## Friday, September 12, 1980 Volume 24, Number 1

## math NiPWW

## Memo From MAB

This is your fearless President writing. I have good news and I have not so good news. The good news is that the turkey who goes by the name MAB is no longer in Math but has transferred over to I.S. and can no longer run for a mathSOC council position (yea, cheer, clap, applause). Now the not so good news. Due to a grandfather clause in the still-not-yet-accepted new mathSOC constitution he still gets to stay in office as your Prez till the normal end of term which isn't till the end of March (boo, hiss).

The editor of this wonderful mathNEWS has hounded me into writing this welcome to Wats letter ever since I arrived here so please keep on reading and I'll try and keep things as interesting as humanly possible.

Welcome all of you mathies and others to another term here at Waterloo. We have been planning a lot of events here in the society to try and make your stay here as comfortable as possible. As many of you already know we've had a very successful Frosh orientation with the clone pub, movie night, T-shirt sales, button hand outs and the liquor giveaway. Actually I'm anticipating the giveaway because as I write this article the giveaway hasn't yet happened but as you read this publication it will have.

We've been having a great showing in signups for mathLETICS and since these sports have already started we encourage all to come out and support your favourite team and/or sport by participating or just cheering at the sidelines. I didn't find out how much fun it all was until I became Prez of this place and came out to play broomball. It's a real gas, you get to nail those nerd profs if no one is looking and get away with it.

Membership is now open to the Computer Science Club and the Watsfic Club so check their doors for office hours and organizational meetings and get involved in them.

Upon reading this article mathSOC will have already had its first council meeting and many of the council positions will have heen filled but that will not be an excuse for not getting involved in the society. There's still openings for year reps. and council reps. to the Faculty and other campus organizations. We need you and ask all to come to the mathSOC office find out what it's all about. There will heen other events coming up shortly that will be announced in the mathNEWS and posted in the halls so keep your eyes open.

SORRY but we are all sold out of 80 Frosh T-shirts and there will not be any more coming in. There's still '79 Frosh T-shirts left all going for the unbelievahle low price of only $\$ 2.00$. come and get them while they're hot because supplies are limited. More 442 digits of PI buttons are on their way here and are expected to arrive in about one more week so poke your nose into the office and pick up vour FREE button.

This should have been placed somewhere at the beginning of this article but then I always do things hass ackwards. My name is MAB. your mathSOC President. There's some pseudo name on my hirth certificate by which some certain individuals (my mom) insist on calling me hut for all of you it's just MAB. Our most trustworihy and highly experienced Vice- President is Mr. Greg Beroff (and that name really is on his birth certificate). Finally. the third member of this mighty triad is our treasurer Mr. Bradd Hart. All other council positions haven't heen picked yet but they will be announced shortly

Have a great term. study hard, crack them hooks, don't drink too much and remember exams start in only 12 weeks.

Good luck Your mathSOC pres


## MFCF Bringing to You A Better Tomorrow

Most of you poor math frosh will have the unrequested, horrible privilege of using the WIDJET computer system. WIDJET was a cruel joke devised by some fourth year students who were either sadists or unknowledgeable in matters of making such systems. If you endure this unceasing, intolerable torture for a full year, you are allowed to use the real computer systems. A few unrepentant sinners go to the Department of Computing Services' IBM (ugh!) computers, but most sane students are converted and learn to use the Honeywell $66 / 60$ computer and enjoy the experience. A few lucky users actually get to use the ultimate system on campus, the UNIX ${ }^{\circledR}$, but they are few and far between. The UNIX ${ }^{\infty}$ and Honeywell systems are both maintained by MFCF.

What is MFCF? First, it stands for the Math Faculty Computing Facility. It is an organization which looks after the computing needs of the Math Faculty. Most upper year computer science courses use the Honeywell and, after your first year. you will probably get an account on it. The Honeywell and UNIX ${ }^{k}$ systems are also very much used for software development. MFCF is split into two different sections. operations and software.

The operations side of MFCF employs five people: a manager. Gary Eimbro. and four operators. It is the joh of these of these people to serve the users by being courteous and helpful. The operators ensure that the svstems remain stable. When the systems crash. the operators bring them back up again. They also dictate the way large batch jobs run on the Honeywell.

