

## LookAhead

#### A glance at upcoming events



#### A Real World Guest Speaker

John Maynard VP Southam Communications and UW Math/CA Graduate 4pm Wednesday July 3rd Math Graduate Lounge

### **Flattening A Spherical Earth**

To be of practical use, maps and charts are printed on flat pieces of paper, while the earth's surface is an almost perfect sphere. So when large areas are to be mapped, the cartographer has problems doing this. The usual method of locating points on the earth's surface is by means of *latitude* and *longitude* with these imaginary circles forming a grid. The basic problem, then, is to transfer this grid from the sphere to a flat surface. The procedures to accomplish this are called projections.

A Flemish mathematician and geographer, Gerhardus Mercator, reasoned that you can't transfer a globe to a sheet of paper, but you can transfer it fairly well to a cylinder. While such a procedure would produce many errors, the errors are consistent and in accordance with a prearranged plan. Thus, any competent navigator could read the map if he knows the plan.

This is how it is accomplished. Imagine a light at the centre of a sphere, with the surface marked with circles of latitude and longitude. A sheet of paper is wrapped around the globe to form a cylinder touching the globe all along the equator. The shadows on the paper of the latitude-longitude sphere grid is the "projection". Parallels of latitude are projected as circles

## Fed Council Meeting

The Student's Council meeting of Sunday June 9th again had a long agenda with a variety of issues. Here is a summary of the main issues discussed.

- 1. The Federation's next step with respect to the Computer Service fees: the university has promised to take steps to ensure this fee is included on our tax receipts. The Federation is still appealing to the provincial government. A motion was brought forth at the Council meeting supporting the fees. I supported this motion, but it was defeated. I feel the fact is simply that tuition must increase or the quality of education will continue to decline. Call the fees what you wish, it is a way for the administration to raise revenue which the governments have not been to provide. What do you think?
  - The Bombshelter Renovation Committee announced that a survey is being conducted. If you have not already done so, please fill in the survey from last week's Imprint before **3pm today.** Copies of the survey are available in the Fed Office in the Campus Centre. The Committee considers this as valuable input as to the direction to take with your pub.
- 3. Irene Wright, Orientation Coordinator for September, reported on planned activities. There will be a major fun day on Friday, Sept. 6th, for all frosh. This is being coordinated with the villages and societies. One note: Fed Hall will be dry (ie. no alcohol) all Orientation Week. This includes the Friday before lectures begin. This day is dry so as not to compete with a concert to be held at Seagram Stadium and a Math Orientation pub at Waterloo Motor Inn.
- 4. A committee has been formed to recommend guidelines for the Federation for the paying of students' legal fees. This is in response to the Federation paying for the legal fees for two Integrated Studies students who were charged with trespassing by the University.

If you wish to contact me, please leave a message in my mail box in either MathSoc or the Fed Office.

Bruce Parent

parallel to the equator. Meridians of longitude are projected as straight lines perpendicular to the parallels. When the cylinder is cut at one of the meridians of longitude, it flattens out to a pattern of meridians and parallels which are mutually perpendicular.

The major complaint about this map is the distortion of the near polar areas (actually the north and south poles are not shown!). But, if the map is viewed as a coded message, it provides accurate and easy to understand information about the globe. That is, after all, the purpose of a map.

The above information was obtained from:

Vegra, William C., "Mathematics in Everyday Things", Harper & Row, New York, 1959, pp. 71,72

## Prez Sez

As you know, the computer fees will be implemented by the time we return in January. It was recognized by the presidents of all societies and ultimately by the Federation of Students that more money is needed by the University to offset a deficit next year. This deficit is caused to a great extent by the degree to which UW has automated its facilities. It is unfortunate that the fees had to be charged however, hopefully, we should see an improvement in the computing facilities for all Math Students.

On to lighter (and less expensive) topics. MathSOC has a great deal planned until the end of term - the British Pub Night, a Fun Run, the Wine and Cheese (name to come), a Student Faculty Picnic and then, on the last day of classes, our End of Term Pub. As well, our new T-Shirts should be out. In spite of the midterm crunch a lot is going on.

Some people have approached their class reps with their concerns about exams, staff advisors, etc. We can either answer your questions or help you find the answers. MathSOC sits on several committees and can bring student concerns to the faculty. Ask us if you have a question.

