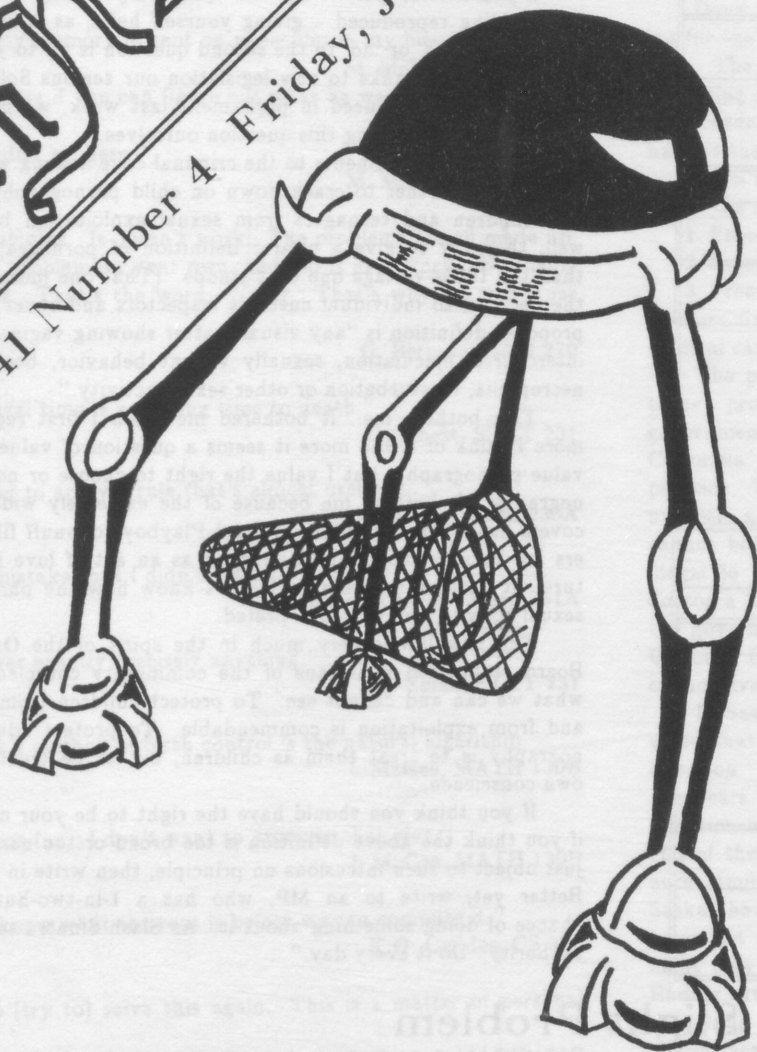
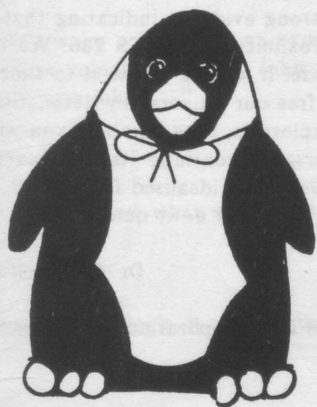
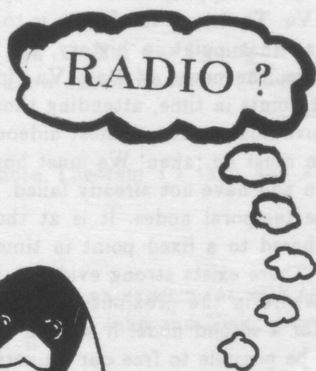


Math News
 Volume 41 Number 4 Friday, June 20th 1986



The Terror Machines

*prowled across the campus
 in search of ... fresh Co-ops*



"I heard them before I saw them ... the giant footfalls, the whooping of their sirens ... and then the very air around me seemed to writhe into blue stripes ... and a giant metal form loomed up above me. 'Here at the IBM Company', it boomed, 'a co-op enjoys many benefits unique in the industry ...'. I screamed and tried to block my ears, but it was too late. The dreaded Sadler Stalker had spotted me."

