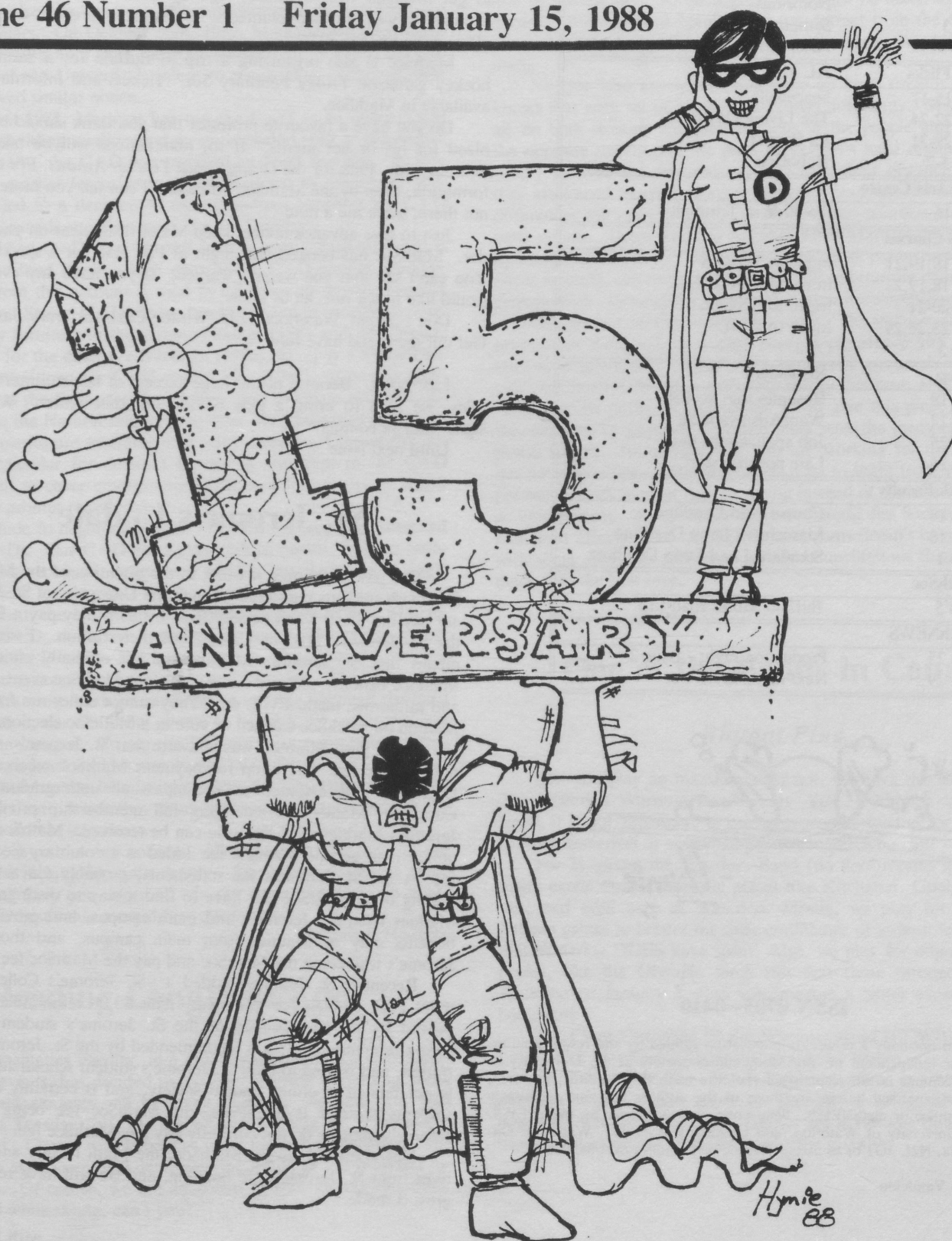


# math **NEWS**

Volume 46 Number 1 Friday January 15, 1988



## LookAhead

<b>Cinema Gratis</b>	
Jan 20	The Killing of an Egg Children of a Lesser God
Jan 27	The Maltese Falcon Notorious
Feb 3	Symbiosis After Hours
<b>Fed Flicks</b>	
Jan 15-17	AL 116 Spaceballs
Jan 22-24	The Living Daylights
Jan 29-31	La Bamba
Feb 5-7	RoboCop
<b>UW Arts Centre</b>	
Jan 16	To Ride in Triumph
<b>DCS Courses</b>	
Jan 18,19,21	Intro. to SPIRES
Jan 18,19,22	Intro. to WATFILE
Jan 20-21	Intro. to EXCEL
Jan 25,26,29	Intro. to GML
Feb 5	OS/2
<b>Co-op Reminders</b>	
Jan 18	Resumes due @ 4:30
Jan 22	WantAds available
Jan 25	Job applications due
Jan 26	Late postings start
<b>Math Faculty</b>	
Jan 18	Course Add Deadline
Jan 18	Masochist's Drop Deadline
Feb 1	Standard Load Drop Deadline
<b>MathSoc</b>	
Feb 5	Buffalo Sabres road trip
<b>mathNEWS</b>	
Jan 25	Production night - Issue 2
Jan 29	Next mathNEWS out



ISSN 0705-0410

mathNEWS is normally a bi-weekly publication funded by and responsible to, but otherwise independent of, the Mathematics Society at the University of Waterloo. Content is the responsibility of the mathNEWS editor; however, any opinions expressed herein are those of the authors and not necessarily those of MathSoc or mathNEWS. Send your correspondence to: mathNEWS, MC 3036, University of Waterloo, 200 University Ave. W., Waterloo, Ontario, Canada, N2L 3G1 or to userid mathnews@watdesu on USENET.

Editor: Tom Vandeloo

## Prezz Sezz

Welcome back to the world of snow! As your new president of 3½ days, I am here to see that you keep informed of all the great things that MathSoc has in store for you, as well as let you know what's going on outside of the Math Society.

To start off, we still need class reps! For a list of the positions to be filled, see the elections report elsewhere in this issue. If you want to get involved with MathSoc, sign up now! We also need office workers, as well as other volunteers. If you are interested, drop by the office anytime (MC3038).

MathSoc is also organizing a trip to Buffalo for a Sabres-Leafs hockey game on Friday February 5th. Tickets and information are available in MathSoc.

Do you have a favourite professor that you think should be recognized for his or her merits? If so, nominations will be taken until February 5th, 1988 for the *Distinguished Teacher Awards*. For more information, drop by the MathSoc office and I can tell you more. If I'm not there, leave me a note.

Just to give advance notice, keep March 18th clear on your calendar. MathSoc has booked that night at Fed Hall for a special event. You can't say that you weren't warned! If you have any events you would like to see run, let us know!

Don't forget Waterloo/WLU Winter Carnival from Jan 18-23. Get out there and have fun!

Last point. Because of the huge success of last summer's T-shirt sales, we plan to bring a new edition out this winter. Watch for signs—they're coming!

Until next issue ...

Lisa Falco

## St. Jerome's Update

This past September it came to the attention of the Math Society that math students registered through the University of St. Jerome's do not pay the \$5.00 Math Society fee. Instead, they pay a \$3.50 fee to the St. Jerome's Student Union with their tuition. Essentially, this means that St. Jerome's Mathies are not officially entitled to any MathSoc benefits: reduced ticket prices for MathSoc events, old exams and midterms, mathNEWS, etc. They cannot either run for an elected position on MathSoc Council or vote in a MathSoc election.

