGER SWIGGER!

Special Interest Groups

Name	Special Interest Group on	Fee
SIGsig	recursion	\$1 + SIGsig fee
SIGacm	two level recursion	\$1+ACM fee+SIGacm fee
SIGsex	Swapping and EXecution	\$60/hour
SIGoral	Voice Synthesis	\$9 on cassette
SIGanal	Numerical ANALysis	\$8 ± ε
SIGmund	Munds	\$50/hour
SIGfried	chicken	\$9/bucket
SIGKnuh	pipe organs	negotiable
SIGGIS	palindromes	\$12.21\$
SIGeh?	Canadian SIG	\$4 Canadian
SIGnpost	future computing	1/100 oz. gold
SIGnum	sign functions	\$1.00, \$0.00 or -\$1.00
SIGnal	switching theory	\$85/course
SIGnoff	process destruction	\$4 in computing resources
SIGnature	untamed computing	\$5 (by cheque only)
SIGarette	smoking	70¢/pack

Interaction

It is finally happening. I have decided to retire once and for all from my mathNEWS columnist position. This doesn't necessarily mean I will never write a letter, article, or commentary for mathNEWS again. However in another week or two I will have written my last regular Federation or Interaction column.

I have been a regular columnist for mathNEWS for a number of years now. Starting with J.J. Long Reports, I moved to Federation, and finally Interaction. I have been meaning to leave this paper for some time, but it has only been very recently that I felt that the paper was in such a good position that it no longer needed my talents. I have enjoyed my stay with mathNEWS, however I feel that it is time to move on. I am no longer a student here and have now also left my job with the university. I feel that this is the appropriate time to leave as the paper is in good shape and I can go out in better style.

Before I leave I will write a few more columns. This week I'd like to thank the various people that I have met over the years for the various things good and bad that they have done. Sorry if I miss someone because I can't remember everyone.

First of all thanks to Andrew Telegdi the former Federation president who first got me involved in student politics back when he was president. He was a good Fed president (one of the best; he lasted two full terms, a record) and should make a good city councillor. Thanks to Gary Dryden, perhaps the best MathSoc president ever, for the way he got MathSoc back on its feet, and for having those great parties. At this time I must mention his successors Gary Prudence, Kevin Willis, and Andy Mueller who generally kept the Society going after Dryden left. Unfortunately things went downhill under Geoffrey Hains. Other MathSocists worth an honourable mention are John "Fuzzy" Ellis (my co-editor in 1978), former Education Director and VP Ken Lynch, former mathNEWS editor and C&D manager Ron Hipfner (who didn't do so well as Fed prez), Bruce Mills ("the Duke of Earl of Bunwich"), Dave "Boff" Newell and from the CSC Johann George, A.R. White, Ken G. Dykes, Rohan J., Randall Howard, and the two Burloafs Dave Buckingham and Pete Raynham. Also I must mention former Vice-President and Speaker Andrew Haycock and former bulding security guard Earl and ex-dean Forbes, all of whom are honorary MathSoc members. I don't want to mention RAG White though, and I can't thank P. Ragde for what he almost did to mathNEWS, nor M. Webster for what he did to C&D.

Thanks to the best mathNEWS editor of all time, Dennis Mullin. Also Randall McDougall, Philip Kelly, John Peebles, Stephen Treadwell and Johann must be thanked for their editorships. I also must thank my sometime nemesis John Lee (Hooker), the Science Society editor who sometimes wrote for mathNEWS. We were often the butt of each other's insults, but this was interesting.

Great thanks to my former room-mate and C&D assistant manager Kandy Murhearty. Thanks to Dave DeBruyn for keeping C&D going strong after I left the manager-ship, too bad it went down the tubes with your immediate successor in 1979. (It is slowly being rebuilt.)