Talk to you in two weeks.

y

0

A

Lida Cepuch

## Fun In The BOG

Much has been said in print about the Board of Governors meeting held on June 4, and much more about the proposed (now approved) computer user fee; I feel I can add little more, except to point out a few things that bothered me about the whole deal.

First, most students, I think, agree that the quality of education - facilities, faculty-to-student ratio, course material is declining here because of funding. It is popular to blame this on the Ontario government, seeing as it is about to fall, and on the Federal government for not making the Ontario government cough up with the transfer payments for education. (This is politics, and laying blame at someone's door usually does little good.)

Given the uncertainty of this situation, at both levels of government, I can understand how this university, if desperate, can only turn to the students. What I cannot understand is the way in which the fee was put through in such a god-almighty hurry. We students were, for the most part, blissfully unaware a) that UW was indeed so desperate for funds, b) that the administration could move so fast in getting this motion through the Senate, and c) that something that affects us, the majority of the UW community, could be put through so fast with so little consultation.

Many people will be quick to counter that there was consultation — with the Federation, with such bodies as the Mathematics Faculty Advisory Committee — since last fall. However, the form of the fee was not settled on until last month. Only then did this fee (which I, from attending Math-Soc meetings last term, thought would be up to each faculty to administer in its own way) become the campus-wide "Computer User Fee."

#### **New Format??**

Advertising Manager Required

The legacy of Scooter includes a mathNEWS Board of Directors, the second meeting of which was June 8. Most discussion at that meeting was generated by a new format proposal brought forth by Lida Cepuch, MathSOC present.

Her suggestion was that mathNEWS should be printed on newsprint - like the Chevron and Enginews.

The final decision was that the July 5th and July 26th issues of mathNEWS be done on newsprint, the latter containing a questionnaire to solicit comments and opinions from math-NEWS readers. We will however, accept any comments at any time.

One consequence of the new format will be an increased production cost. To offset this requires an advertising manager. Application for this position can be submitted to the MathSOC office or our black box outside the third floor lounges. Applications should include your name, how you can be reached and perhaps a brief description of why you're interested. All applications should be submitted by June 28.

Miss Ted.

#### Thanks to all

dan schuelel

When Sonny Flanagan tendered his first objection, to this name, UW Treasurer Jack Robb mended his speech to "Computer Service Fee." The distinction is that, while not all of us use computers (indeed, many of us do not and do not intend to in the future), the computers are nevertheless there, and the Department of Computer Services (DCS) is running a \$2.5million deficit each year in maintaining its present premium quality of service. Students should note that while they will be paying an extra \$40-\$100 this fall for computers, they have no reason to expect any improvement in the quality of education - in computer service, availability, equipment.

The passing of the Computer Service Fee motion at the BOG meeting set a dangerous precedent, that of "taxation without consultation." The explanation given for the acrossthe-board way of charging the fee was that it was the easiest way of administering it. I think most idealists would admit that this is a pretty lame excuse for charging the fee in such an unfair way. To add to this, the fee is expected to raise only \$1 million a year at this level, and so the administration expects to increase it to as much as threefold over the next two or three years.

Some people may say that this is "closing the barn door after the horse has run away." The point I want to make is that nothing, nothing is written in stone. (Exception: the "temporary war measure" of income tax, inaugurated in 1917.) If enough people care enough about this, if enough people decide to go to meetings instead of just opening up their fee statement and sighing, more equitable solutions will happen maybe even in our lifetimes.

(Comments are welcomed, indeed with open arms, about the above.)

### The Caliph of Caliphornia

When last we left our valiant heroes, they were scattered across two continents. Now, with more than half our instalments past, the narrator finds it necessary to begin the arduous task of ending hisstory [not sick].

We begin with Bonita and Cary (disguised as a beauty contestant) who, with pitons, ropes, and carabiners, are climbing the streets of San Francisco. Because of their evident gender, the natives avoid them, (except one drug-numbed character to whose bleary eyes Bonita might have been a sweet transvestite) until they faced at last ... a chamber orchestra! I mean ... a small band! Yes! A saxophonist was accompanying a violin quartet playing special San Franciscan folk songs.