In the past, MathSoc was unaware that St. Jerome's students did not pay the fee. The lump fee payment MathSoc received from the University was assumed to encompass all undergraduate Mathies. Currently, MathSoc is extending full membership privileges to St. Jerome's Mathies until the issue can be resolved. MathSoc's preferred option is to get the MathSoc fee added as a voluntary (ie refundable) fee on the St. Jerome's fee statements, probably via a referendum. Failing that, MathSoc will have to find a way to distinguish between Mathies from St. Jerome's and main campus, and provide MathSoc benefits only to Mathies from main campus, and those from St. Jerome's who come the MathSoc and pay the MathSoc fee directly.

Recently, St. Jerome's added a "St. Jerome's College Development Fee" to their fee statement. This \$3.00 refundable fee was approved by the membership of the St. Jerome's student union in a spring referendum. It was recommended by the St. Jerome's administration, and is used to fund St. Jerome's student scholarships. This fee is not related to either student society, and is certainly not, as some students thought it might be, the MathSoc fee being added. St. Jerome's Mathies do not currently pay any MathSoc fee.

Negotiations between MathSoc, the Math faculty and representatives from St. Jerome's are ongoing, and we will have reports as progress is made.

Sauron  
with John Thomas

## C+D Changes?

### *Contract up for Renewal*

On April 30th, 1988, the Math Society's contract for running our C+D expires. The terms of the contract specify that any party to the agreement must give six months notice of an intent to renegotiate or terminate, or else the contract will automatically be extended for another five years. On October 30th, 1987, MathSoc president Dave Kirkness received a note from Dean of Students Ernie Lucy, informing MathSoc of the University's intent to renegotiate. Other student societies received similar notice.

Since April 1983, MathSoc has run the C+D as an independent food outlet, providing quality food to students and staff at reasonable prices. Originally, the C+D was supplied by Food Services. In September 1986, market forces encouraged MathSoc to tender for suppliers, which led to a decision to use off-campus suppliers for C+D goods. Those outside suppliers stock the C+D today.

The MathSoc C+D does not sell food at cost. A slight profit is made on some food items, which goes into a C+D surplus account. The money from this account is used by MathSoc to provide benefits to the students. So far, C+D money has been used to provide the carpet and comfy furniture in the carpeted lounge (1984 and '85), to buy new furniture for the other C+D lounge (1986), to repay a \$3000 Descartes Foundation loan for C+D renovations (1987), to donate additional money to the Descartes Foundation, and to create two new student bursaries, the Natural Log and the Pink Tie  $\int$  bursaries (1986 and '87.) (The bursaries are available to B term students. Consult the undergraduate calendar for details.) Money is also kept in the C+D surplus account to cover emergencies, such as a freezer dying, which would require prompt replacement.

As a prelude to negotiations, the Fire Marshall recently inspected all society C+Ds. Our C+D got a clean bill of health, with no problems. The only recommendation was for the installation of a single smoke detector.

At last word, the University was considering two actions with regards to our C+D, those being raising our rent and/or taking a percentage of our C+D sales. The former option, given that the increase is not vast, seems somewhat reasonable and bearable. The latter idea, however, strikes most MathSoc members as unjust. Through the hard work of MathSoc, our C+D has grown to be what we feel is the best such facility on campus. To see the University, or any other group, benefit from our hard work is simply not fair. Given that C+D money is channelled back to benefit its patrons, the University should not be angling for a cut. When they want our money, they should ask for it up front, on the fee statement.

Negotiations on the new contract, carried out in part through the Feds, should be picking up again shortly. As new developments arise, mathNEWS will keep you informed. In the meantime, keep on shopping C+D—the best value around for your money!

Stuart L Hodgins

## Reading LongWeekEnd

The Mathematics Faculty, in a much appreciated and rather startling turn of events, has decided to try implementing a Reading Week of sorts. Math students will be given February the 15th and 16th (Monday and Tuesday) off, to "see whether we like it" in the words of one official. Classes will be held as usual the rest of the week. The success of the experiment will determine the future of this bold and innovative step. Of course, we are all meant to *study* during this time. You can read while skiing, can't you?

## edLINES

### *Clash of the Titans*

This term, through a series of independent, identically distributed random flukes, a large number of people from both streams have come together on the MathSoc council. This is a rather unique situation in this faculty. As such, great care must be taken to ensure that personal differences of opinions do not detract from the effectiveness of the MathSoc council or cause poor, compromising decisions to be made.

Anyone who has spent some time on both streams (as have I) knows that each set of people does things differently. Many individuals on both streams are contemptuous of the people and methods of the opposite stream. In the past, no conflicts have resulted from this simply because the two groups have kept their distance. Now that they are forced to work together there will be situations when personal differences will cause meetings to dissolve into pointless bickering over petty details. There will also be times when MathSoc policies will end up being "wishy-washy" in order to appease all parties involved. If no effort is made, differences of opinion will splinter the council into two cliques, each opposing the other and neither accomplishing anything.

But there is another side to this story. The mixture of the streams means that there will be a huge pool of experience and wisdom just waiting to be tapped. There are a number of extremely important issues that need to be dealt with responsibly this term and time cannot be wasted on pittance. Therefore I will give this piece of advice to the members of MathSoc: try and work *with* the members of the opposite stream. Remember that you are working for the Society and not for yourselves. Each of you has a lot to learn from your contemporaries: listen to what they're saying instead of dismissing their views as unimportant. At all times strive to benefit the Society as a whole with your efforts. The mixing of the streams doesn't have to be bad - with some tolerance and some personal conciliations this term can be made into the best ever.

Tom Vandelooy

## One of the Bands in Canada

### *Blatant Plug*

Can you play an instrument? If not, we have the Band for you! The Waterloo Warriors Band wants YOU! Although talent is preferred, it is not necessary. If you want to play for fun, or just want to get into basketball or volleyball games for free, you can!

For 21 years, the Warriors Band (no apostrophe) has played at many exotic events in exotic places like Kitchener, Guelph and Laurier, and even here in Waterloo. Mostly, we play for Warriors or Athena games to bolster their confidence or at least let them know that Waterloo DOES have spirit. Also, we play for other community events, like the Olympic torch run that came through Kitchener-Waterloo on January 3. Can you imagine a better excuse not to do homework?

The Chief Centurion of the Warriors Band (CCWB) this term is Leslie Ann MacKenzie (lamacken@watdcs) whom you can also contact at 747-1924. The Band has an office in the PAC and practices...okay! makes noise on Thursday evenings at 5:30 for an hour each week in PAC 1088. Games are at random times during the week or on weekends. Everyone welcome to join!

Deeptom

## Prof Quotes

### Best of Fall 87

For those of you who are returning this term, mathNEWS presents the best of fall 87 prof quotes. For people that were here in the fall, this is your "prof quotes refresher course".

Now go out there, attend your lectures to get those insightful wit-ticisms from your profs (after all, why else would you attend class?). Submissions can be made under the mathNEWS office door (MC3036) or in the *BLACK BOX* located in the MathSoc office (MC3038). We'll print the best of those received each issue.

"Are there any optimists who would like to know my office number in the new Billding?"

D.Taylor CS454

"This didn't seem so difficult in the shower this morning."

K.Davison MATH140A

"How can you think when you're standing up here waving your arms all over the place?"

M.McKiernan MATH234A

"See this little bit I just rubbed off?"

H.Panjer ACT SCI 433

"I know because I counted on my fingers to make sure."

C.Springer ACT SCI 221

"I don't want to get AIDS from a blood transfusion. If I'm going to get it, I'm going to do it the right way."

B.Lawrence MTHEL100

"If I seem unusually happy, it's because I found a quarter on the way to the MC building today."