The software side of MFCF employs a large number of people who work on different aspects of software. Some people work at maintaining and supporting software used exclusively on our systems. but most work on software that is distributed by Honeywell International. Much of the software, e.g. the Pascal. APL. and B compilers. used on GCOS systems around the world, is written right here at UW by MFCF personnel. MFCF has also been responsible for doing a number of heta lests. A beta test is a run on a partially dehugged operating wstem. This has been going on for the last five months with GCOS-8. Honevwell's newest operating svstem.

## How to Keep Your Bicycle

If you are on the main campus, you will see bicycles in every direction. They are a very convenient way of getting from a class in SCH to one in the Optometry building without being late for the second one. But since they are so prevalent around here, this campus is a prime spot for bicycle thieves. This fact means that your bicycle is a target of organized crime. How do you fight back at them?

The first thing that a bike thief will look for is a good bike. Your solution, of course, is to get a cheap bike to get around the campus. Since your bicycle will be covered with rust and the gears will hardly work, any experienced thief will just look over it without even seeing it.

Another solution is to not let any thief look at it. Now you are going to say, "How do I do that?" The answer is simple. Take your bike wherever you go. If you enter a building, take the bike with you. Unfortunately, unless you have an office, that idea is not very good. But, if you have a willing friend who lives in the Village, you can leave your bike in his (or her) room.

Now that we have eliminated the trivial solutions, as all good mathies do, we shall delve into the possibility of your bike being noticed by an organized criminal. First we eliminate the almost trivial solution. Have a friend stand guard over your bicycle until your return. But unless you return directly, you might lose said friend.

Second. lock your bike with a heavy, sturdy lock. Cables can be cut in a jiffy with bolt cutters. So can chains and padlocks. The best are those horseshoe-shaped locks made by Kriptonite and Citadel, but they are terribly expensive. But even the most expensive lock will not suffice if you have not locked both wheels and your bike frame to a permanent object. For me, that was an $\$ 800$ lesson. I hope that it does not happen to you.

As a final security precaution, if you have a good bike, make sure that you have some sort of insurance coverage on it. If you lose your bike, you can get some sort of financial restitution.

John Plaice


## Young Frank Einstein Getting a Piece of the $\pi$

The corny subhead tells the story. The math faculty has been smitten by a craving for $\pi$. Not at all like the ancient scholars who sought to rationalize the beast, this new generation of $\pi$ people comes to bury him in their brains, not to praise him. Students in all faculties sport those jaunty black blazons, which divulge only 441 of the patriarch's infinity of digits. So why the sudden wave of $\pi$ ety?

First everyone thought he was simply three. History is full of such simplistic dreams; only the philosophers could really conceive that the circle might give rise to something distinctly non-linear, that is, a naturally-based transcendental number. So mathematicians and their lackeys stretched and cajoled the circle, pleading it to become linear.

Eventually someone, who managed to roll a wooden circle along the ground without it slipping as it rolled, decided that it might be $22 / 7$. Or at least close. In fact it's quite close, but a more surprising approximation, discovered some time later, is $355 / 113$. As an exercise, you might try to compute the probability that any randomly chosen real number may be approximated to within $\pm 10^{-n}$ by a rational fraction whose denominator is no more than $10^{k}, n$ and $k$ being integers. As it turns out, $355 / 113$ satisfies $n=6$. That's pretty damn good for a relatively simple fraction.

Another probabilistic point of interest: it's not too far along in the expansion of $\pi$ before you find six consecutive 9's. What's the chance of that occurring in the first $n$ digits of any randomly chosen real number? (You might also have once thought that $e$ was a repeating decimal, because of its curious four-digit repetition at the beginning of its expansion. What is the chance of that happening in the first $n$ digits?)

Meanwhile, people all over campus, in StudVille and Sunnydale, St. Jerome's and Cockroach Towers, are cramming little digits into their ravenous brains. It should be interesting to see who can memorize the most digits. Ten thousand plus is the record. Good luck.

Please address any comments, suggestions, even ideas for articles, to me, care of Mathsoc, or via the big grey box (no, not the plastic one, the wooden one!) on the main corridor. See ya 'round.