"Music for sax and violins!" gasped Bonita.

"Help!"

Bonita just barely rescued Cary in the nick of time from the hands of the knife wielding maniac who nonetheless removed half his hair (Cary's, not his own). It was here that they learned that a carabiner was not a weapon.

Meanwhile, Tom and Alfred were heading to Mount St. Helen's in the company of the Shirriff, when a man in a suit (bought at Eaton's) suddenly appeared.

"Guv'nor, I'm bored." he complained, and suddenly Tom found himself mired in a BOG. Absolutely nothing happened to the Shirriff, and Alfred was left to extricate Tom by himself.

The Irishmen, John and Paul, were hitchhiking from Las Vegas to California, along with two long-haired freaks they had met along the road (named George and Richard), when out of nowhere swooped the draft board, and pinned to it, draft notices.

"Har, har, har. Yer coming with us." spoke a voice behind them, and thus they joined the IRA, on a forced march West through the States.

But as they passed Berkeley, Paul and John were able to escape, and Paul picked up Centre of Gravity as he headed to the International Ex-acto Knife Throwing Competition in Los Angeles. John and Dr. Ernie discovered that in fact, the almond quiche served by the Caliph's henchmen at the Logic Conference was laced with cyanide. By the time they had confirmed their suspicions, however, nobody remained to be told (sort of like Hamlet) except the Caliph's men. Fearing for the sake of the unwitting Tom, Alfred, and Shirriff, John and Dr. Ernie rushed after them to Mount St. Helen's.

Meanwhile, Centre was sent to San Francisco to convalesce, where he met Bonita and Cary at a beauty contest he watched. Cary placed second to a gorgeous transvestite, and as his prize, he was awarded an all-expenses-paid trip for two to Los Angeles or to beautiful Mount St. Helen's. Not realizing that Centre of Gravity was present, Cary selected Bonita for his travel companion and phoned Gëorg in Los Angeles to ask advice.

"Go to Mount St. Helen's!" dan insisted, and so they did.

The reason for this odd behaviour was that at the art exhibition, dan had started fooling around with some other paintings, and as a result had contracted an exotic social disease named Mono Lida. Moreover, a mad Andalusian from Rome had vandalised the art gallery, hacking six issues of beautiful hair off dan. In such a disfigured and diseased state, dan did not wish Bonita to see him!

And as derfy woke up to discover that he had been shanghaied to Athens, where he was forced off his jet, and into a three thousand year old temple where the King of Greece reigned. At that very moment, the King's daughter, a true derfyiette, entered the dungeons. Spotting derfy, she fell head over heels in love. After he had picked her up, she proposed marriage.

"If you accept, you'll become a prince, and can do whatever you like. If you don't, I'll make Daddy behead you!"

"But I'm already married!" protested derfy, but nonetheless the wedding took place twenty minutes later. After the marriage was consomméd, derfy remembered that he must needs rush to the aid of his friends.

"But we've only been married 43 minutes!"

"And sixteen seconds. I know", said derfy, checking his timer, "but I must leave now. I shall return!"

And rushing to the airport, derfy boarded TWA flight 847...



#### The chevMATH An article that defends the BASIC integrals of the mathies No Freedom of Speech for Impe

Next Tuesday, Bess Fourolle, an imperialist message-person was chased off the campus of The University of Eastern West Virginia at Chicago after attempting to give a public lecture on the topic of her imperialist "theories". Fourelle, who has gained the utter contempt of all the metric and Gaussian academics and students, was asked to give a lecture expounding her imperialist views by the Department of Philosophy and Theology at the University. However, Fourolle had to be removed from the room after a scant 15 minutes because of the amount of noise being generated by the crowd gathered outside.

Over four professors, including several from the Pathology Department, and students laughed and discussed problems outside the room where Fourolle spoke, waiting to use the room for their class, occasionally asking loudly just who this Keynes guy was, and what did *he* know about economics?

The organizer of the lecture tried to save Fourolle by taking her to an "intimate meeting" where only a certain individual was allowed in. One of the individuals refused entry into the closed meeting was an official from Metric Canada. The campus security was called in to barricade the entrance to the closed meeting so that this imperialist could give her lecture without obstruction.