H.Davis MATH224A

"Exposure is not something you do in a park, but actuaries do it on tables."

H.Panjer ACT SCI 433

"They'd say hello too, or at least breathe heavily."

D.Cowan CS250

"For an engineering student a calculator is the breath of life. Take it away from them and it reduces them to stammering idiocy."

E.Moskal MATH134A

"Why do people laugh whenever I ask how the midterm went?"

Allen BUS111W

"Let me finish the algorithm first, and then you can shoot it all to hell!"

Black CS131

"It's a mess, but that's Engineering . . . ."

Loucks EL E 222

"There were three people: One was female, one was male, and I'm not sure what the other one was."

K.Booth CS131

## Fall Review

### Here's what you missed

For those of you who were not here in the fall, here are the sorts of things you missed. All this information comes from the Fall '87 issues of mathNEWS.

The EMS library left the MC starting on September 15 and was scheduled to open September 29. There was a rumour that students could pay \$1.00 to go for a ride on the slide used to move the books from the fourth floor to the Davis Centre.

The Fine Arts department moved to ECH! (East Campus Hall). It was rumoured that EngSoc devised the move so those in the program would have to cross Engineering turf several times a day going between ECH! and the other Arts buildings.

Volume 45 issue 2 of mathNEWS contained a great cover gaff—the Blue Jays do not win the American League East.

WATMAN and Duck were savagely killed by a short blond editor and a scruffy taller editor and the Nutritionist sisters. New serials swamped mathNEWS for a short period of time.

The BOX played South Huron District High School in Exeter.

MathSoc annual general meeting was held Wed. October 7, 1987, with some bylaws passed and others not.

Dr. Tom Brzustowski, VP (academic) and provost, resigned to become deputy minister of colleges and universities.

mathNEWS noted the arrival of OPUS, the new Science Society newspaper.

The Alfred P. Sloan foundation awarded UW a grant of \$100 000 to be put towards the integration of MAPLE into teaching mathematics.

Condom machines made it to campus in the Campus Centre and Fed Hall.

Jim ~~Near~~ was the (un)distinguished person to be awarded the "50th Lost Soul" certificate. By the end of term, 100 lost souls were recorded going to the mathNEWS office looking for MathSoc.

Sixty-four per cent of UW students who voted decided against joining the Canadian Federation of Students. Math had the highest percentage voter turnout at 21%.

The Warriors made it to the finals in the Naismith Classic basketball tournament but were defeated 91-67 by the Acadia Axemen (excuse me the X-men).

A 24.19% voter turnout for election of MathSoc summer executive turned out to be the highest voter turnout on record. The winners were: Darryl Ricker, president; Mary-Jane Verboom, vice-president; and Paul Trudell, treasure.

The mathNEWS air band performed *Highway Star* by DEEP PURPLE to finish 5th (of 8) in the first Campus Centre Air Band Competition.

The SAC reported that "Un-want Ads" will appear this winter term. "Un-want Ads" are a confidential survey of student co-op jobs by the students.

## Vapid Fire

- A while ago the PTL was marketing Jim and Tammy-Faye dolls. Well, it seems that many of the Jim Bakker dolls have been found shacking up with Barbie dolls.

- Toronto Blue Jays are expected to announce a trade this weekend. Going to Los Angeles is Rick Leach in exchange for Bo Jackson. Al Davis says the Raiders need another quarterback. Rick said that he hasn't thrown a football since since he was an All-American at Michigan. Bo could not be reached for comment, but it should prove interesting seeing him make the transition from a two sport player to a one sport, two team player.

your guess is as good as mine

## The Free Trade Agreement

### The Context

The Canada-U.S. Free Trade Agreement (FTA) represents an important step for Canada and the controversy surrounding it has been marked by confusion, misunderstanding and factual error. For anyone to come to a reasoned judgement about the treaty, it is necessary to sweep away at least the worst of the mythology. Let us get the context of the FTA right, before we begin to analyze its provisions.

#### Myth #1

Foreign trade is not important to Canada. Therefore, runs this argument, the treaty and our concessions to the US are unnecessary. However, Canada is at this moment already a major trading nation. We sell about 1/3 of our total production to the world (about 80% of that to the U.S.) Foreign trade is more important to us, as a percentage of our total economy, than it is to either Japan or the U.S. The trade between the U.S. and Canada is greater than the trade between any other two countries in the world. The fact is that Canada was born from the needs of foreign trade and that this trade has driven us to our present position as one of the most affluent nations on earth.

#### Myth #2

Canada should not encourage foreign trade. This argument advocates that we stop exporting our depleting natural resources and try to become more self-sufficient, making what we need ourselves. This argument is wrong for several reasons. Firstly, a considerable portion of our exports are manufactured goods, such as automobiles, of which we are a major exporter. Secondly, many of our other exports arise from renewable sources (eg. pulp, paper, lumber and wheat). Thirdly, concerning our non-renewable resources such as minerals and energy, do we not have an ethical duty to supply these commodities to resource-poor countries like Japan? Fourthly, while we may have the resources to produce more of what we consume, for most of the goods we take to be essential for our standard of living the Canadian market is far too small for these goods to be produced efficiently. We could become more self-sufficient but only at the cost of permanently reducing our standard of living to at least the bottom of the industrial world.

#### Myth #3

The FTA represents a radical departure from the past. Therefore, we cannot with any degree of confidence predict what the consequences may be. However, the reality is that the FTA is a continuation of a process of lowering barriers to international trade that has been underway throughout the western industrial world since the end of the Second World War. Under the provisions of the General Agreement on Tariffs and Trade and other measures, trade barriers around Canada have been falling for decades. Without the FTA about 80% of Canada-U.S. trade will soon be tariff-free. The tariff provisions of the FTA then address just the other 20%. Therefore, we have historical experience to predict the effects of lowering trade barriers. And as those barriers have fallen, Canada and Canadians have become steadily richer. We have created jobs at a faster rate than any major industrial country and even closed the substantial gap that used to exist between the standards of living of Canada and the U.S. Furthermore, we have the experience of other countries that have trade pacts. If the FTA is ratified, it will mean that 21 out of 22 of the major western economies will have major trade treaties with their neighbours.

Next: The Major Provisions of the FTA.

Larry Smith

"... and I don't want to see that in mathNEWS!"

H. Davis MATH224A

## Feds

Everyone who says winter sucks is right! But there is one thing that makes it bearable—the Quebec Winter Carnival. But since that is so far away, we're having one of our own: **The UW Winter Carnival**. It's on from Jan. 18-23 and includes tons of stuff to make you forget about winter. You can put your own team together or join one of MathSoc's. Info on what events are being run is posted everywhere.

Just when you were learning the name of the last Fed President, it's election time again. You'll be seeing posters soon from all the executive and class rep candidates. It's an important choice so try and learn more about the candidates during the campaign period.

If You have any ideas or feedback for the Feds you can post a message on the Fed board outside MathSoc (MC3038) or contact your Fed reps. Your Fed reps are Heather Laundry, Ross Orrett, Craig Martin, and Jan Martin. There are also two reps to be elected.

*Did You Know* – There are now Watpubs in Samia.

Brett Martin

## Another Sit In

The Environmental Studies faculty once again staged a sit in. The latest was last weekend.

Just what they were protesting we are not quite sure. Rumour has it that it was brought on by the discovery of a first year student, Clive Diphthorpe. Clive comes from Raymond, a small Ontario town near Bracebridge. Clive found out that the E.S. buildings were not made out of recycled materials.