Young Frank Einstein


## Dear YFE:

In your frosh issue article, you hrought up the Age of Aquarius as an opener. As I remember it, the Age of Aquarius was "caused" by some point in time or space passing into the sign of Aquarius from whatever comes before (I'm not much of an astrologist). I remember nothing more, however. ( $\because$ I don't remember/I don't recall/I have no memory of anything at all." -ass ed) Save that it was supposed to he caused by some inaccuracy in one calendar or another. Perhaps you could try to fill me in. or else force someone else to write something to be put in mathNEWS (at gunpoint. if necessary). Thanx.

My Friends and I

## X-Rated Captions

1.)'S \& M: Tried it lately?"
hmm...
2.) I've never done it with a fly before!
3.) OUCH! !
4.) Eunny, that's what

Linda said!
.. for Matt the Mathie

## Math Society Supports Inflation of soccer balls and footballs.

The Mathematics Society has recently acquired some new equipment. And to show its support for inflation, an expedition was sent out from the Math Society to the PAC to get the new soccer balls and footballs inflated. The expedition was quite successful and now the balls are ready to use. They will be used by the Math soccer and football teams for practice, and whatever else they desire to use them for. But you may also use these newly acquired items. Simply bring yourself and your ID card to the Math Society office and we will let you borrow the desired items. By the way we also have two Frisbees which you can borrow.

The Mathletics sign up sheets are filling up and will soon disappear from the Mathletics window on the nonsmoking lounge. So if you want to play in any of the sports on the big orange Intramural sheet, just sign up on the appropriate sign up sheet. If you want to be the captain of any of the teams just sign your name in the appropriate space, then come and talk to me in MC 3038. You don't have to know anything about the sport to be the captain; as a matter of fact we have a frosh who is captain of the Innertube Waterpolo team, and he doesn't even know what an innertube is!

Also, if the sign up sheet for the team you want to join is gone by the time you get around to going and signing up. don't despair! Just come see me in MC 3038 and I will put you in contact with the captain, and he will let you join his team. So, come sign up. and then show up for the games and show those other teams who's the best.

Walter


## Interaction

Interaction is a column about campus and other political affairs. It is written by J.J. Long, a former member of the Mathsoc and Federation councils and executives. During the time of my active involvement in campus politics it appeared on a weekly basis in mathNEWS under the name Federaction. This column now usually appears a few times a term or when the political situation merits it. This column will concern itself with the ill-fated fee hike strike called by Federation Council last March, which was supposed to take place at the beginning of the fall term, and its unpleasant side effects. Such an issue may well dominate campus politics in the fall term.

I am a person who generally feels that education should be one of our basic fundamental rights (perhaps included in Canada's constitution, if we ever get one). Therefore I have been quite disturbed with the cutbacks that have taken place in the educational system in Ontario over the past few years. I am also quite upset with the recent $71 / 2 \%$ formula fee increases at Ontario universities and the extra $10^{1 / 2}$ \% optional fee increases. However I did not feel that withholding an increase of $71 / 2 \%$ (about $\$ 30$ a term) at 2 of Ontario's 16 universities was a suitable method to protest the fee increase or reverse the government policies. Perhaps a total boycott of Ontario universities by students for a semester or mass action on behalf of one of the opposition parties in the next provincial election (the best act of all) would he more effective. However these actions would require sacrifice on hehalf of the students (willingness to miss a semester of school) and political awareness. both of which have been pretty rare amongst university students over the past ten years.

So it was with a great deal of relief that I found out that Neil Freeman (Fed president at the time of this writing) called off the Federation's support of a fee hike strike on June 22nd There had been little preparation in anticipation of the strike and I doubt that many more than 500 students would participate. In the long run they would be screwed and so would the Federation.

When
some
Chevronites (supporters of The Chevron, the former official student newspaper that now publishes off-campus because of a student referendum voting against it in late 1978) and other supporters of the strike asked for an extraordinary gener.at meeting my attitude was "let them eseition. even if the get 5e; quite it leal with i.ls ane-third of the
members on campus) they'll never get a quorum of 500 at an extraordinary general meeting." Even if in the wild chance that they did and, in an even wilder move, the meeting supported the fee hike strike, I knew that no individual student was forced to participate, and that a subsequent referendum could surely reverse any Federation's support for a fee hike strike. Also few supporters of democracy like it when the wishes of a 25 member campus-wide representative body such as the Federation Students' Council is over-turned by a 3 to 1 vote on a five-member appointed Board of Directors.