However Fourolle was not left in peace. The antianythingists covered all the exits, and when the organizer of the meeting tried to sneak Fourolle out the back door they were met by more students, still ignorant about Keynesian economics.

The chevMATH salutes the professors, students, staff, janitors, tailors, and butchers of Chicago who participated in just this action, thus preserving the teaching of non-universal systems of units.

## The International X-Acto Knife Throwing Competition

It was a dark and stormy night at the best of times, the worst of times but our heroes did not relent. They knew that to give up now, when the end was oh so near would not serve. They were doing what they had practised for so very many production nights, and had made it to the final rounds of the internationals. The place where all the world's finest X-Acto<sup>®</sup>knife throwers gathered to decide who was the very best.

How was it that this subtle art came to be? A very good question. It seems that many years ago, in a galaxy far, far away, there lived a young man who worked on a tobacco farm. During his lunch-hour fits of boredom, this young man took out his knife and threw it at the broad side of a barn. When he missed and hit his brother in the chest (flatly, no bloodshed here--this is a family publication), he realized the danger involved in such action, and knew that the art of knife throwing would catch on like mountain climbing and dancing.

As it turns out, the state-of-the-art was refined through time, and the length of the blade was reduced. Besides, it

### Math Wonderloo

Come to Math Wonderloo where all your mathematical fantasies, except passing your calculus final, will be fulfilled. Here are some of the sights and events that you can experience.

First, enjoy the beautiful scenery by taking a leisurely stroll down Discontinuous Lane (be careful not to trip over the breaks in the concrete).

Next, come to Ideal Physics Land where you can experience firsthand what you have learned in physics class. Here there is no friction, all gases are ideal, and all fluids are incompressible. In addition, all ropes, pulleys, etc. are massless. Finally, everything moves with constant velocity or with uniform acceleration.

By now you are probably hungry. In addition to standard amusement park fare, Math Wonderloo also offers pi's, moles, kernels of corn, slugs, Wronskian colas, Jacobian fries, and for all you real people, quiche.

After nourishing yourself, why not translate yourself to Math Fantasy Land. There is the House of Paradoxes where you can see Zeno's Paradox proved when a tortoise outruns Achilles, and also you can see what is on the other side of a mobius strip. At the House of Mathematical Simulations you can take on the identities of different mathematical 'things'. Yes, you can experience first hand what it is like to be diverged over the real numbers. See what it feels like to be just an 'ordinary' differential equation or to be an 'odd' function. In addition, you can be parameterized in any fashion that you desire. Finally, visit the Non-Axiomatic Math building where it was decided that the basic math axioms are too restrictive so they have been repealed. Here all numbers are equal. All sequences converge (uniformly as well). Imaginary numbers don't exist. Also, ordinary and partial differential equations have been banned on the grounds that they are inhuman torture.

In the evening, for those of you who like the night life, the Functional Harmonics give nightly concerts featuring songs like "I Am Your Isomorphism", "Where Did We Diverge?", and everybody's favourite, "It's So Complex".

This is just a summary of what Math Wonderloo has to offer, so come on down for the most extrapolating experience of your life.

The Mad Irishman

would be more than a little clumsy to try to use a six-inch blade for a mathNEWS production night.

The fad had caught on, as it must, and our humble crew chucked their cutting implements between cutting words, while waiting for pizza, while waiting for i/o, while waiting for someone to step into their trajectory. They knew that one day they could challenge the world's best if only they had the courage to persevere.

Enough repetititious background! On to victory! Victory, California. The search for the Caliph put off for long enough to demonstrate X-Acto<sup>®</sup> proficiency, the few members of our team remaining free (or cheap) put on a good show-a respectable second. (The newsmen at The Journal do more throwing and less cutting with their knives, and thus netted the top honours). Even with the Center of Gravity at the receiving end, we were occasionally off the mark. A full recovery is expected without noticable scarring.

Back to other more normal activities shall we all proceed, to practise some more for another 66-foot international toss, or the penultimate 67-foot extranational throw. On this, more shall be heard!

ρσ

#### mathNEWS Asks ...

"Where are you going after finals are over, and why?"