We asked Mr. Diphthorpe what he felt when he made this miraculous discovery. He found it rather hard to describe, he coined the phrases: "Sort of like the taste you get in your mouth a few days after you chip a tooth" and "Nothing at all like the smell of the air before your first rugby game, but rather like the smell in the locker room after the game." All considered, Clive found it to be a nerve shattering experience.

The events of the past weekend have left this reporter wondering what they will do once they find out that the material in the buildings is not bio-degradable.

Gazoo

**\$1 OFF**  
**Laser-Printed Resumes**  
 when you make your resume look its  
 best, with a RESUME PACK from  
**SCIENCE SCRIBE**  
**GREAT PRINT - LOW PRICE!**

#### RESUME PACK includes:

SETUP/INPUT OR UPDATE OF RESUME  
 CHOICE OF FORMATS/TYPER STYLES/TYPER SIZES  
 CHOICE OF FINE PAPERS, BORDER PATTERNS  
 90 ALL-ORIGINAL LASER PRINTS OF RESUME  
 NEXT-DAY SERVICE, DISK STORAGE FOR ONE YEAR  
 ECONOMICAL PRICE → PACKS START AS LOW AS \$11.10.

**Science Scribe 886-9480**  
**35 King St. N., Waterloo, Ontario**

Limit one coupon per customer.  
 Not valid with other offers.

## An Old FASSioned Love Story

Once again, it is that time of year to enjoy a good spot of entertainment and groaning as FASS '88 gets under way. The theme this year is rather familiar and exciting: Love at the University of Waterloo. We take a light hearted look at living and loving and the myth-perceptions that Waterloo-ites have about it.

The director this year is John McMullen, who is in charge of the tight (!) script put together by a team of insane people headed by head script writer, Dave Till. The music, song and dance is organized by the music director Brian Martin with help from the band leader Dave McClurkin. The techies, already at work, are headed up by Derek Wilkinson again this year. The stage manager is Alex Kordics and the president is Alexandra Martin. Last, but not least by a long shot, the producer Lise Fortin, who was Mille DeMille in last year's show, is actively promoting the show and this article with enthusiasm (self reference is neat, eh?).

You may be thinking, 'Oh, I guess it's too late to get in on all the fun and PARTIES...' but then you would be wrong! There is always room for people who want to have fun. Derek could always use people (please turn off mind-in-gutter mode) to help construct or paint props, and you could join us on stage in acting, singing or dancing. You need not have any talent or experience whatsoever. Personally, I don't have any, but I'm still in anyways! All you need is the ability to have fun and to ham it up a bit, with maybe the added bonus of being able to distinguish the director, John, from let's say, a Yak. As this is an innate quality of every example of the species we call human, come join us!

You can contact Lise Fortin at [lmfortin@watyew](mailto:lmfortin@watyew) or see the FASS boards in the CC or at the FASS office in HH 177a for details about the next rehearsal.

Depthot

For those of you who want to see the show, show dates are February 3rd, 4th, 5th, and 6th. Tickets are on sale now at all BASS outlets.

## Your SVA

Need Help With Career Related Concerns?

Student Vocational Advisors (SVA's) are students helping students with questions and concerns about their career search. SVA's are students trained in all areas of career planning and job search who work closely with career services. An SVA can help you to:

- identify skills and interests
- write effective resumes and letters
- develop successful interview skills
- plan your career and job search
- and more...

With graduate interviews rapidly approaching, the Grad II released, co-op interviews soon to come, summer jobs around the corner, and graduation pending for many, students will be looking for advice on career related concerns. The Student Vocational Advisor program was designed to help students with these concerns on a peer level.

Feel free to drop by any of the SVA offices on campus during SVA office hours. Look for posters appearing soon outlining each faculty SVA office and hours. Get answers and advice regarding your career related concerns from your SVA and make an investment in your future!

Your Math SVA: Kevin Lasitz  
Office: MC 3035  
Hours: Mondays 1-4

## Hitch-hiker's Guide to Algebra

### Part 1: Anorexic Matrices

The well-established theory of matrices and the operations which can be performed on them is something which you've all come to terms with (possibly several, if you're past 1B). But one aspect of this theory which is sadly lacking is that of anorexic matrices. The remedy follows.

**Definition 1.** Anorexic Matrix: an  $m \times n$  matrix, where either  $m$  or  $n$  (or both) equals 0.

**Definitions 2, 3.** If  $m=0$  in Definition 1, then the matrix is called flat; if  $n=0$ , it is called skinny.

The justification of the term arises from the pathological thinness of these matrices. If you dig out your old 1A notes, you will recall that if  $A$  is an  $m \times n$  matrix, and  $B$  is an  $i \times j$  matrix, the multiplication  $A \times B$  is defined iff  $n=i$ . So if  $A$  is skinny, then  $B$  must be flat for  $AB$  to be defined. If  $A$  is flat, or  $B$  is skinny, then the other matrix need not be anorexic for  $AB$  to be defined.

Given  $A$  as  $m \times 0$  and  $B$  as  $0 \times n$ , their product  $C = AB$  is defined thus:  $C_{ij} = \sum_{k=1}^0 A_{ik} B_{kj}$ , and a problem presents itself: what do

we do about the empty  $\sum$ ? The logical answer, I submit, is that since nothing is being added, the sum of nothing is the identity element for addition over whatever field the entries in the matrices are being drawn from. Since there are no such entries, it doesn't really matter what field they are(n't) coming from, so let's choose the complex numbers in a burst of generality. Here the identity element is 0, so we see that  $C$  is an  $m$  by  $n$  matrix with all entries zero. Taking  $m$  and  $n$  nonzero in this example, we see that the set of anorexic matrices is not closed under multiplication, so it is not a subspace, subgroup, subring, or subring of any larger set of matrices, with the operation of multiplication.

Addition, as usual, is only defined for equal-sized matrices. Taking the above convention for addition of nothing, addition becomes singularly dull: the only thing an anorexic matrix can be added to is itself, yielding itself as the sum. Multiplying by a scalar of the base field is equally boring.

All anorexic matrices are singular, in that they have no two-sided inverse: The example above shows that either left-multiplication in the case of a flat matrix, or right-multiplication, in the case of a skinny one, always leads to a zero matrix, which is never the identity matrix. Okay, the keeners reading this will correct me in pointing out that the  $0 \times 0$  zero matrix and  $0 \times 0$  identity matrix are the same (they have the same entries), so the  $0 \times 0$  anorexic matrix is the unique one that does have an inverse, necessarily itself. Perhaps anorexic matrices should be taught to primary-school students before the ring of integers is introduced; certainly the addition and multiplication tables are simpler, and division is impossible (except for the case mentioned above).

Having seen the practical side of these interesting and useful (o.k., maybe they're only useful as counterexamples) creatures, let's get into some heavy theory. An  $m \times n$  matrix  $M$  is rigorously defined as a function  $M : \{ (i, j) : 1 \leq i \leq m, 1 \leq j \leq n \} \rightarrow F$ , where  $F$  is the base field. For an anorexic matrix, either  $m$  or  $n$  will be zero, so  $\{ (i, j) : 1 \leq i \leq m, 1 \leq j \leq n \} = \emptyset$ , and  $M$  becomes a function from the empty set to  $F$ . But a function is defined as a set of ordered pairs (in this case, empty), and, invoking the Axiom of Extension of Zermelo-Fraenkel set theory, we must (sigh) conclude that all anorexic matrices are identical, and are the (unique) empty set. So all this stuff is nonsense. I hope the editor doesn't read this far.