Found on a scrap of
 napkin outside of
 Needles Hall

LookAhead

Math Events	
June 26	Breeding Ground at Fed Hall
July 1	Canada Day events all day
Co-Ops Only	
June 20	Job rankings due
June 30	Interview results available
Fed Flix \$1 Feds, \$3 aliens	
Phy 145 at 8 pm	
June 20,21	St. Elmo's Fire
June 27,28	Volunteers
July 4,5	Pale Rider
Cinema Gratis 9.30 in the CC—it's free!	
June 25	Apocalypse Now
July 2	Mask
DCS Courses Free!	
Contact DCS (MC 2045) for more information	
June 23	Choosing PC Software
June 23	Choosing PC Hardware
June 24	VM/CMS Office Tools
June 24	VMS Office Tools
June 25	IBM PC Office Tools
June 25	Local Area Networks
June 26	Managing Your Data
UW Arts Centre	
Call 885 4280 for more info and tickets	
June 22	"Over The Rainbow"
Other Events	
June 21	8:00 pm Hagey Hall 180 TheatreSports game
June 22	2:00 pm Campus Centre 113 TheatreSports Workshop. All welcome.
June 25,27	High '80s - A Hot Comedy Revue at Fed Hall
mathNEWS	
More lively than life itself!	
June 26	Deadline for next issue
June 26	Next production night
July 4	Next issue available

Recently, I've been noticing an alarming trend in our modern world, namely, the end of the universe. I feel this is a very serious matter and that it is our solemn duty to take, immediate action to correct this problem.

As background, I direct your attention to faded memories of high school physics wherein lies the beacon to our destruction: standing waves. If you recall, a standing wave in a 1-dimensional "string" causes that string to vibrate through a second dimension. Similarly, a standing wave on a 2-dimensional surface causes the surface to travel through a third dimension. By analogy, a wave through a 3-dimensional object will send that object through the fourth dimension: time. Does the latter sound familiar? Right, ours truly. I believe that not only is our universe trapped in such a standing wave, but that we are nearing our point of maximum displacement!

The horrifying facts are easily observed throughout our tiny cosmos; time is slowing down! The average modern second is much more sluggish than it has ever been in the past. This fact is quickly substantiated by anyone attending a CS class. Minutes drag and complete hours take forever. The implications are terrifying. We are nearing the end of our rope, time is slowing down and soon, very soon, it will cease.

Then, very slowly, our universe will be drawn backwards through time.

A Question of Values

Let's see. I'd like to get a head count here. How many of you think the sex act is obscene? How many of you think that the depiction of sexual intercourse is obscene? Let me qualify 'intercourse' to the heterosexual sort between consenting adults.

If you answer 'yes' to the first question you may have some problems getting reproduced - giving yourself heirs, as it were. Whether you answer 'yes' or 'no' to the second question is up to you - for now. Soon however, thanks to new legislation our zealous Solicitor General John Crosbie introduced in parliament last week, we may be spared the bother of answering this question ourselves.

The new amendments to the criminal code dealing with pornography will go further to crack down on child pornography and to protect children and teenagers from sexual exploitation by adults. As well, they try to give a clearer definition of pornography/obscenity than the 1890s-vintage one that stands. (That one more or less leaves the decision to individual customs inspectors and court judges.) The proposed definition is "any visual matter showing vaginal, anal or oral intercourse, ejaculation, sexually violent behavior, bestiality, incest, necrophilia, masturbation or other sexual activity."

This bothers me. It bothered me when I first read it and the more I think of it the more it seems a question of values. Not that I value pornography, but I value the right to choose or not choose pornography. It bothers me because of the extremely wide spectrum it covers, from the 'soft porn' of (say) Playboy to 'snuff films'. It bothers me because what I might regard as an act of love is a dirty picture. It bothers me because I don't know how the phrase "or other sexual activity" may be interpreted.

The new law is very much in the spirit of the Ontario Censor Board, appointed guardians of the community conscience, telling us what we can and cannot see. To protect children from pornography and from exploitation is commendable. To protect adults from pornography is to treat them as children, not to be trusted with their own conscience.

If you think you should have the right to be your own censor, or if you think the above definition is too broad or too narrow, or if you just object to such intrusions on principle, then write in and be heard. Better yet, write to an MP, who has a 1-in-two-hundred-and-ten chance of doing something about it. As Slash Sinatra said, "Question authority. Do it every day."