Home. I live there. - Embarassed, 4C

Florida. It's good to have a holiday. - Ken W., 1B

To a private resort in a secluded location. Reasons are obvious. - J. O'M., 3A

I don't know. I'll have to think about that. - Jim R., 3A

I'm partying on a houseboat with a bunch of mathies. Why not? - Name Withheld

Painting our house, 'cause it needs it. - Laurie A., 2B

I really don't know but a few people have offered suggestions ... - Peter M., 1B

I'm going home because I have to look after my parents' farm for a few weeks. - Mike, 1B

25°27'36"N 80°7'12"W. The train to Fort Simpson was full. - Paul O'B., 1B

California. Relatives live there and I can freeload. - Paul T., 1B

#### mathNEWS Frosh Issue

Hey you 1B mathies out there! Or any other stripe of mathie! The producers of Frosh Issue '85 are now looking for articles. If you have any advice for the as-yet-unborn frosh this fall – advice, warnings, amusing anecdotes – write it up and get in touch with Cyril Chen or Tom Ivey at MathSOC. Or, if you're really shy, fold it up n+1 times and put it in the Black Box on the 3rd floor. Oh, and be sure to mark it 'Frosh Issue' to keep it separate from all the other mail we get.

and a state of the second

## Wainwright World Tours

Wainwright World Tours has recently announced a new travel package for the traveller interested in a little mathematical history. For \$289 you will be flown to an underdetermined location in the heart of Europe where a bus will be waiting to take you to n points of interest in 3n+1 days.

Here are just some of the highlights:

A field trip to Poisson de Croissant for the 142nd annual Evariste Galois Festival where as a visitor you will be allowed to shoot a budding mathematician.

A chance to hang around Hooke's birthplace - just restored this spring.

A visit to Gauss' reduction clinic where Tchebycheff was reduced to Chebyshev.

While in Lard de Gionet travel down the well marked Fourier Avenue and read the Fourier sign series.

A stop at Bessel's Trampoline Park and Green's Green mini-golf course.

# Warning to Travellers

While on vacation, the last thing one wants to be reminded of is mathematics. To prevent this occurrence, we present the following guide to warn you of places to avoid while travelling.

While wandering through Senegal, the unwary adventurer might come across a place called Sine, and have their vacation ruined. One might hope that it is only in strange faraway countries that nobody has ever heard of, not to mention visits, that one encounters this sort of terrifying place. Unfortunately this is just not true! Even in Ohio, on the outskirts of Cleveland, and again in Minnesota, one finds a city called Euclid.

Along the same line, geometric places are nearly unavoidable. Angle, Wales; Arc, France; Circle, Alaska; Corner Brook, Newfoundland; Point Lake, N.W.T; Square Lake, Maine; and Triangle, New York show that throughout the world, geometry cannot be escaped. Even the Pacific Ocean is unsafe since it has Line Island.

One must also be cautious lest one find themselves in a city named after a mathematician. Imagine the horror of your friends upon receiving a postcard from Descartes, France. Also to be avoided are Abel, Sudan; Cayley, Alberta; Green, Kansas; Lagrange, Indiana; Laplace, Louisiana; Leibniz, Austria; Newton, Alabama; and Taylor, Texas. There is, however, one sensible placename. In New Zealand, obviously named by someone familiar with power series, is the town called Taylor's Mistake.

All those Greek letters one tries to forget appear in the strangest places. Alpha is obviously a popular letter, as it is the name of cities in Illinois, Michigan, New Jersey, and Virginia. Beta appears in Uganda, and the list continues with Gamma Kop in the Indian Ocean, Delta, Utah; Mu River, Burma; Rho, Italy; Sigma, Phillipines, and Tau, Norway.

Many mathematical functions disguise themselves as placenames. For instance, along with Sin, Turkey; there are Tan, USSR; Log, USSR; Sec, Czechoslovakia; and Root, Switzerland as examples of places guaranteed to ruin some poor mathie's vacation. Other places to stay away from are Lim R., Yugoslavia, Sup, Italy; Equality, Illinois; Grad, Yugoslavia, Decimal, Manitoba; and Cobol, Alaska. And above all, avoid Dan (dan?), Israel!

# International Road Signs

Travellers abroad should be familiar with some road signs that do not appear on the roads of Ontario. mathNEWS, upon hearing of the arrest of Tom Haapanen in Finland, strongly recommends that travellers learn the meaning of the following signs.