When the petitioners had over 900 signatures July 11th after only two weeks of trying, I felt that some sort of meeting had to be held. I never expected them to get 500 let alone 900 . They had over $5 \%$ of 18000 and about $20 \%$ of those on campus. I assumed that those who signed were not all supporters of a fee hike strike. Some wanted a meeting of the students to decide on this issue rather than the 5 person Board of Directors, and I figure that others were angry at Freeman and felt that this petition was the next best thing to a recall petition. Many were angry at him for supporting the fee hike strike in the first place and for other things he did. Whatever their intents I felt that they made the position clear. If extraordinary general meetings are illegal as Freeman had claimed, a regular general meeting or a referendum could be held. However. despite the advice of a number of people who advised him to put this issue to the students in one way or the other. Freeman steadfastly refused to call a meeting. He may he legally right. hut I have doubts as to the morality or the political astuteness of his actions.

With Freeman refusing to call a meeting. I figured the next action would be an attempt to remove Freeman from office by either a recall petition or a two-thirds vote of Students Council (which has atl powers of a general meeting of the corporation of the Federation of Students). This could have come from the mainly leftist supporters of the fee hike strike or hy more rightist groups on campus such as Engsoc and Mathsoc. Thus I was even more shocked when I learned that Chevronites and some other supporters of the fee hike strike had occupied the Federation offices in CC 235 on Wednesday July 16th. I could understand their frustration but I can't condone such an anti-democratic action. This occupation not only hurt Neil Freeman, hut also inconvenienced ordinars students. Unfortunately I felt
that the Federation fell prey right into the hands of the occupiers by closing such Federation services as Thee Record Store and the sub post office in the Campus Centre basement, as I feel that these services could have continued with the offices occupied. I feel that ordinary students were used as pawns in the battle that is strangely reminiscent of the four-year old Federation vs. Chevron conflict.

Fortunately the occupiers decided to leave the Federation offices peacefully after six days (much shorter than the nine-month long occupation of Federation controlled offices in CC 140 by Chevron supporters in 197677). I believe the Federation should now decide to hold a general meeting or referendum on this whole fee hike strike issue in September to get it settled once and for all. As for the subject of recalling the president, it is up to the students to decide whether they need a new president.
J.J. Long

## UW Art Gallery Show

The new art show which opened yesterday (Thursday. September 11) at the UW Arts Centre Gallery invites you to explore and discover two different environments. Entitled "Lunar Installations/Earthbound". it features a conceptual journey to the moon by Ramon Joyes, and then brings you right back down to touch the earth with Raymond Poirier in a 'touch-me' exhibition made up of natural materials.

These art works are anything but static; you are invited to get involved. to touch and explore and as nature changes. your touching will bring about changes too. Earth envelopes containing a world-wide abundance of natural features will be available at the exhibition and will serve as mementos of the show. Ramon Joyes is a graduate of Fine Arts at UW, and Raymond Poirier is currently a student in Integrated Studies.

The show will continue until Sunday. Octoher 5. The UW Arts Centre Gallery is located in the Modern Languages Building, and is open from $9 \mathrm{a} . \mathrm{m} .104 \mathrm{p} . \mathrm{m}$. Monday to Friday and from 2 to 5 p.m. on Sunday. The Gallery will be closed on Thanksgiving Sunday and Monday.

# $\star$ Matt the Math $\neq$ 

GEE, THE FLIES ARE BIG THIS YEAR...


## Mind Games

Gawd, that sounds druggy, doesn't it, Yoko? University life is one big mind game. High school seems so physical in comparison. Expectations of your performande are always increasing. And yet, try as you will, you can't get books at the bookstore without standing in line From Here to Eternity.

## So - what do you do.

While you're standing in the queue?
Maybe hum a little rhyme.
To pass away the idle time?
Or factorize your student number.
Fading into silent slumber.
In hopes that university will kindly go away?
I couldn't help thinking, as I inspected the ranks of the bookless outside South Campus Hall, how wretched a curse they were under. Made to stand six abreast in a line stretching back to the Engineering Lecture Hall, on hard asphalt, on display to the sniggering passers-by. For their wait. they receive the privilege of paying 30 bucks plus each for oversized, overdressed textbooks, up about $20 \%$ in price from last year. Seems to me that people used to learn more and have less hernias when textbooks were about 7 by 9 . and half an inch thick, with dun maroon covers. In those days, book prices weren't a shock to the first-time student, who (in the modern scenario) finds himself scrapping to pay the bill. And then there are the inmates, those persons who are hired to staff the bookstore: if students get flustered. these are the ones who catch the flak.