Center of Gravity

## In the S.A.C.

We're the Student Advisory Council (S.A.C.). It's our job to be your voice when it comes to the Department of Co-operative Education and Career Services. We express student concerns and follow up on them. We suggest new ideas to C.E.C.S. that benefit students. We provide a method for C.E.C.S. to keep the students informed.

We had our first meeting on Tuesday, and since I'm writing this on Monday, I can't tell you who showed up or what happened (my clairvoyant skills aren't what they used to be). I can tell you a few things. You should have handed in your work report. If you didn't but intend to, it's late, start coming up with those excuses.

You should have had a return-to-campus (RTC) interview. If all went well C.E.C.S.'s computer now knows what's happening in your life. You should also know whether or not your evaluation was on file. Your co-ordinator should have given you two questionnaires. The first questionnaire is designed so that we at S.A.C. can give C.E.C.S. a report card evaluation on how the students feel about the job they're doing. The second questionnaire is to be filled out by you to give other students applying for your job a better understanding of what you did. This will help them decide whether or not to apply for a job when it comes up in the Want-Ads. These questionnaires will be on file in the Career Information Centre.

If you didn't have an (RTC) interview, go to the general office and check your file. Make sure your evaluation is there. If it isn't, see your co-ordinator, fast! These things are important, especially if you are going through interviews. Also, we'd still like you to fill out the questionnaires. By the time you read this we should have some in the MathSoc office.

For a list of *important(!)* co-op dates, see the LookAhead on page two. One final note, please hand in those questionnaires, if you don't want to go all the way to Needles Hall then drop them off at MathSoc. Good luck on the term.

Brian Capstick

## Campus Question

*What do you think happened to the Davis Center?*

- Home Hardware had a sale on aluminum siding.

Chris F.

- The Environmentalists got their hands on the blue prints and changed the plans, so it could be used as a green house.

David T.

- Star Kist's shut down factory sold excess tuna cans to U of W.

Dean M.

- I hate to hazard a guess.

Bruce B.

- The construction workers need a place to keep warm for the winter!

Daryl E.

- The Eaton Centre decided to expand into Waterloo.

Reichman Bros.

## Next Week's Campus Question

mathNEWS wants to know: "Who does your Prof most look like?" For example, inside sources feel that Andy Conn strongly resembles ALF. Submit prof's name and look-alike's name to the BLACK BOX in MathSoc(MC3038) by the next mathNEWS production night.

## Top Ten Reasons Why We Like Tom, Our New Editor

*From The Home Office In MC 3022*

- 10) No matter what you call him, he'll keep coming back for more.
- 9) He lives in London, so he'll probably never visit your hometown.
- 8) He won't be MathSoc Pres this summer, since he lost the election.
- 7) He has a girlfriend, so your sister is safe ... for now.
- 6) If you pressure him, he'll fold like clean underwear.
- 5) He tends to give people a superiority complex.
- 4) He's on workterm, so he's not around much.
- 3) He usually showers.
- 2) He probably won't reproduce.

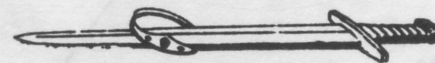
And the number one reason why we like Tom, our new editor (Drum roll, Anton)...

- 1) He always has a spare hamster for a friend, and more electrical tape than Canadian Tire.

Greener and Frab Timov

## Election Report

Executive	
President	Lisa Falco
Vice-President	Brian Capstick
Treasurer	Paul Obeda
2A Co-op Class Rep	Peter Debono
3A Co-op Class Rep	Sandy Graham Robert Harmdin
All positions were by acclamation.	
The following positions will remain open for future nominations.	
1N	2 positions
2A Co-op	2 positions
2N	1 position
3B Co-op	1 position
3N	1 position



## IMPERIUMS TO ORDER

(Role-Playing and War Games)

103 QUEEN ST. S. KITCHENER ONTARIO, N2G-1W1  
(519) 744-3831

10% Off With This Ad

Valid Until Thursday  
January 28th

## EMS Squared = DC

### *The Davis Library Lives*

What you are about to read is fact not fiction. It concerns the Davis Library and the goings on surrounding its opening.

The Davis Library opened about three weeks into the Fall term. Facilities were far from being completed. Shelves were neither fully assembled nor stocked, and construction in some areas was unfinished. This led some to believe that the book checker was actually stopping the misappropriation of various power tools scattered about the library floor.

My first reaction on entering the newly renamed library (apparently to avoid confusion—funny how we all found it before!) was “Yech! Fed Hall meets the library!” Those primary colours are really something, as are the exposed pipes and ductwork. Several people have remarked that they feel that they should order drinks at the bright yellow circulation desk.

You may wonder what the little rooms, which look like isolation booths, at the entrance are. Those rooms will be the location of the library's typewriters. Each door has a lock, the key for which must be obtained from a librarian. According to reliable sources, the locks were originally installed on the inside of some rooms. Smart. The handles had to be removed and replaced facing out. No wonder the building is behind schedule.

The exterior is not without problems either. Until recently, only one of the double doors leading in from ring road had a handle. People who knew they could only enter by that door felt that they could also only leave by it. This created a lot of people congestion.

A large rainfall in late November brought everyone's attention to the library's sloping ring road entrance, and the accumulation of water at the bottom of it. A huge puddle formed, of a size to rival a lake (perhaps to be called Davis lake, in order to avoid confusion with other campus lakes) causing one student to write a Dear Library letter suggesting that he bring his sailboard to school.

Water also caused problems indoors. For the first few weeks, the sight of garbage cans below leaks in the ceiling was common. One leak was so bad as to require an oil drum sized can.

“Problems” continued well into exams. One annoyed student complained via “Dear Library” about drywalling which occurred during exams. Lois Claxton replied that she was sorry about the inconvenience, and would take precautions to ensure it wouldn't happen again. Now, I'm no construction worker, but shouldn't drywalling only have to be done once?

My favourite library comedy occurred on the evening of December 7th, the first day of exams. The library was packed with diligently studious people when suddenly the ventilation system began to rumble. It sounded like a jumbo jet was about to land. Paint and plaster chips began falling from the ceiling. One of the large rubber ventilation hoses had dislodged, and began flopping around and spewing out dust that it had collected from the air. Students sitting nearby were treated to a new “windblown” look, and the whole library smelled like an exploded vacuum cleaner bag.