## More On Village Semi-Formals

Yes, I too recall the Village semi-formal last fall. At least, most of it. But my version has a somewhat more optimistic outlook than that given to you by derfy.

It was one of those cold, dark November evenings. You know the kind I mean. Even a calculus text is appreciated company. Tina phones and invites me to the Village semiformal. Being the studious sort and having four assignments to be completed the next week, I took a full 1<sup>''</sup>/<sub>4</sub> seconds before saying yes.

Now, as it happens, Tina was a good friend of Nice Girl (you remember - derfy's date). We started off the evening with two very fine \$5 bottles of wine. I must say, we made a handsome foursome - Derfy in his navy suit & blue shirt (much to Tina's chagrin - I had said I was wearing a pink shirt and she bought a boutinerr to match), Nice Girl looking more beautiful than usual in her mauve dress, Tina looking especially nice, too, until she took it upon herself to find out if cheap wine would stain her dress. (It doesn't!) Being the artsie she is.

We made short work of these bottles (many thanks to Tina) and drove off to Bingeman Park. I would like to take this opportunity to note that I ended up buying drinks for the Nice Girl as well as for my date.

Now, of course, as I was sitting at derfy's table, I heard her say she was too tired [too tired for what, jack? - typ. (generic sense of 'jack', of course)]. But I too like to dance - especially when I've been drinking. I seem to recall a pas-de-deux with the turkey platter. And (ask either of my friends) I'm not easily discouraged - especially when a pretty girl is sitting down. So we danced. For about eight songs we also performed a special dance rendition to [illegible] 'Bring Back That Lovin' Feeling.'

I am also pleased to say that the Nice Girl and I have developed a special relationship in the past eight months, and she has made no attempt to practice her marital arts (or her Tae-Kwon-Do, for that matter) on me.

Kermit

## Will Chauvinism Ever Die?

[Excerpted from the Globe and Male, Sept. 26, 1984]

Commodore International Ltd., of the Bahamas, had a problem in West Germany: how to sell computers to women. The solved the problem by using a totally naked young man in an ad which ran in the September issue of *Cosmopolitain*'s German edition. The Commodore ad ... is believed to be the first to employ full frontal male nudity there [ie. in Germany]. A source said the ad might be placed elsewhere because of the favourable reaction it has received, even though it was planned for one-time use.

The text of the ad is a play on words based on the fact that, in German, the word "computer" takes the male gender. The ad is headlined "Why the weaker sex needs a Commodore computer" and continues: "Because he will manage addresses, data and appointments. And make him useful in many other ways. Because he, the Commodore home computer, costs little and is easy to handle. And, because he will give you more time to let yourself be weak ..."

## mathMUSIC

#### All Musick, None Of The Time.

Some of the most interesting original music today is available on soundtracks. You do get your usual orchestral music from composers like John Williams and Maurice Jarre, but there are also popular musicians in the field. Synthesizers have given a new atmosphere to film. Take for example Risky Business by Tangerine Dream, or Blade Runner by Vangelis. New upon the scene is the pop group Toto, composers of the Dune soundtrack. Not a very satisfying movie—should have been a miniseries—but the soundtrack is interesting with its ponderously recurring main theme. The music is mostly orchestral, with the prophecy theme co-written by the avante-garde Brian Eno. My favourite track is the desert theme which is more upbeat and features some synthesizers.

My current favourite among the soundtracks is Ladyhawke, a superb collection of music complementing a very satisfying movie. The composer, Andrew Powell, has worked with the likes of Al Stewart and Alan Parson. In fact, Powell is the cowriter of "The Fall Of The House Of Usher", the mostly orchestral piece on the first Alan Parsons Project LP, Tales Of Mystery And Imagination. The Parsons influence is also very apparent on Ladyhawke, considering that he was the engineer for this project. The music itself is a nice blend of orchestral and modern instruments, with rousing themes as Philippe escapes from prison and Etienne rides into battle, and haunting ones which always bring to mind the face of the beautiful Isabeau. Powell's music fits Ladyhawke much better than Vangelis' music ever did with Chariots of Fire.