## Orientation days.

Being a frosh.
Living away from home.
Celebrating youth.
And the University will teach you.
"End of the line, please."
do
you realize that this issue (rapidly becoming a collector's item) is on file in the National Archives in the nation's capital, Ottawa?

## ISSN 0705-0410

A weekly (sometimes biweekly) publication of the University of Waterloo Mathematics Society. It is funded by. but independent of. Mathsoc. and is the only weekly newspaper on campus with an all volunteer staff. Editorial content is the responsibility of staff and editors. Mathsoc. MC 3038 . University of Waterloo. Waterloo. Ontario. N2I 3Gil.
just because of this silly number.
(wanna become
famous, quick!!)


## A Frosh's First Views of UW

How many of you people out there are froshes? Plenty, I see. Well, you can go away, and peruse over other articles, since this exactly describes exactly how you feel. and I know you don't want to hear any more on the subject. BUT, for you second- to fourth- year students, you might want to read it over, and snicker at how the new lot don't seem to know anything. But, before you go up to a frosh (the ones with phi and pi on them), you may want to make sure the pot isn't calling the kettle black! If that is the case, or if you just want a good laugh, then this article is for you. One of a frosh's many problems when he arrives is just getting to know when to he where. Of course you fourth-year students can go through registration backwards in 15 minutes, but it is very difficult for the first time. especially when you get wrong instructions that just compound your problems. I know that everyone of you has been told in the blue MATH notes that the MATHFAC sent you, or elsewhere, to pay your fees by mail, to avoid the horrible lineups, that every non-frosh can tell you about. Thus, I sent in my fees a week hefore registration. Mind you, the postal system is not the greatest, as I found out when I tried to pick up my receipt. Adding this to the confusion of MATHSTART not starting until $1: 00 \mathrm{pm}$.. thus wasting the best part of a day. when there is only a week in which to settle in to the routine of meals, sleep, etc.. the first couple of days were a big pain.

Of course, all of this was in addition to the main problem of registration, the reason we all were there. You know I mean course conflicts. Going to MATHSTART was a bit of a help. after first getting stuck in a long line to see the profs to approve the courses (not just yet, thank you). Finally, after getting advice, you can stand in line for the hest part of two hours. just for 2 minutes' sight of a prof. and. of course. his signature. Now that registration is all over (touch wood!). I can sit back and look at it with a smile, and write this article. I did find the advice of a third-year friend helpful: if you can get by registration, by expecting all of the problems, then the rest of term will be easy. Now, I got past the first part without any difficulty. The only trouble is that the normal problems of 'normal' university life are now starting, he it headaches or big problems. How many of you were on the third floor of MC with me Tuesday, waiting an hour for three cubic feet of
locker space? Or the daily visits to the second-hand bookstore, to find that still locker space? Or the daily visits to the second-hand bookstore, to find that still nobody has brought back a calculus book which the bookstore (SCH) hasn't got vet? Mind vou, there is one benefit, though. I am now working on the fourth line
of Pi on the hultons. I mal even win a T-shirt!! Who said lineups were useless?"?

Tickets for all the professional shows coming to the UW Arts Centre's two theatres for the Fall and Winter season will go on sale on Monday September 15 at 9 a.m. in the new box office located at the Humanities Theatre.

## Creative Arts Board Organizing Extra Curricular Activities

The Creative Arts Board, Federation of Students at UW offers extra-curricular activities in music and drama for all UW students, staff and the community at large. A general organizational meeting is planned for Monday, September 15 at 7:30 p.m. in the Theatre of the Arts, Modern Languages building. Creative Arts Board chairman for 1980-81 is Bob Currer, who can be reached through the Federation of Students office.

For the theatre enthusiast, the CAB has the University Players. This year this group will produce two major productions as well as several noon-time workshop shows.

For the musically inclined there are two choirs, a concert band and an orchestra. For more information on these groups, enquiries should be made at Conrad Grebel College.

Creative Arts also sponsors independent special projects and would like to discuss these with you.

## This Week's Shows

Saturday. September 13, 4 p.m.
Los Campaneros in concert. A benefit concert under the auspices of the Waterloo Public Interest Research Group (WPIRG) for Latin American refugees. The concert ends a day-long Latin American craft fair on campus. Students $\$ 2.00$.