No thanks to Larry and Neil and the boys and girls at Free and Democratic Publications for the anxiety they caused me and others. I don't know whether to thank Nick The Red because he seemed to be always changing sides. At least he, along with Barkman and O'Donnel finally saw the light and ended up on the right side (or at least the less bad side) before they left campus. As for the last member of the gang of four J.W. Vast (I mean Bast) thanks for the photographs, the lighthearted laughs, and the beer.

I must thank former Fed presidents Roberts, McLellan, Thompson, Hipfner, and Higgs, for being nice guys and taking on the presidency during a tough year for the Federation. However I cannot thank them for their lack of competence in dealing with the Chevron and other matters as Federation presidents. It was because of the Chevron crisis that I felt compelled to stay in student politics for longer than I planned with the resulting academic problems. Also on the Fed side thanks to Rick Smit (a not so bad fellow, despite what others say) and Mark McGuire for rebuilding and maintaining the Federation after it was nearly destroyed. Their actions made it easy to retire from the Federation knowing that it was in good hands.

Also thank you to the Imprint for providing an alternative to the Chevron. Thanks also go to a former Art-Soc president who never made as Fed president. I am not talking about "Country" Joe McDonald, but rather Bruce Rorrison. Bruce would have made a much better president than Shane Roberts. Hopefully the election in Scarborough will give him a chance to be a good school trustee.

Also thanks to the people in FASS for the good times they have provided me, other participants, and many audiences. There are too many to mention, but some names come to mind; Andy H., Heather Sokoloskie, Peter and Alex, Doug Crichton, Ian Allen!!!!, Jim Gardner, Marney Heatley, Gillian, Bernie, Dave Spence, R.P. Gurd, Dr. Pearson, Tom and Erica

The DEAD RINGER Report

Crème de la Chem came against the Ringers last Thursday. However, the cream went sour as the Dead Ringers shut out what was once Engineering's finest, by a score of 4-0. The Ringers used the passing game to completely dominate their opponents. Hard hitting and strong two-way work by the entire team contributed significantly to the Ringers' first shut-out of the season. Bob Thorn made some quick saves in goal and showed flashes of the form that has made him MVP in two prior seasons. The Dead Ringers now own a 1.00 goals-against average after three undefeated games. Scoring for the Dead Ringers were Mike Turcot, George and John McClintock, and Kelvin Martin. The three stars were John McClintock who for the second consecutive game led the team in forechecking, Ron Sisson, for playing great stand-up defence, and Mike Turcot for notching the game-winner on a great reflex play.

C.C.



Hocaluk, Ray B. Janet, and many others.

Thanks to Mort and Sherry Taylor for their delicious pizzas, which I haven't had many of lately in an only partially successful bid to lose weight.

Last but not least thanks to some of my past and present friends from the Grad Club. Stephen W. (rides home), Harinder or Horrendous (the life of the G.C.), Tony Waterhole, Aki Akira, Mr. Bill and his brother Ray, Reggie V, Gord and Enid, Citizen David, Vlad and Viola, Marty and Heather S, Larry, Jerry (Mr. Electric), Malcolm P, Alexa, C. Joe, and many more.

For those of my friends who were not mentioned, I apologize to you. I forgot. (I am sure some people did Not want to be mentioned here.) For the other readers who may feel that this article was too "in" and dealt too much with people I know, I also apologize. I felt that I was entitled to one of these kinds of articles before I leave. Next week I plan to return with a more general interest article that will be less in-house.

J.J. Long

Initial Shock

We're all used to getting documents from University High Command with our names and addresses in little boxes. You get something like

MR. JOHN Q. PUBLIC
234 MODERN ST
WATERLOO BC
N2J 1W9

Looks fairly civil, considering it's done by a computer. In fact, it looks like some little demon has this block of words and symbols memorized in this form on some tape in the Red Room Disco. But our computers are far too smart for all that. In the interests (presumably) of saving storage space and accounting costs, your name and address are stored in only one place, and your name is in the form

PUBLIC JOHN QUENTIN

This is actually quite neat; it's the way you see it on your registration slips. Surname Public, given names John Quentin. So when the university isn't being so formal, it chops your name up. It looks at whether you're male, female or engineer, and titles you appropriately. Then it abbreviates all names after the first, and juggles the characters to get the words in the right order. So... who am I, according to the IBM?