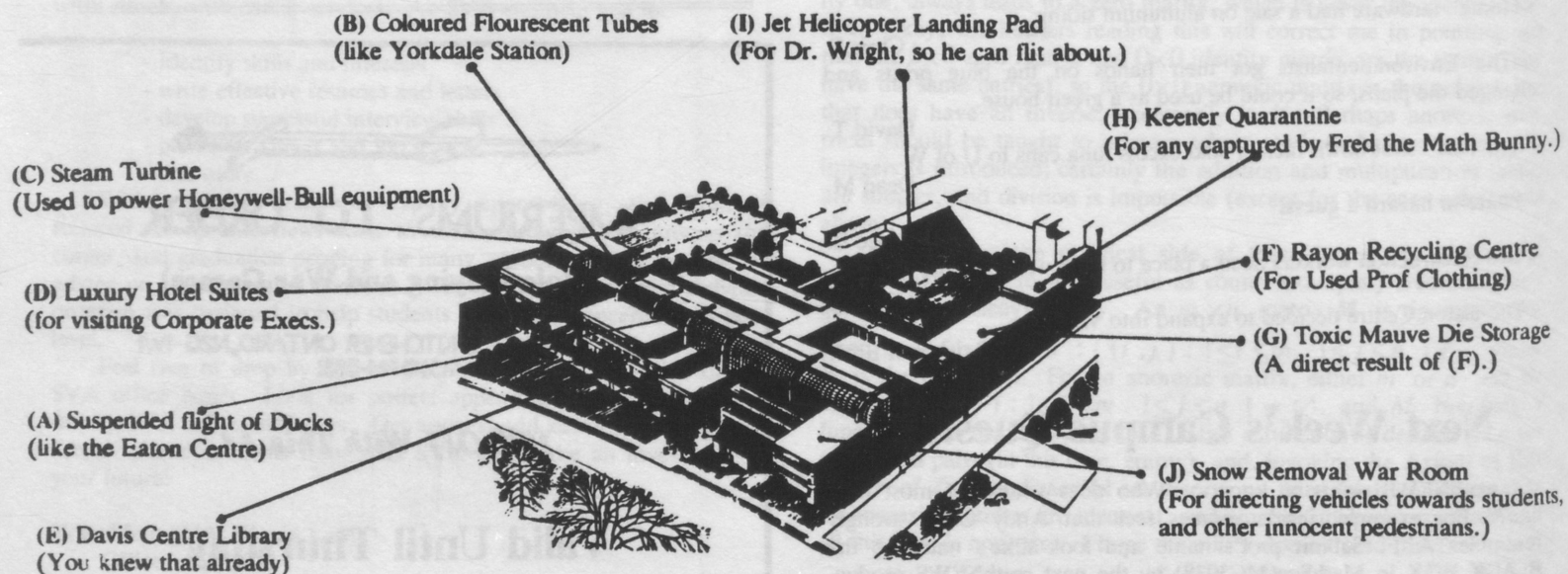
Another library shortcoming is its lack of washroom facilities, there being only four mens' and four women's stalls. Lineups during exams were quite long. The problem may be alleviated when the, to quote Lois Claxton again, “gang washrooms” open in the Davis Centre lobby. This will occur when the rest of the Davis Centre opens, probably late in April.

A few words of advice before you venture into the Davis library:

1. Bring a sweater. It gets very cold. I have seen people wearing scarves and coats while studying, and noticed Dear Library notices suggesting hypothermia is not conducive to studying, and requesting that the staff pass out toques and hot chocolate.
2. The fans take a while to adjust to, but you may grow to like them. They drown out noise from surrounding tables.
3. People inside the library *cannot* see outside at night due to the mirrored glass. No matter how much you jump up and down outside, they won't acknowledge you. Similarly people outside cannot see in during the day.
4. You may start to like the new library if exposed to it for long enough. Give it a chance and try to see the humour in it all. You're bound to come up with pet peeves and comic stories of your own as you adjust to the new facility.

D.E.M.

cameo by: Sweeney Todd



THE WILLIAM G. DAVIS COMPUTER RESEARCH CENTER



THE CONTINUOUS ADVENTURES OF

# WATMAN



"Wholly horrific scheduling headaches, Watman! This class is supposed to start in the Math building, and move to a different building after twenty minutes."

"Yes, Duck. One of my classes meets on the third floor of Carl Pollock Hall, on the floor in the hall. Something indeed is rotten in the state of Denmark."

"I really don't see what Village Food has to do with this, Watman."

Our WatHeroes, freshly reincarnated after the death-like passage through IBM™ laser printers and other senseless carnage, ran quickly to their undergraduate advisors to try to sort out the mess. The sign advised them to pick a number. Watman and Duck chose 37.

"Forty-nine?"

"Excuse me. Nobody else is here. We chose number 37. Could we change it?"

"No, I'm sorry. You'll just have to wait until your number's up. Number thirty-seven should be up in about two weeks. Good day."

"Can they do that, Watman? Aren't there laws about things like that? Doesn't the SPCA object? Aren't you going to answer any of my questions? Can MathSoc help us?"

While Duck was busy blabbering, Watman was being swept away by a teeming multitude of students, clamoring for the chairs in their next lecture. The multitude teemed into a lecture hall, where there were  $\frac{x^{a-1}e^{-x}}{\Gamma(a)}$  as many seats as teemers. Watman, thanks to reflexes honed by terms of grabbing the back seat in AM lectures, successfully latched onto a chair. The prof eyed the teeming multitude uncertainly.

"I'm sorry, I can't sign anyone else in. As a matter of fact, the registrar's office says that because the Davis Centre is still unfinished, we have no space for any of you. I'm sorry. Good-day."

Polyester pants skreeking, the prof hurried away, and the world before Watman seemed to swirl in mismatched plaid. When he regained his senses, he saw before him wondrous spaces, soaring stairwells, lofty balconies on high, ergonomically perfect offices, and hallways that seemed to stretch away forever into untold promise. Watman's eagle eye spotted a passing construction worker, and he knew instantly where he was.

"Excuse me, there. This building seems to be complete and even better than we were promised. How long has it been finished? Why isn't it open?"

"Well, it's been done since August 1986, but ya see, by not telling anyone, everyone benefits. The workers stay on site and draw pay, the union gets dues, the contractor gets paid, and the University saves hundreds of thousands of dollars a year in heating and operations costs. Besides which, the University gets extra government funding. Oh, it's 10:00. Coffee Break. See you."

In a fantastic, flying flash, Watman knew what he must do. Retrieving an all but unmentioned Duck, our hero rushed zziipp!! to Needless Hell to inform the registrar of his plan to alleviate overcrowding in the University classrooms.

"I have a plan to alleviate overcrowding in the University classrooms!"

"You'd better tell that to the Registrar."

"You're not the Registrar?"

"No, you'll have to take a number."

Thump! Whump-whump-whump. Crash! "The Registrar will see you now."

Watman quickly outlined his earth-shattering discovery to the Registrar.

"Yes, Watman, this is great news. Now we can move the Sci 270 class out of the women's shower at the PAC and into the new space. Thanks to you, Watham University is saved again!"

Na-na-na-na Na-na-na-na Na-na-na-na Na-na-na-na WATMAN!

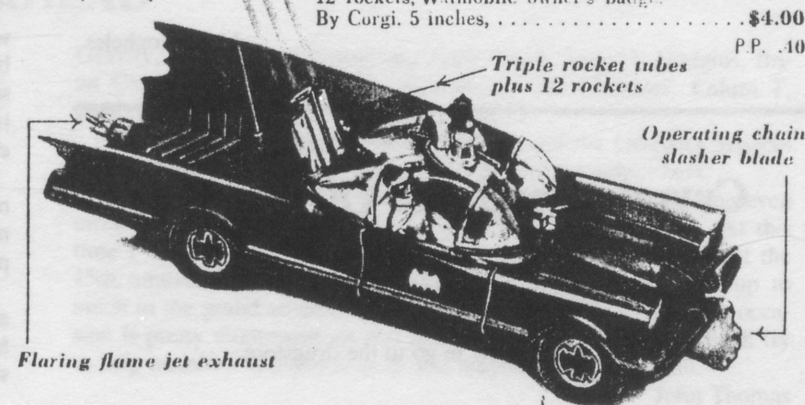
The Chuckler

## WATMOBILE

(Five Inches Of DANGER!!)

Zoom away in this smashing, slashing rocket firing supercar. It has a giant slasher blade that comes crashing down just at the touch of a hidden button . . . three rockets that eject by the turn of a special triggering device and an ingenious "flaming" jet exhaust. Interior detail show: Wathphone, fire extinguisher, rocket release handle. Other Watmobile features galore. Removable Watman and Duck figures. 12 rockets, Watmobile owner's badge. By Corgi. 5 inches, . . . \$4.00

P.P. .10



## MATH GRAD COMMITTEE

To all mathies --

Question: How can the MGC help you?