Monday. September 15, 9 a.m. to 5 p.m.
The new UW Arts Centre box office opens for single ticket sales to all professional shows through the 1980/81 season.

Wednesday. September 17. 12:00 noon.
Noon-time concert featuring the Canadian Chamber Ensemble (formerly the Stratford Ensemble). resident core of the Kitchener-Waterloo Symphony Orchestra. Conductor: Raffi Armenian. Free.

Wednesday. September 17, 4:30 p.m.
"Dance as a Social Ritual."
The Schwaben Dance Company whirls into a colourful display of German folk forms through the ages. Part of the World of Dance series. \$2.50 at the door.

## Professional Entertainment

The following are some of the professional productions which will be staged later this term on campus.

Sept. 20 The Travellers (for kids)
Oct. 7 Chinese Magic Circus of Taiwan
Oct. 18 Dancemakers presents
"The Nightingale" (for kids)
Oct. 23 Anna Wyman Dance Theatre
from Vancouver
Oct. 24 Tony Van Bridge as G.K. Chesterton

Oct. 25 "Arthur" by Toronto Young People's Theatre (for kids)
Oct. 25 "The Wonderful World of Sarah Binks" with Eric Donkin

NEWS
Nov. 8 Maxim Mazumdar and his "Dance for Gods"
Nov. 16 The New Swingle Singers
Dec. 6 "The Tin Soldier" by the
National Tap Dance Company (for kids)
Dec. 9 The Huggett Family presents
a Renaissance Christmas
Dec. 13 "Pinocchio" by the Black Walnut Ballet (for kids)

## International Films <br> Fall Mini-Series

This fall, the UW Arts Centre box office offers a package deal of four movie nights, spaced throughout the term. The regular cost of these film nights is $\$ 2.00$ ( $\$ 2.50$ for nonstudents), but you can get a pass to all four for just $\$ 6.00$ through the box office. The slate of films is as follows:

## Thursday. September 25, 8:00 p.m.

"Dial M for Murder" by Alfred Hitchcock, with Ray Milland, Grace Kelly, Robert Cummings and John Williams. "Nails" by the NFB. Winner of the 1979 Canadian Film Award and 1979 Academy Award nominee. "Special Delivery" by the NFB. 1979 Academy Award winner (best animated short film) about our mail service.

Thursday. October 16, 8:00 p.m.
"The Best of the Cannes Festival: Cinema and TV Commercials". Includes TV and cinema commercials judged "best" from around the world at the June 1979 Advertising Film Festival at Cannes. The grand prize winner in the TV category was produced by a Toronto group for a beer from Oregon, the first time Canada has won the grand prize. (Believe me. this is a film well worth seeing. -ass ed)"This is a Recorded Message" by the NFB. This film, with its shock effect, invites reflection on the broader social implications of hucksterism in all its guises.

Wednesday. November 26, 8:00 p.m.
"The Man Who Loved Women" by Francois Truffaut. With English subtitles. Described by New York critic Molly Haskell as "his funniest and most charmingly personal in vears, an anatomy of a womanizer in which one feels the presence of the director in every frame". With Charles Denner. "Spinnolio" by the NFB. Animated film about a puppet who everyone thought was alive. Winner at the Canadian Film Awards and the Melbourne Film Festival. "Wintersong" by the NFB. A film about a mood. a longing for the things that never happened - for the things that never will. (sob-ass ed)

Thursday. December 4. 8:00 p.m.
"How Tasty Was My Little Frenchman" by Nelson Pereira Dos Santos. With English subtitles. A black comedy about the morality and politics of cannibalism in 16th century Brazil. Sets and costumes are authentic and colourful, based on paintings and graphics of the period. Not sensational, it is "witty and quietly compassionate throughout". "Afterlife" by the NFB. This film adds to our understanding of the very real possibilities of life after life. Winner at the 1978 Film Festival Awards in Montreal. Ottawa, Toronto and Chicago. "A Figgy Duff Christmas" by the NFB. A musical treat about Christmas traditions in Newfoundland.