MR. WILLIAM R. BROWN

I can understand this, but others might not. That I go by my middle name is a twist of events established almost 19 years ago, and is now denied by the University. And so, whenever I am fortunate enough to get my name published, I'm William Brown. You'd think *this* university, having been founded by a Dr. J. Gerald Hagey, would be more sensitive!

Like the crusade of lefthanded people, the crusade of the curiously-named is a difficult and misunderstood one. Like a person with umpteen q's in his name, middle-named people are misunderstood by banks, insurance companies, and in fact anyone who uses forms which have two boxes after the surname, one *big long one* labelled "Given Name", and one *tiny square one* labelled "Middle Initial".

The driver's licence I hold now says **BROWN,W,ROSS**, but it took three tries (that makes 34¢ postage) to get it that way. Personally I thought **BROWN,W-ROSS** and **BROWN,WROSS** were rather cute, if incorrect. The first one, incidentally, was caused indirectly by the attendant at the driving test centre when she drew a horizontal line through the **IL-LIAM** part.

Young Frank Einstein meets the Devil along the way

"I hear footsteps... Hello? Anyone here?"

Footsteps? Who's got feet here? We all float on little clouds, you know.

"Hey! Who is that?"

Relax, my good man, just an old friend of yours. How are you enjoying your... tropical holiday? I can see you're most uptight about my... presence.

"You might say so, yes! And what's this about a holiday?"

You've been planning this for quite a while, believe me. Subconsciously, you know; odd things happen to human minds. Especially at a university.

"Subconscious? How do you mean? I'm just sitting here, and suddenly I'm attacked by this voice-over, and it isn't even in quotation marks. What can you say about *my* subconscious?"

Much more than I could a moment ago. Much more than you ever will. This keeps the human humble, you see.

"Yeah, sure. You can argue endlessly about my subconscious, and I'll never be able to prove you wrong, 'cause I can't get at it, right? Sounds like a childish trick."

If children use it, what of it? It's all forgotten in a trice. Just as an illustration... How do you know what day it is? I see you have a nice watch there.

"Well, within the limits of... reasonable doubt, I suppose... I believe what my watch tells me. If it looks wrong, I'll reset it, or change the batteries, or something. Right now, it's just before midnight, I think."

Tuesday?

"No, it says Sunday. How about yours?"

Tuesday, it is. Check yours again. I know it works.

"Sunday, clear as day. This is insane. This can't be Waterloo..."

That is correct. This is the rationality of the human; a brilliant illustration, I think, don't you? I can see you don't believe my means, young man.

"You must be putting me on, or something. This world has enough congenital liars without a host of whispering voices like yours to keep us awake! For God's sake, this looks like... straight out of 'A Christmas Carol!'"

Your listening belies your hearing. I do not lie. You misunderstand. What you are accustomed to is the very image of yourself, in conversation, in love, in all your dreams. You must never know more than this. It is for your own safety as a mortal particle.

"So what are you, then, wise guy? A 'supreme being'? A 'demi-god'? Bob Dylan, perhaps?"

This is your religion? I pray for your kind, man. You have Woody Allen on the brain. At any rate, it's time you were going.

"Going? You were the one who came, as I recall."

Think a while and you'll realize you are wrong. Your recollection is as malformed as your subconscious. Carry on, my wayward son.

"Enough of that! I've got some *real* work to do."

Young Frank Einstein

P.S. to the last column: On closer inspection, it was found that Pfeiffer salad dressing (which is sold in Canada, incidentally) contains xanthan gum, which suggests to me that xanthan has been used as a ventriloquizing agent. In other words, it's not so much that the salad cries for Pfeiffer, but that the Pfeiffer uses the parabolic shape of the lettuce leaves as a reflector for its own voice. Further study is under way.