I wonder if I should say anything about The Breakfast Club. Probably a lot of people will like the music, but I don't; it has yet to grow on me. Mostly written by Keith Forsey (never heard of him), the music is all upbeat except for the love theme, which I do like. The "big names" on this album are Wang Chung ("Fire In The Twilight"), Karla DeVito (remember Meat Loaf-here she sings "We Are Not Alone") and Simple Minds ("Don't You (Forget About Me)" -I like this one too!). Overall, this soundtrack, with all its catchy tunes, just reeks of fine commercialism.

I wish I could trade The Breakfast Club with somebody for The Falcon And The Snowman. Although the Imprint reviewer did not think too much of jazz guitarist Pat Metheny's output here, I like it a lot. The music is very mellow, and includes a song sung by David Bowie, "This Is Not America". The Imprint reviewer didn't think too much of Bowie's recent work either; neither do I, but I like this song anyway.

Well, it's time to go, but I'm not out of records yet. I might be back some- time with A Flock Of Seagulls, Ann Mortifee, The Alan Parsons Project, Strange Advance, Ultravox and Kim Wilde — hopefully before they each come out with their next albums!

Sneer

#### Flash

At the Battle of Quiche, the real numbers have just conquered the imaginaries and are taking up positions throughout the complex field.

## How Green Was My Gridword

Last issue's gridword was correctly solved by Rozee, Nagamatsu and Werner, by the MathSoc Team of Jack, Jane and 37 Down, and by Ralph Machon and Steve Heard. However, this time the prize goes to Michael Behm "with help from Jane." When last issue came out many irate people were molesting certain mathNEWS staff members for the missing clues to 14 and 15 down. Well, many apologies are due those people, and we'll try to be more careful this time. Should anything be wrong with this puzzle, a correction will magically appear on the front of the mathNEWS Black Box on the 3rd floor - hand in your solutions there too!

Clues

Down

Across

1. Messiah, eg. 8. swan stars 12. decimal music 13. deny ethnics 14. short Edith 15. my Italian is mine 16. salty lake. Asia 17. translate that article (Fr.) 18. say 'Toro' lest you be gored 20. stone flows in Ebla valley 22. take tar from the main artery 23. gassy number 24. scribbler Maugham 26. twixt Menno and Dunbar 32. a gael grows green 34. mushy food for politicos 35. Fr. land of lait et ... 36. castor-oily Cuban 37. left and right groupies 39. ... de mer 40. not out 42. stretch that etching 44. Lord, the Jews agree 45. accomplish, carry out 46. is Sheridan in control? 48. in the cafe you acted crazy 51. back in the 53. seven year ailment 54. rotund 55. green fences enclose 57. flightless Aussie 58. China city in France 59. goatish Pan-follower

1. Washington monument, eg. 2. Re-do the equine journey 3. wat's stronger than lager 4. 52 periodically 5. to refer to gold 6. mates to Juliets 7. sound words, indeed 8. tenor string 9. 39 periodically 10. drano's our defence 11. fishy poisoning 16. On The Beach's gardner 19. of larvae 21. Igor's 50s ballet 25. Indian islands 27. stave off largeness 28. slick conglomerate 29. Dungeon Master 30. I like the French 31. that king's a real fool 32. take me away from 30. 33. heredical codon 36. more of actual 38. dull and boring 41. tears I laughed 43. not to 47. my little hut in Bangladesh 48. the deed's outstanding 49. Environmental Studies 50. aye, a round of seasons it was

52. duran dancer

56. Conrad Grebel



mathNEWS is a bi-weekly, sometimes triweekly, publication funded by, but otherwise independent of, the Mathematics Society at the University of Waterloo. Content is the responsibility of the mathNEWS editor. 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@watdcsu on USENET.

Managing editor: dan schnabel

1 4 4 >-0 1 T 5 111 \* Z H 0 0 Xe 1-Illa Y \* 1- 11 I +C T 24 F 2 1-1 4 5 \* 2 -U 0 6 14 2 I 4 3 W A \* 2 4 2 11 0 T A 4 4-3 3 2 .5 w X Z 1-1 A 5 1 A 0 P 5 S 4 0 19



British pub 积ight June 22

featuring a Magician, Juggler and Comedian and

Irene and Carla from Ye Olde Brunswick House

Tickets Available Now at the fled Office and Mattsoc