## YFE Presents New Speculations on the Bunny－Rabbit Theorem

By far the most disturbing papers published in the last year are those dealing with the so－called Bunny－Rabbit Theorem．This interdisciplinary question（involv－ ing，as it does，mathematics，physics and biology）has raised many disturbing problems as it questions the existence of the real numbers．

In brief the theorem deals with the counting de as described by Prof．Peter Hoffman，which hops from one point on the number line to another，thus landing on，and hence describing，separate numbers．It was pointed out by Brown et al． that，to describe the real numbers，the＇s foot would have to be infinitely small． and，unable to eat，starve to death，thus becoming unable to delineate the real numbers．Several proposals have been made to attempt to unravel the paradox （e．g．contraction of a moving at light speed，© composed of leptons，etc．）but to this point none have proven entirely satisfactory．

It is the contention of this author that the problems stem from too literal an interpretation of＇foot＇and ignorance of the postulates of quantum mechanics．In the first case，the number line being only an imaginary construct，there is no rea－ son for the to land literally on it；it is only necessary for some point of the to co－exist with some part of the line．Nor is there any reason for this poist not to be inside the $\underset{\sim}{2}$ ．Therefore the centre of mass of said $\mathcal{L}$ can be used as a delineating point．Furthermore，the postulates of quantum physics state that the location of the centre of mass cannot be determined exactly，but can only be described by a probability distribution．The position can be determined to be in a small volume with high probability，but its exact position remains unclear．Thus in a finite time，the centre of mass could conceivably delineate an infinite number of points，and the（now of finite size and able to eat）could broadly speaking hop along the number line of real numbers．Though certain problems remain un－ clear（e．g．infinite lifetime of © ）the question of the existence of said $\mathbb{E}$ ，and hence that of real numbers，remains open，and Brown et al．，who claim it is closed，must be considered jerks and idiots and out－and－out raving lunatics．
wphughes
Institute for Useless Studies
University of Waterloo

## АИТIJA」ヨИロАЯ

By now you＇ve had a few lectures of those courses that looked so good in the Calendar．Now you know that you are no longer sure．Now is the time for Antical．（Now，hefore it＇s too late！！！．）

Antical（or Anticalendar） summarizes the student evaluations of the courses and lectures in the Faculty of Mathematics of the University of Waterloo．The first Antical was pro－ duced in 1971 by the Mathematics So－ ciety．Initially a compendium of summarized paragraphs about each course surveyed．Antical has grown to include charts of student responses to the questionnaire，and numerical ratings of courses and lectures．Finan－ cial．political．and legal problems have in the past threatened the existence of Antical．The 1980 issue of Antical is currently at a standstill（due to further unexplained problems）．Copies of the 1979 issue are still available and mas be picked up in the Mathematies So－ ciety office．MC 3038．Most profs are listed in this edition．

VOTE：last date for changing courses is Sept．19．1980．

## mathNEWS： The Newspaper 5 Out of 6 Faculties Prefer

A recent scientific survey sponsored by mathNEWS has shown that mathNEWS is the newspaper preferred by 5 out of 6 faculties at the University of Waterloo．

According to the survey，the faculties of Arts，Science，Environmen－ tal Studies，Human Kinetics and Lei－ sure Studies，and Mathematics all loved the paper，while $99.99 \%$ of Engineers questioned stated that mathNEWS was over their heads．

One Science student had this to say about mathNEWS．＂Like wow， man，I never knew that a paper that great existed．It is，like，one hundred times better than the Globe and Mail or the New York Times．＂

An Arts student called mathNEWS＂one of the greatest print－ ed works of all time，truly in a class with Shakespeare＇s plays and Keats＇ poetry．Young Frank Einstein is the Dickens of our times．＂

On the other side of the coin，a typical Engineer＇s comment was，＂duh． mathNEWS？I never read it．It＇s too complex for me；I prefer Enginews and Dr．Seuss．＂

So there you have it． mathNEWS is the best newspaper on campus and one of the best in North America．Aren＇t you glad you read it？

Eric Yendor

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## In Search of...

Campus Wildlife

By which I don't mean the kind seen in the Student Villages on Saturday nights. No, this is an examination of the animalian aspect of life on campus. You're used to seeing seagulls and finches and pointy-billed whatnots. but I'll het you frosh never expected so many frigging mallards.