The solution? Fortunately, it is (or *should* be) simpler than that of the *manus sinister*. A sensible method I have seen two or three times was to store the given names as the University presently does, but with a '.' instead of a ' ' before the name that is used, if it is other than the first. Maybe the University could try this. Petitions for this kind of concern are useless and annoying to the public. Anyhow, I think that I and the rest of us middle-named people actually enjoy watching bank tellers and others squirm. Per-verse, but probable.

wrbrown

Proclamation of the Emperors of the Free Lunar Empire (in Exile)

Wherein the Emperors, and their loyal Peers of the Realm, do decree

- 1) Their Eternal Lordship over all the Worlds, Beings, and other Stuff in the known and unknown Universes;
- 2) and that each sentient element of said Stuff (not just the *other* stuff) shall owe to the Emperors and all

** Operator killed this report

Professays

This article will begin a regular series on the professors of the Mathematics Faculty, those often inscrutable, occasionally intimidating beings who actually run the University. I hope to remind students that professors are human too, and don't spend all their lives covering assignments with red ink and designing agonizing mid-terms. As well, I want to examine some of the contributions Waterloo professors have made to mathematics in general (*and honors?? -typist*).

This week, I talked to Professor W. J. Gilbert of the Department of Pure Mathematics.

William J. Gilbert was born on March 10, 1941 in the small town of Exeter, in Devonshire, an agricultural county of southwest England.

Towards the end of World War II, his family moved briefly to Canada where Gilbert's father, a nuclear physicist, aided Canadian scientists in building Canada's first nuclear reactor. After the war, Gilbert's family returned to England, lived in several cities including Cambridge, and finally settled in the industrial city of Manchester.

Until he was about 15, Gilbert also wanted to become a physicist, but studying geometry created an interest in Mathematics. When he entered

Jesus College of Cambridge University, he took all mathematics related subjects—he was expected to (and did) study arts electives on his own time.

Cambridge is a smaller university than Waterloo, but it also uses the lecture/tutorial method of teaching. Because there were only 200 students in mathematics, tutorials were very small, usually two students to each professor. Gilbert did very well as an undergraduate and was one of the few to become "Wranglers" after writing the Mathematical Tripos exam.

During the summers, Gilbert worked as a computer programmer for IBM and other firms. After graduation from the Bachelor's programme, he went through "the usual job interviews", but was relieved to find that he had been accepted into Oxford University's graduate school.

At Oxford, he blended his interests in calculus and geometry into topology, one of the newest branches of mathematics. After almost two years of reading and discussing past work on topological groups with Oxford professors, Gilbert left for the University of Washington in Seattle, where specific work on his area was being done. Here he wrote his thesis (on Hopf and Co-Hopf Spaces) and in his second year there worked as an instructor.

He then returned to Oxford, completed his oral thesis defence and received his D. Phil degree. After teaching a year at the University of Hull in Yorkshire as an assistant lecturer, Gilbert decided to look for more room for advancement in 1968, and accepted a position at the University of Waterloo as an assistant professor.

Professor Gilbert has spent much of his time at Waterloo writing undergraduate textbooks. His "Classical Algebra" is well known to all first year students. He considers the sequel to this: *Modern Algebra and Applications* to be his most important published work to date. A third textbook, not being used at the moment, uses vectors to simplify the teaching of linear algebra. Professor Gilbert has also published six papers. He is doing perhaps his most interesting research right at the moment, on unexpected connections between fractal curves and complex numbers (see accompanying article).

Professor Gilbert has been married for 12 years and has two children: Mandy, aged 10, and Peter, aged 9. Neither has shown a strong interest in mathematics, not yet at any rate. His favourite sports are skiing and sailing. He also enjoys wine tasting and foreign movies.