Tom Ivey

A Slight Problem

In fact, if this were to happen, then it already has. It could even be the cause of Deja Vu. That is, if the future is to be the past, it has already re-occurred at that point in history, an infinite number of times. It could even be the cause of Deja Vu. Imagine an eternity spent living the same points in time, attending those calculus courses, watching the same Love Boat reruns. A most hideous prospect.

Immediate action must be taken! We must hope that we are still on our first oscillation and have not already failed. The quest must be mounted, to find the temporal nodes. It is at those nodes that our universe remains tethered to a fixed point in time and space, where time does not move. There exists strong evidence indicating that one such node lies somewhere in the proximity of STATS 230. We must search the universe for a second node. If we can locate it in time (no pun intended) it will be possible to free our universe by detonating at the nodes a quantity of temporal explosives, time bombs if you will. If successful, this will free our universe to continue its glorious path throughout eternity (assuming, as usual, an idealised frictionless time continuum). We cannot delay. We must act now, quickly, before we run out of time.

Dr. O Blitheration

P.S. If anyone should happen across any temporal nodes at any time, drop a line.

Prof Quotes

"...but that's cheating - it makes it look like we knew what we were doing."

M. McKiernan, AM362

"I swear that my memory is kept on molecules in my bloodstream."

M. McKiernan, AM381
p.s. brownie points if you can figure out what he was talking about

"I feel like an idiot up here."

M. McKiernan, AM381

"I don't like calculus. It doesn't work. The problems are all made up. You've tried a problem on your own, and did it ever work? No. Never. Never ever. That's the word. Never. That's why we won't use it."

G. Berman, C&O 270

"Often a survival time is a waiting time to death."

C. Genest, STAT 231

"Now I'm going to apply a rule that's almost useless ..."

F. Goodman, Math 230A

"That was a mistake that I didn't intend."

A. Kerr-Lawson, PMath 351A

"Nothing is ever exactly precisely anything."

C. Small, STAT 231

"A lumberjack's method of birth control is the natural logarithm."

I. McGee, MATH 130B

"Learning is not fun. I don't want to promote that idea."

I. McGee, MATH 130B

"We have to know what the root is before we can compute it."

K.O. Geddes, CS 375

"I'm going to (try to) solve this again. This is a matter of personal pride!"

D. Easton, MATH 130B

"You need ... ah ... ah ... what was I going to say? I forgot. Oh well, you don't need to know dat or whatever. I don't know."

Dr. G. Bakos, SCI 238

"This book has more Theorem 1's than any algebra book I've ever seen."

R. Read, MATH 134B

"Today we're going to do an experiment with this deck of cards. I'll need two volunteers ... OK, John and Nick. Now notice that I've taken out both jokers ..."

M. Lesperance, STAT 231

"We don't know what we are doing, but we should get close to something."

H. Mantel, STAT 231

"Regardless of logic, it appears to work."

H. Mantel, STAT 231

A Healthy Medical System

Many of you probably read last Friday's Imprint editorial entitled "What's up Doc?". It was written, in a rather sarcastic tone, by six members of the Imprint staff, including Doug Thompson. The editorial contained a number of misconceptions which I would like to attempt to clarify.

Doug Thompson and colleagues assert that the doctors are fighting for the right to charge the patient whatever they please for health care. The article states that the Ontario Medical Association (OMA) is "taking on the provincial government in order to get their pathetically inadequate salaries increased." This is not the case. The issue at hand is that of professionalism, and not that of money.

As is outlined in a current OMA sponsored newspaper advertisement, the doctors' dispute with the government is about

1. Freedom to practice medicine without government interference
2. Freedom to protect patients from government interference
3. Freedom from government conscription.

Doctors simply want to continue to deliver to us a high standard of medical care.

The precedence in Medical Community/Government relations in those provinces which have banned extra billing and have government-run Medicare programs is not exactly glowing. In British Columbia, doctors often are no longer allowed to choose their place of practice. The government controls billing numbers. Without a billing number, a doctor cannot bill the government for his services. If he cannot bill the government, then he cannot practice medicine as it is illegal to bill the patient directly. The government will only give a doctor a billing number if he establishes his practice in a location of the government's choice. A similar procedure is being carried out in Quebec. How many of you would like to be told where you can and cannot live and work?