Answer: Pizza Days.

Pizza days will be held alternate Wednesdays (starting 2 days ago). Hot pizza will be available from 11:20 until about 2:00 on the third floor of the MC. Slices will be \$1.50 or just \$1.00 with your MGB button. Buttons will be on sale at the same time and they look great.

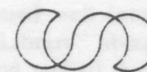
To all fourth year mathies --

Sign ups to sell pizza, sweatshirts, etc. will be posted on the MGC board outside MathSoc (MC 3038). Also on that board is a list of who is doing what and what their number is. If you have any ideas or feedback, feel free to contact the relevant person from the posted list.

We still need pictures for the yearbook. If you have any pictures from any term, please bring them in to MathSoc. They will be returned to you in mint condition at our expense (just write your name and permanent address on the back).

Also we likely still need people to solicit ads for the yearbook from local companies. If you have any connections or just want to help out (it makes us a lot of money) contact Sonia Savelli via the MGC board.

Any other comments or ideas should be directed to one of the two co-chairmen, Brett Martin or Mark Lamoureux.



Computer  
Science  
Club

## CSC Flash

Gazing into the ACME digital crystal ball, it seems that by the time you read this, the Computer Science Club, the official Computer Science Club of the 1988 Calgary Winter Olympic Games, will have gotten off to a fairly fantastic start this term. Firstly, at the PREMIER MEETING OF 1988, held Thursday, January 14, the following new executive will have been chosen:

President - Jim Boritz      Vice Pres - Stephan Mueller  
Secretary - Marion Cunningham      Sys Admin - Brian Carson

Unfortunately, the crystal ball will have chosen this instant to stop working, and so it will remain a mystery until we actually have the meeting as to whether the position of Treasurer will be held by Edwin Hoogerbeets or Jim Thornton.

After the election there will have been a showing of Save The Whales, oops, STAR TREK IV - The Voyage Home, which may or may not have been enjoyed by all who will have been present. The popcorn will have had REAL (tm) BUTTER on it.

As always, TEA and DOUGHNAUGHTS will have been consumed and there will have been a discussion concerning our plans for the term. Some of the ideas that we will have are: SIGGRAPH Video Night, 3B info night, moving to a BIGGER OFFICE, or otherwise increasing our address space. In addition, we will have speakers on various topics of interest.

If you have bothered to read this far, perhaps you can be persuaded to actually become a member of the CSC. It will cost you only one loonie, which you probably want to get rid of anyway, and will bring you many and wondrous benefits:

- 10% discount at Computer Book and Supply
- access to the vast and expanding CSC LIBRARY
- a personal account on our HP 9000 (more on this later)
- free tea and doughnaughts at all CSC meetings
- free movies at said meetings

Whether you become a member or not, the CSC FRIENDLY CONSULTING SERVICE is here to help you if you have a problem dealing with computers. We can help with Unix, CMS, Maple, micros of all types and what have you. If we can't help, we can point you to someone who can.

For those who missed last term, due to hibernation, intoxication or a work term, the following may be of interest:

You may have noticed the GENUINE IBM PC sitting in the CSC office. It was given to us by MFCF for archiving student data between terms, as MFCF will no longer provide tape archive facilities to undergrads. This service is provided free of charge.

After a long and painful illness, the faithful old VC415 terminal has kicked the bucket. It has been replaced by a spiffy new WY75.

The CSC has acquired a powerful MULTI-USER COMPUTER with 260 megabytes of disk storage in two very impressive-looking boxes, 16 megabytes of swap space, and a powerful, yet compact version of the Unix operating system. The HP 9000, called csc.waterloo, is a node on the world-wide UUCP network which lets us exchange electronic mail with scads of far-away places, among other things.

Accounts on this wonder-computer are available free to all CSC members. We are now offering mail service and will soon be running netnews software. Not bad for a buck. Currently, DCS charges \$30 per month for similar services.

For more information, or to become a member, drop by the office any time. We are located in MC3037, right across the hall from MathSoc. You can also send mail to any of the executive: jim@csc, stephan@csc, marion@csc, brian@csc or exec@csc.

Calum T. Dalek

## Did You Know...

Did You Know...

(a.k.a. The UW 87-88 Undergrad Calendar)

- 1) ... the Imprint "is dedicated to the intellectual analysis and coverage of the news and issues of the day."
- 2) ... the whole rest of the world thinks a dot means the end of a sentence, while we know it represents a workterm.
- 3) ... that you can participate in the IberoAmerican Studies Option no matter what faculty you're in. Can you handle the concept?
- 4) ... Newfoundland, Hong Kong, India, and Central and South America are the only regions listed from where you already have to have completed at least one year of university to gain admission to UW. (are we good or what?)
- 5) ... if you are good, the Senate of the University could confer an honorary Doctor of Divinity Degree on you.
- 6) ... the faculty of Mathematics has 9 miscellaneous policies covering 7 areas. More than any other faculty; actually about 9 more.
- 7) ... if you open the calendar exactly in the middle you can read all about your favourite faculty; no, not Science.
- 8) ... there are seven Rec courses not offered in 87/88! That means only 56 to choose from!

Mephistopheles

## Cryptic Comment Of The Week

How come you have twelve modems?

Because I was too shy to go to the drugstore.

## mathNEWSquiz #1

Aggh! One-Armed Phil came in a bit late this evening, and Mr. Tom the Editor is on his back already (so to speak), running around and shouting "Where's the quiz?! Where's the quiz?!" Hang on Tom—I gotta wish everybody a happy new year. To all you returnees, hi again. To the rest of you, it's been quite a while since you've seen a squiz. (Fall '86, I believe.) Rules are still the same—try to answer the questions, and submit your results to us via the Black Box in MC 3038 or under the mathNEWS office door in MC 3036. Winners receive fame and glory and the mathNEWSquizExpert certificate. OKAY, TOM! HANG ON! .... all right, we're ready! Good luck.

### Birthdays

The following important world events occurred on the birthdays of mathNEWS staffers.

- 1) What was the name of the ship hijacked by terrorists on October 7, 1985?
- 2) What Italian politician was kidnapped on March 16, 1978, and later assassinated?
- 3) What South African was killed in a courtroom on September 12, 1977, becoming a martyr to the cause against apartheid?
- 4) How long were the hostages in Iran (captured November 4, 1979) held for? (Days, please.)

### Entertainment

- 5) What Rudyard Kipling poem is back-masked (ie. recorded backwards) on an album by the British rock group UFO?
- 6) With what show are Jackie Wright, Henry McGee, Bob Todd, Louise English, and Roger Finch associated with?
- 7) Which Marx brother was the first to retire, and the last to die?
- 8) Which Peter Shaffer biographical play was made into a movie that copped several Oscars, including best picture?

### Sports

- 9) Who was the last Leaf player, before Borje Salming, to wear #21 for the Buds?
- 10) What unique trade were baseballers Mike Kekich and Fritz Peterson involved in in 1973?
- 11) What college football player sat out the 1987 Orange Bowl because he used steroids?
- 12) Who scored the most goals in the 1982 World Cup of soccer, leading Italy to the championship?

One-Armed Phil  
The mathNEWSquizmaster

## LookBehind

### Fifteen years Ago

Feds beat horse ... Dirksen irked ... thief caught with pants down ... Honeywell crashes (some things never change) ... and, most significantly in a cosmic sense, mathNEWS formed as mathNEWS, and appeared over a period of two days—Wednesday, January 24th and Thursday, January 25th. The first masthead starts: "mathNEWS—financed by but independent of MathSoc cranking out the first edition while caffienated to our eyeballs..." Fifteen years later we're still caffienated, and still grindin' em out.