Current Work *Fractal Curves and Complex Numbers*

Giuseppe Peano (1858-1932) first exhibited a seemingly 1-dimensional curve with a peculiar property: if extended indefinitely it would run through every point in the plane. Several other such curves were discovered, including Martin Gardner's Dragon Curves (*Scientific American*, 1967). This left topologists in a dilemma: on the one hand, at each stage in the construction of such a curve it remained 1-dimensional and had finite length in a finite area, but on the other hand in the *limit*, the curve seemed to fill the plane and so be 2-dimensional with an infinite length in a finite area.

Some mathematicians decided that such curves ought to have a dimension somewhere *in between* 1 and 2 and called them **fractals** or **fractional dimension curves**. This new definition of dimension is called the **Hausdorff dimension**, which can be any non-negative real number, as opposed to the **topological dimension**, which must be a natural number. The fractals have a topological dimension of 1 and a Hausdorff dimension

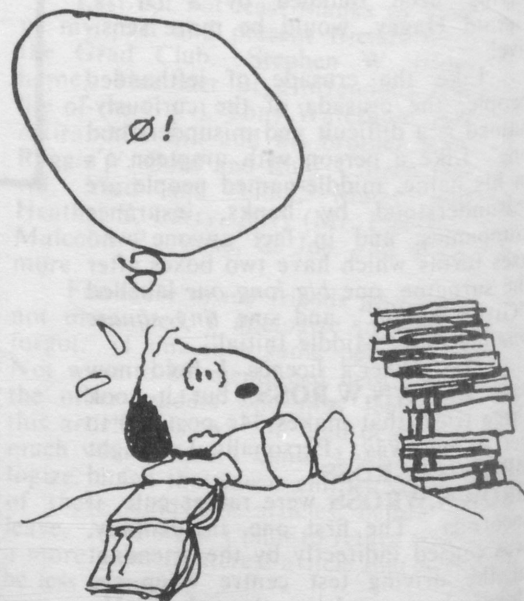
between 1 and 2.

Professor Gilbert has discovered a totally unexpected connection between these bizarre curves and the complex numbers. While teaching a first year Algebra course, he decided to generalize representations of numbers to bases other than 10; first to negative bases, then to complex bases. It turns out that not all complex numbers can be represented with bases in \mathbf{G} (the set of Gaussian integers $m + ni$, $m, n \in \mathbf{Z}$). The boundary between complex numbers which are representable with a given base and those which are not representable is so rough that it has an infinite length in a finite area and thus has a Hausdorff dimension between 1 and 2. For example, the fractal generated by $1 - i$ has a Hausdorff dimension of about 1.5236.

These concepts can be generalized to any quadratic field $a + b\sqrt{m}$, $m \in \mathbf{Z}$ and even to general polynomial rings (which produce spaces with Hausdorff dimension > 2 , so we can have fractal surfaces, fractal 3-spaces and so on).

THE ASSOCIATION

All accounting students are reminded of the meeting tonight (Friday, October 24) in MC 2065 at 7:00. Attendance will be taken!



"comment

My subtitle should leave no one in doubt as to my position on this topic. I consider the act of abortion to be the taking of human life and thus justifiable only in extraordinary circumstances. Abortion under less than extraordinary circumstances is immoral and should be illegal.

Clearly, the arguments for and against abortion must centre around the definition of the point at which human life begins. I consider this to be the point of conception, and argue my point in this manner: Surely one cannot consider a fetus ten minutes before birth as not being human, thus the point at which a fetus becomes human must come before birth. But in the period from conception to birth there are no sharp dividing lines, only a process of development. Even the concept of viability of the fetus is but a tenuous idea. Sometimes we are forced to use such vague concepts, but I do not believe we are at all justified in using them to define something as important as the onset of human life. The moment of conception, on the other hand, is a clear dividing point separating that which almost all would agree is not human life (a separate sperm and ovum) from a new and unique combination of genetic matter which will

ABORTION
Simply Murder!