In Saskatchewan, doctors agreed to discontinue extra billing provided that future fee negotiations would take place under binding arbitration. The government agreed to these terms. However, within two years the government decided that it could not afford binding arbitration and so broke its promise. The doctors had to keep up their end of the deal. Who can predict if the Ontario government will ignore similar promises to both the doctor and the patient? The Saskatchewan Medical Association and the provincial government have just agreed upon a 4.2% fee increase for this year. This agreement only came about after six days of rotating doctors' walk-outs. Ending extra billing will not end doctors' strikes.

Doug Thompson and crew state that doctors are *guaranteed* a yearly increase in salary. This is not true. The OMA must negotiate fee increases annually. As well, they note that the taxpayer funds a doctor's education. Well, the taxpayer funds my education. The taxpayer funds your education. Perhaps we should be concerned that we also may be candidates for government intervention. Who will be next? Engineers? Lawyers? Chartered Accountants? Actuaries?

It is up to you to decide whether or not to support the doctors in their fight against Bill 94, but please be aware that there is much more than money involved.

MED

And then there were Nine ...

Some of you may have noticed the handy-dandy calculation pad that was included as a surprise bonus in the last issue of **mathNEWS**. The Gridword managed to voyage off on its own explorations of the campus, but did make an appearance as the **mathNEWS** supplement. To those of you who were deprived of distraction Friday morning, sincerest apologies. However, Graphics Services was extremely helpful in allowing us to recover with the "Where's the Gridword?" supplement. We hope that this was a one-time experiment in terror. Ah, the complexities of publishing ...

Proof That the Modern Theory of Mathematics is Incorrect

Being a small city boy from the midwest and being new to the world of Waterloo Mathematics, I may be completely nuts for even thinking what I am about to say. However, I have noticed something about my first year algebra (I do not know if this trend will continue in my later university career since I am but a mere frosh). At this point, I have noticed that in many of the mathematical proofs I have been taught, the word 'assume' seems to crop up alot. Out of curiosity I looked up 'assume' in my trusty Webster's New World Dictionary - Copyright 1968, from The World Publishing Company. (Pocket Sized Addition). [Either that's terrible English or an unforgivable pun - Ed.] According to Web, assume means ... to take for granted; suppose. Also : to make an assumption is ... to take *too much* for granted, and an assumption is ... a) the ascent of the Virgin Mary into Heaven b) the festival celebrating this (That's what it says).

My curiosity was sparked, how could math be based on assumptions and not hard clear evidence? What if some of these flimsy assumptions were not true? Now I was really curious, I analysed and reanalysed my math notes to see if I could find a flaw or mistake in these proofs keeping in mind my new discovery, unfortunately I am but a mere frosh [sigh. -Ed.], and could not find any discrepancies. I was not discouraged though, and knowing that I could not make any more progress in my search I went to my good friend Raphael who is much smarter than I. He was very excited with my discovery and went straight to the library and immersed himself in old and new math books alike.

As Raphael read more and different classical and dusty works by such famous men (like Fermat, Gauss, Maclaurin, Euclid, Lemma, Marvin, Several Chinese Guys and many others), he got very excited. He had found many questionable statements in many of the famous proofs. For example take Marvin's proof of the existence of the cardinality of the subset conjugate to the bijection which intersects the permutation of the union between the Complex number system and the Fuzzy number system. The first statement of this proof is an assumption which goes as follows:

"For this proof to work we must first Assume that $\#F:(C) \rightarrow (W) = E9\{x=r2\{<x<r\} \leq w/d^*q+K$ when the Bijection of $\#F$ is a true surjection with it's injection congruent to the fuzzy's lower boundaries on a snowy Miami day in the middle of July."

Now as I mentioned before I am not a math whiz so when I saw this proof I just said "so what?" However, over a steaming bowl of

yogurt Raphael assured me that the logic behind the above assumption is on shaky grounds (there also other assumptions in this proof that are just as wishy washy but I will not go into them at this time). Raphael also told me about something more important. Raph explained to me (as I am sure many of you have noticed by now) that Murry's proof #24-43-4321sd-Marvy (The one above) is the historical proof that finally proved mathematically that God existed and gave future Mathematicians the building blocks upon which they could build future proofs (e.g. Herb's proof that 8 has more pen strokes than 1). Raphael went on to say that many Mathematicians used other men's work in their own proofs instead of doing the work themselves. (I was curious on how they could do this without being arrested for plagairism. All Raphael would say on this was something about math teachers being above the law). To emphasise that math had serious flaws, Raphael told me about one student who counted 25 'see proposition such and such' (Note, that Lemma, rule, law, etc. are included in this total as well) in one of his math classes. This same student also counted 87 assumes and supposes in that same class.