Yes, we have ducks coming out our ears. They come in two types: the Bert and the Molly. The Bert usualls has a bright green head and white neck ring, which helps in differentiating duck from Engineer. The Molly has brown and grey speckled feathers Not showy, but Berts seem to like it. Fvery spring, in full view of i contumacious student population. Berts and Mollys go silly over one another, and within weeks (days, it seems), the campus is overrun with Juniors. It is hard to tell a Bert Jr. from a Mollv Jr., unless you have had training as a chick sexer. They all look like cotton balls on legs. Anyway, they are really sort of adorable for a while. Meanwhile, Bert and Molly have probably forgotten who they mated with, so they return to their favourite pastime, mooching food from soft-hearted students.

Most places, the question is, how close can you get to a duck. At Waterloo, it's more like, how far away. Once the food! signal has gone out, a stampede ensues. Do not walk backwards as you stem the tide. They will not understand when the supply of food runs out, and you are likely to be pushed into Laurel Creek, the storm sewer, Engineering 1, or worse.

One rarely appreciates how nice, cute and docile such campus denizens really are, until one meets something more ferocious, like the patented $M \& C$ pigeon. Unlike their mostly earthbound cousins, these creatures prefer to perch in precarious places above doors frequented by naive people wearing expensive, dry-clean clothes. Their purpose is not conversation, or beautification of the campus scenery; they live only to bombard the passer-by. It is questionable if they mate at all; I have never seen a small pigeon. I don't even think they have gender to begin with. Their dastardly designer cut corners in that respect, but produced a devilishly effective artillery device.

Some folks, when they get older, are silly enough to feed these scumbags. UW policy is to poison or shoot on sight, or so it seems. It is amazing to see how compassion for fellow living things can be summarily forgotten when the time is right.
"IT'S FOR THE FLUORIDE."

"IT'S FOR HER."
"I THINK HE DOES
IT FOR THE FLUORIDE."


We also have squirrels and chipmunks and groundhogs, who provide diversionary humorous moments by their quirkish antics. It is said that they receive their university paycheques biweekly. which has angered many human employees, and so relations between chipmunk and custodian have been strained of late. This is why you see the green men carrying those little pointy sticks around campus.

We also have occasional visits from stray deer, porcupines, rabhits and man-eating black bears, courtesy of the Waterloo Zoo, which is just down the railway tracks from the University. These are particularly disliked by the custodians.

I hope that these paragraphs have heightened your insight into the life of the rightful inhabitants of this campus. Be kind to them, and they will be good company.

Ross Brown

And so an oganfzational meeting was called. The turnout: amazing! Frosh awash! T'his term promises to rise above the swamp. Tonight's swamp denizens included: (in order for (of) relative degree of insanity upon departure) me, the new ed (Ross Rrown) ; Joanne Wast the REAL editor; John Plaice of 'hun fame, who eats sof tballs; William Ilughes, a soon-to-be-mathie; James Puttick for eager-beaver award. Also Ashok Patel the new AshInstant Editor, who showed up late and giggled until he left. Spedial thanks and lots of ***** (asterisks) to firsttimers MARK FT $\cap Y D, ~ R \cap D ~ C U R R I E$, KEVIN JARDINE (actually his one \& a halfth), SEAN RICHARDSON, CORD (Henchman) PUCT and STEWART the mystery man. Special guest star DOUG MOEN (also frosh, but looking wise beyond his (y)ears. Articles kindly contributed by MAB Garstin, Brad Templeton, J.J. Long, Ben Lutek, Steve Harvey and the inimitable PF7. "Our Father, Who Art in Sunnydale" award to the Pizza Pig for two pizza deliveries. Hope mathNEWS pays for such things. Y'know, guys, this joint is getting TOO organized. I get confused only doing CNE thing at ance, instead of twelve. The $\mathrm{P}_{\mathrm{H}} \mathrm{OO}^{\mathrm{T}} \mathrm{O}_{\mathrm{N}}$ actually behaved. Supplies abound. The same next wk? Too much to hope. No adoption offers for Joanne. OH: Yes, for you SciFi freeks, subtle apologies for the absence of UNIWAT 2050 this week. This is due to the fact that dean Edmonds is doing 24 -hour headcrashes in Ottawa (that's his co-op job) and has forgotten what a university is. We hope to reboot his system tomorrow morning. But hard. Looks like the paper's tarting to fall out of the platen, so $\mathrm{ft}^{\prime} \mathrm{s}$ time to toddle off. It's been complex, man. Transcendental. Gabba gabba hey.