(barring sickness, accident and outside intervention) develop into a human being. It is because this moment is so clearly a dividing point that I consider conception to be the start of human life.

There are, of course opposing arguments. Some, which attempt to define a different point for the onset of human life I would disagree with for the reason given above (i.e. that they are too vague or too arbitrary) but at least they are relevant. So many pro-abortion arguments seem totally irrelevant. One oft-heard remark states that the anti-abortionists are trying to foist their religious views on the rest of society. Well, granted I am a member of the Roman Catholic Church and I am against abortion on religious grounds. But I am also against theft on religious grounds. However, when I argue that theft should remain illegal, I do so on the grounds that these laws are necessary to protect innocent people, not on religious grounds. Similarly, I argue that abortion should be illegal because it is necessary to protect innocent children, not merely because of my religious beliefs.

There are some who argue that as natural abortions sometimes occur abortions cannot be immoral. To these I would reply that thousands of three year olds die of natural causes. Does this justify the murder of three year olds?



Then there is the famous "It's my body and I can do what I like with it!" This is certainly a strange statement as the right to do what one likes with one's own body has never been recognized. Certainly our society considers suicide and other forms of self damaging behaviour wrong and restrains people who attempt such acts. We are not free to do what we want with our own bodies. Secondly, under the definition of life given above a pregnant woman's body cannot be considered completely her own. Finally, the attempt to connect abortion with women's rights seems to me as ludicrous as the Monty Python character who campaigns for his right to have a baby. Certainly, laws against abortion would apply only to women but this does not discriminate against women any more than rape laws discriminate against men.

I have not, of course, covered all the pro-abortion arguments, and those I have mentioned I have not covered in detail. Nevertheless, I do not apologize. My argument stands that human life begins at conception. That alone is sufficient case against abortion.

William P. Hughes

CSC Flash!

Miscellania, Curricula, & Hype

This, the first CSC Flash written by this term's CSC President, covers a lot of ground. Firstly, I have the pleasure of reporting on last week's CSC meeting with Brad Templeton giving a stimulating talk on mass market software. Mass market software is distributed to the public just like records are, though of course the volumes aren't comparable (yet). There are a large number of unsolved problems with such distribution. For example: what do you do when ten percent of the 100,000 buyers of a chess program phone the software company to ask how to use it? Consider also that all support must be paid for from the relatively low retail cost of the program.

Brad started with a brief history of the microcomputer industry, from the early calculators and video games to the latest personal computers. He proceeded to a discussion of the nature of mass market software, its special problems, and future directions. The

talk concluded with impressive demonstrations of the PET and Atari personal computers. This summary hardly does justice to the depth and variety of the talk. It would suffice to say that it was very well-received.

Now, the curricula: Computer Science is a dynamic field, and a young one. Few approaches to teaching the subject have been around long enough to become tried-and-true, and new subjects are constantly being introduced to teach. Thus, it's not surprising that people have varied views of the best way to construct a CS programme. The CSC would like to hear *your* views on the subject, so we're going to have a curriculum discussion session next Thursday evening at 8:00 pm, in an as-yet-undecided location. If you have any (ANY) comments at all on the curriculum, come out to the meeting. There'll be free donuts and tea, as usual.

Finally, the hype: The Associa-

tion for Computing Machinery (ACM) is not a society of robots, as the name might indicate. It is a society of over 32,000 people interested in all areas of computing. It is also a link, through its publications, to a world of computing that is generally far more interesting and exciting than that found in CS courses. Currently, the ACM is having a membership drive, with special incentives to get students to join. If you're interested, have a look at the information posted on the CSC office door.