Two weeks later at 3:00 am I got a call from an excited Raphael (luckily I was up anyway doing my procrastination homework) he told me that because of the discrepancy he had discovered in Melvin's law (see above) he was able to proof that the modern theory of mathematics is all washed up. He went on to say that but he was not finished with this proof, since he wanted to proof this theory without using assumptions, but all that was left for him to try was Induction. He said he would call me back after he tried it.

That was the last I ever heard from Raphael. His roommate (who is currently doing his coop at the local institution) says that Raphael was pouring over his notes and scribbling alot when he finally shouted "Eureka" and just disappeared. I have finally been granted permission by the police to view Raphael's notes, and I am going to see them tonight. I will finish this report after reading Raph's notes.

Flynn D. Fishman (My real name, I believe that blame should be given to those who deserve it)
Math Frosh 1B

[End Note: Flynn's roommate gave us this article so that someone would know the truth. Flynn has not been seen since that fateful day when he went to look at Raphael's notes. It is a pity too, since he writes such good articles, ignoring all of his spelling and grammatical errors.]

Feedback

DEAR SIRs, I am writing this letter to you because I think its about time I did. Your paper is one of the biggest fiascos I have ever read! It is highly unprofessional and is full of shoddy journalism and bogus articles. You have no letters to the editor and no regular "good" columns. All your paper is, is a bunch of stuff thrown together and probably pasted on paper and photocopied. Come on guys, look alive! There is a lot of stuff out there to print about mathies (unfortunately you guys pick the most boring things) The university is full of big stories. Take for instance Doug Wrights barber bill - (why did you think fees are so high and the reports about possible Mafia connections in the security dept - (why did These and other stories are lurking out there just waiting for some reporter to tackle them. I know the Gazette doesn't want them, 'cause its too mellow and the Imprint is too gay, so I'm telling you guys first, (I'm a mathie too) go out there and report! and maybe we can hang a nobel prize for literature or something in our hallowed halls... go guys!!!!

To : Penguin Prime, 2B CS
From : Friends of Penguins Club, c/o gchiu
I don't get it ...

RapidFire

News bitlet courtesy the UW News Centre

The university campus will be the setting for a special Canada Day celebration starting at noon, Tuesday, July 1st. It is being planned by the Waterloo Canada Day Committee, which includes the Feds and sundry other organizations. The day will feature a parade to campus, outdoor concerts, a scavenger hunt and many other events. Among the planned activities is an attempt to break the world record for a Twister game, sponsored by 570 CHYM and Milton Bradley.

The day will be topped off by a fireworks display over Columbia Lake. [Columbia Puddle - Typ.] The display is planned to go between 8:00 and 10:00 pm. For more information, contact da Feds.

ISSN 0705-0410

mathNEWS is normally a bi-weekly publication funded by, 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@watdcsu on USENET.

Editor: Stuart L. Hodgins, Esq.

An interview with Dean Alan George

Dean J. Alan George will be leaving us at the end of the month to take up a new position with the University of Tennessee and the Oak Ridge National Laboratories, where he has been a consultant for many years. *mathNEWS* spoke to him Monday about his time here, and his hopes for the future.

The Dean says that he is leaving with mixed emotions. The University has been good to him, and he looks forward to our having a bright future despite the current financial doom and gloom. He bases this optimism on his perception of the students as Waterloo's major strength. Waterloo students are among the best, especially those in Mathematics. "Without the students, you can do nothing, but with them you can do almost anything."

Another strength he sees at Waterloo is the built in momentum of the institution. He admits that it can be very frustrating, but feels that the strength in being able to respond slowly and with deliberation is an important counterpoint to the rapid responses of politicians and journalists.

Dean George leaves with a strong sense of satisfaction. A number of significant changes have taken place during his term as Dean of Math. Quite a number of new faculty have been hired. The Dean notes that we in Math are at a double disadvantage - Waterloo has one of the highest student/professor ratios around, and the ratio in Math is higher yet. This situation has improved, but is still a major difficulty of life at Waterloo. Changes have also taken place in the computing environment. When Dean George was appointed, the faculty possessed one small Honeywell machine. Now we have a large variety of machines and vastly increased computing power. As a Computer Science person, Dean George has taken a special interest in this growth.