### Ten years Ago

The chevron controversy raged ... Contest #2 (write a filthy limerick about Marcia Mathie) opened, and still hasn't closed ... no-one wanted Chicago, Detroit, Minnesota, the NY Rangers, or Pittsburgh in the MHL (who wants them now?)

### Five years Ago

mathNEWS was fighting it out on the Honeywell ... MathSoc was trying to reform its constitution, a "outdated, loophole-riddled document which effectively made MathSoc ungovernable." ... mathNEWS proved that one full bottle of beer equals one empty bottle of beer ... the destruction of WIDJET terminals was discussed ... and the year's best insult was "You look so bad that even food services would throw you out as rotten." (Some things never change.)

### Ghosts of mathNEWS Past

Well, fifteen years have come and gone, and mathNEWS is still pretty much what it always was—a nerve racking production by a few demented loyalists, which somehow manages to emerge as one of the best and most entertaining papers on campus. mathNEWS thanks its long parade of certifiables, its contributors and supporters, and its loyal readership. I don't know what we get out of staying up this late (early?) to do this, but here we are. What does the future hold? Who can tell? Probably someone will kill Watman, and this will not affect him in the least. Comap may eat someone else's Raisin Bran. Profs will say stupid things, and mathNEWS will report them. To be a part of this brave tradition, just submit something to the BLACK BOX in MathSoc. The few, the proud ... mathNEWS.

Stuart L Hodgins  
and the spectres of mathNEWS

## mastHEAD

Stuart says we might make it to the Grad house before it closes but I sorta doubt it. Everything went pretty smoothly, all things considered, thanks mostly to the incredible quantity of help I had all evening. Special thanks go out to Frank Letniowski, who taught me to type, and Stuart L Hodgins, who did remote stuff. And now, here are the other crazies who helped us produce another exciting issue of mathNEWS: Paul Sauve, Stephen J. Green, Dan Kermode, Dave Castell, Stephan Mueller, Andrew Tron, Camille Goudesuene, Jim Boritz, Alex Meduna, Jim Thornton, Chris Fievoli, David Treble, Paul Obeda, and Edwin Hoogerbeets. I also appreciate the "creative" writing of our contributors: One-Armed Phil, Lisa Falco, Kevin Lasitz, Deepthot, Mephistopheles, your guess is as good as mine, Center of

Gravity, Iletniowski, Greener and Frab Timov, Stuart L Hodgins, Brian Capstick, Gazoo, D.E.M., Brett Martin, The Chuckler, Calum T. Dalek, and special thanks to Larry Smith.

It is also my pleasure to thank Marion and the Graphics Services people, Little Ceasars, Mr. Grocers, DCS, and the subscribers.

Next production night will be January 22nd and should be even more fun than this one, even though we won't have cake. At this time I think I should say how privileged I am to be able to edit the 15th anniversary issue of mathNEWS. While it doesn't add up to much in the grand scheme of things, the staff and I feel that this occasion is pretty monumentous and deserves some recognition. We'll try to help mathNEWS make it to 25 and maybe more. Bye y'all.

John Thomas

## Cryptic

## Across

8. I am taken to validate and to make better (6)
9. Regarding a conflict (5)
10. Acted in some way like a new recruit (5)
11. Ratify the finish else the endless sea (7)
12. Rivets could put forward an effort (6)
14. Buy stock in a garment (6)
15. The French here take a hundred of the French "hangovers" (6)
17. A world-wide girl took in a volley (6)
21. The remnant pertaining to metric owing (7)
22. A noted group started over (5)
23. Choose a pensive lecturer visually (5)
24. The morning loves sour arrangements showing love (7)

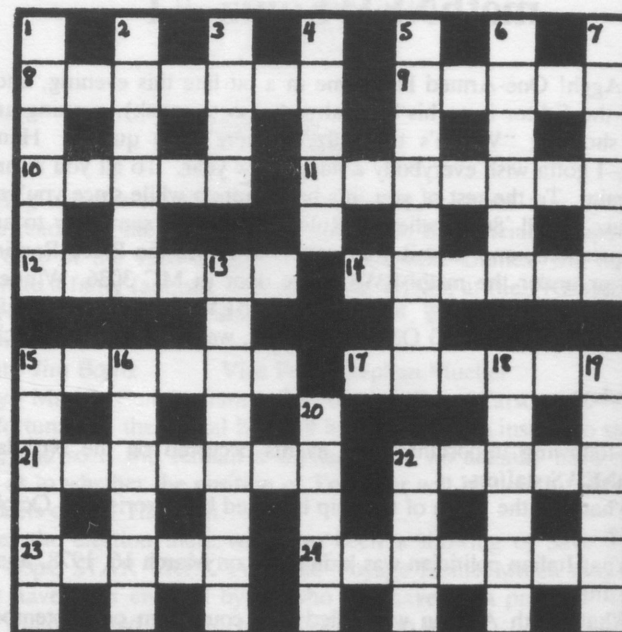
## Down

1. Sign for the fish? (6)
2. Soaks up hesitation for the bug (6)
3. Head near the animal (4)
4. A religious man's letter of a precious stone (5)
5. Principal bird? (8)
6. A starlet had a grand on fish eggs (6)
7. Stress off the ship is alien on the travelway (6)
13. A small state cover consumed made authentic (8)
15. Exist as a sun god with the Spanish in the Middle East (6)
16. Part of the foot may be going with the flow (6)
18. Negatively weep up to the US city (6)
19. The French exam is most up-to-date (6)
20. A flower part softly—and others (5)
22. Cheer under a plant? (4)

Submissive Person

Personal Nature

Comment



## Conventional

## Across

8. MathSoc COMMODITY
9. MONKEY-LIKE MAMMAL
10. DIALECT
11. SNACK FOOD
12. RAVENOUS
14. ROB
15. ELECTRICAL GENERATOR
17. PRECISE
21. GRADUALLY EVOLVE
22. TROPICAL ANIMAL
23. WATER CHANNELS
24. LEGAL PERMIT

## Down

1. QUESTIONING
2. ABORIGINAL
3. SHELL-FISH
4. TOMB
5. HOCKEY PLAY
6. LEVY
7. AN ECSTASY
13. DESTROY
15. CHEAT (colloq.)
16. A UNITED STATE
18. EXEMPT
19. BANK EMPLOYEE
20. FRUIT
22. ROOSTER

## GridComments

*Three Years? Oh my!*

Welcome again to the zany word of GridWord, **mathNEWS'** entertaining cryptic and conventional crossword puzzle slash contest. As indicated in the title, this issue marks three years of me doing GridWords for **mathNEWS**. My first GridWord was published in the January 18, 1985 issue of **mathNEWS**.

For those of you who are unaware, GridWord is a 2-in-1 puzzle. There is a cryptic and a conventional puzzle inherent to each grid. The solutions to both are different but fit into the same grid. The winner for each puzzle is selected from all correct (or most correct) entries received.

To submit a solution to this grid, just write your name in the space provided and slide this page under the **mathNEWS** office (MC3036) door or in the **BLACK BOX** contained in MathSoc (MC3038). The deadline is 19:00 on Monday January 25, 1988. A winner will be pseudo-randomly selected and will receive a special prize.

This will be my last term of writing GridWords, so I will enjoy hearing any of your comments, criticisms, greetings, etc. that you might have about anything that has touched, destroyed, etc. you over the three years. Now get out there and avoid your Friday morning profs!

fletniowski