Finally, we're looking for speakers for next term. If you have a favorite speaker (especially if you know him/her personally), please let us know. We can be reached at TSS userid csc. Also, if you think we should be doing something we're not, let us know... we're just a mail message away.

peter rowley
President, CSC

YODA Word Search

Search Words:

Find all words of 4 letters or more in the following quotes from YODA. (NO DUPLICATES - words like "dark" appear only once in the search grid)

"Anger, fear, aggression! The dark side of the Force are they. If once you start down the dark path, forever will it dominate your destiny. Consume you it will." "You will know. When you are at peace... calm, passive. A Jedi uses the Force for knowledge and defense. Never for attack."

Leftover:

Another quote from the Jedi Master, 35 letters including punctuation.

randall

A G R E D F A T W A J A
R K N O W O N R I E S T
O R ? H W R M W D Y T T
Y K E A L E R I O A A A
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Broomball Mathsochists Exercise Bondage on Free Radicals

On Tuesday night at McCormick Arena in G-rated Sunnydale, an act of unparalleled perversion in sports took place. The bawdy broomballers of Math, the Mathsochists, chained and whipped the seemingly willing Free Radicals of Chemical Engineering into utter subversion.

When the dust had cleared, the final score was 15-1 in overtime. (Overtime because the next game started late...) Leading the sorcery for Math were Greg Bezoff, Gary "Scrooge" Dryden and Ross "Red" Brown with three lashes apiece. On defence, nothing, it seemed, got past the wizards of Math, defencemen Brad Villeneuve and Walter Steinemann and dauntless (and bored) goalkeeper Dave "Burloaf" Buckingham. Also strong performers for the merry band were Stan Mikoluk, Ashok Patel the coach and Toni Tothill the angel of mercy. Mercy was little found on the Math side that night.

If we score this many goals in all our remaining games, man, we'll be licking our horseshoes!!

(*) ... Red

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Good evening, microbes and germs. It's 2:53 a.m., Wed., Oct. 22, 1980 and we've decamped with the Diablo again, this time to the Unix den (too much music playing in the HW room - sheesh!). This is where dreams come true, user processes send the CP into tizzies, and everyone has practically unlimited filespace. mathNEWS this week was interrupted (rudely) by an intramural broomball game, at which Joanne's toe (we don't know which one) submitted application for martyrdom. Hordes of peoples this week, all in good humour and top literary form as usual: in strictly non-alphabetical order... (1) Alan Munn (cyclist, scavenger hunt, commas,,,,,) (2) David W. Till (martha&mufkis, transparent null space article), (3.14159265) Ted MacNeil (prayers), (4) Peter Rowley (CSC hot flashes, future C+D heresy), (5) James Puttick (photonning, layout, innocuous good looks, about 6'1", don't know his phone number, sorry, gals), (6) William Hughes/TTWIAHA/Charlie Blogggggs (abortion-not sure when he had his last one, no, actually he's male), (7) Joanne West (toze) (broomball) (she has 10 toes at last count, maybe 11 now, I dunno!), (8) Ross Brown (who dat? some twit!) (yfe, initial shock, broomball S+M, graphix...god knows why...), (9) Mike Gore (aspires to marry Charles Schulz or reasonable facsimile), (10) geez, I used to be able to count. (10) that's better. Ashok Patel (think a lot), (11) John Plaiice and his undisclosed friend Debbie (Photon diaper-changing, congrats on bike race!) (what a guy!) (12) J.J. Long who we understand is dissolving soon, happy liquid state, J.J. (13) Brad Templeton (filthy rich, really) (14) randall Melhuish (yoda freak, more word searches in our files than we can keep track of!), (15) Kevin Jardine (straight math! wjgilbert bio, current research), (16) Andrew Welch (all articles less than 25 words), (17) Bernie Roehl (FASSite) oh god... (18) Marnie Shaw (social), (19) Jan Gray (cute, cute) (20) anonymous writer of unsigned articles. (21) inventor of Diablo linefeed mechanism. He wonders what a HUMAKY can do nearly 24 hours... makes you feel God's duty calls... so long!