In the Excited States of Hysteria, J. Alan George will be spending most of his time doing research in the field of parallel computing. He looks forward with obvious glee to gaining access to Oak Ridge Labs' vast amounts of funding and equipment.

This of course begs a comment on Canadian funding, and Dean George feels that this is one of Canada's key problems. Research in Canada, especially in the field of experimental computing, is no where near to being adequately funded. He is disappointed that the Federal government's rhetoric on funding has not been backed by action. Despite promises of raising Canada's R&D spending to the average level of industrialised nations (about 2% of GNP), there has been little concrete action. He is optimistic that the provincial government may be more reasonable once they get used to their recent reacquisition of the reigns of power.

Funding for research and education is tightly interlocked. No one would want to attend a University that did no research, and developed no new knowledge. Because of the interdependency, money which is not provided for research "sometimes gets stolen from the education grant." As a result, graduate and undergraduate facilities and resources are reduced. He makes a specific point about the cuts in teaching assistant budgets, a crunch which most students here have noticed themselves. Research funding is a big source of frustration. Waterloo is very strong in all departments, and sometimes wins "spectacular" grants. Waterloo performs extremely well in competition for grants. From this springs a major problem. For each grant Waterloo wins requires resources and space. That space is therefore inevitably "stolen" from teaching needs. Thus we are limited by our own success.

Dean George points to the William G. Davis CRC as a promising sign. Despite the current carping about the leverage it exerts on the budget, he feels that all faculties will soon see the benefits. Obviously Math and Engineering will benefit the most, but the vast increase in available space on campus will ease the pressure on all of the faculties.

Dean George feels that we in Math "shoot ourselves in the foot by requiring so many half credits" for a BMath. He thinks that the law of diminishing returns applies here. Professors tend to assign "busywork" assignments to get a fair share of the students' time devoted to their course. This strategy may be effective, but is unfair to the students. Dean George feels that this removes student incentive and perpetuates the "high school scheduled mentality" instead of "teaching students to manage their time" and "just giving students time to think instead of work." He says that changing this, probably by reducing the number of required half credits to 40, has been under discussion for some time. He feels that some such solution should see implementation under the next Dean.

Dean George feels that a disadvantage of the University environment in times of restraint is the subtle nature of budget restrictions. He compares them to the Chinese Water Torture in effect - excruciating but painfully slow. Those most affected, the students, don't see the degradation of services during their brief time here. We have nothing to benchmark against. The staff here *are* keenly aware of the problem, but find it difficult to enlist student support.

He feels that the temporary nature of Waterloo administrative appointments is a major strength of Waterloo. Every new appointee brings a new set of priorities and prejudices to the job. By rotating these positions, each area receives its own bit of special attention in turn. Nonetheless, Dean George is quick to voice his personal opinion that Doug Wright should stay on as President. He feels that a dispassionate examination of Dr. Wright's accomplishments will inevitably conclude that Dr. Wright's term has been positive. He agrees that Dr. Wright has seemed remote from the students, but points out that the remoteness comes with the territory when one is involved as deeply in as many things as Dr. Wright. The Dean notes that he himself has been validly accused of a similar remoteness. The fact that he often didn't have time for students is one of his regrets. Working with students should be a major part of the Dean's job. He did have time to supervise Grad students while he was here.

Dean George feels that Waterloo's "culture of innovation" will carry us through the next few years. The people here are innovative and give much more voluntarily than the institution could ever ask. He feels Waterloo has a bright future ahead.

More Summerterm Blues

In response to the article 'Summerterm Blues' a few weeks ago, here are some more deadly ailments that have been recently discovered on our fine campus:

1) Sculpture Sunburn: Akin to sculpture burn, this problem occurs near any one of the various metal fragments on campus. However, this ailment can be contracted **without** coming into contact with a sculpture; you need only be lying in the great outdoors near a sculpture to receive deadly rays reflected from it. Usual symptoms include a sore red area on the skin, shaped like a stylised "CS" or an orange discolouration shaped like a new-wave cow.

2) Shadow Dermatitis: Found among frequent readers of the *Gazette*, or of any other publication that uses "shadowed boxes" and other graphic items to decorate its pages. Victims of this disease suffer from blackened hands and slightly discoloured books. Treatment requires vast amounts of liquid soap (provided that this scarce commodity can be found in the washrooms of the Math building at all.)

3) Mallardial Impaction Syndrome: As ducks fly in and about campus, they may collide into hapless students. This condition can be avoided by looking both ways before crossing duck flight paths.

4) Grid Lock: An ailment affecting those students who are "locked" into doing GridWords during Friday algebra classes. A particular strain, known as bilateral grid lock can occur with those students who do both the conventional and cryptic clues. No easy cure has been found, or sought.

The Stranger

Presidential Search

[Editor's note : MathSoc was asked to make a submission to the Presidential Search and Nominating Committee on behalf of math students. The committee wanted student input on whether Doug Wright should be reappointed president of the University without contest, or whether other candidates (in addition to Doug Wright) should be sought. Based on the results of a MathSoc forum held earlier this month, this letter was sent to the committee.]

Jack Brown
Presidential Search and Nominating Committee

Dear Sir,

The Mathematics Society has considered the issue of re-appointing Doug Wright to another term as President of the university, and we would like to make you aware of our thoughts. During Dr. Wright's term of office, the university has improved its international reputation considerably, and it has strengthened ties with industry. Much of this can be attributed to the personal efforts of Dr. Wright. There is some concern, however, that the focus should be changed during the next Presidential term. Many students feel that Dr. Wright focussed on public relations to the exclusion of other important issues, virtually ignoring the concerns of students. In addition, many feel that the university already is too closely tied with industry.

The next President must address the problems that exist within the university. Most students feel that Dr. Wright was either not responsive to the needs of the students or that he did not make any attempt to keep students apprised of the decision making process. This resulted in the impression that decisions were being made arbitrarily without concern for students. In particular, when students asked for financial accountability for ancillary fees, Dr. Wright failed to provide it but instead seemingly chose to cloud the issue by embroidering the truth.

Beyond this it is difficult for students to attempt to evaluate the performance of Dr. Wright because they are not sure of what his areas of responsibility truly are. This again points to Dr. Wright's failure to relate well to students, and indicates that the President must have more responsibility to students.

Students feel that a President who is more responsive to their needs is required. In addition, the President should be able to focus on making the changes that will carry the University of Waterloo into the fourth decade and beyond. It is felt that the quality of student life has deteriorated at the University of Waterloo over the past several years and Dr. Wright has failed to address this problem. Consideration for such changes as those recommended in the fourth decade report is necessary at the highest level. For these reasons we feel that the position of President should be opened for competition.

External Affairs Director
Mathematics Society

mathNEWS Flash

No Sherry Served at BOG Meeting

Members attending the Board of Governor's meeting on June 16 were surprised to find that there was no complementary sherry being served on this particular evening. Perhaps the full impact of underfunding has finally reached this illustrious body. It is most unfortunate that we cannot see fit to more amply provide for those who have dedicated so much of their time to improving student life at the University of Waterloo. Of more minor importance, it was decided at this meeting to positively re-appoint Doug Wright to another term as President of the university.

Fuzzy

CS 466/666 Assignment Question

[Editor's note : This is from an actual assignment. Honest. What is happening to the CS department?]

This is an example of a problem which we would like to solve in a manner that minimizes a resource other than time. Of course, the "solution" of this problem is not really practical as n (the number of couples) goes to infinity but the problem (or rather its solution) does teach something about optimization. Interestingly, this problem is listed as "unsolved" in Martin Gardner's book *Aha Insight!*. The problem is of course not couched in these terms in Gardner's book. You are cautioned to use pencil and paper to solve this problem and not practical demonstrations (or at least if you do don't tell me about it).

(a) Suppose that Bob and Carol and Ted and Alice are all interested in each other. Each person would like to have relations with each person of the opposite sex. However, each person is concerned that any other person (of either sex) may have a communicable disease. Prophylactics are suggested as a sufficient means of preventing this. Unfortunately, they are all graduate students and hence impecunious. Naturally they would like to minimize the financial outlay. Clearly four prophylactics suffice; show however that the desired goal can be achieved with only two prophylactics (and a bit of care).

(b) Suppose that there are n heterosexual couples. Each person of each sex desires relations with each person of the opposite sex. If no one will allow contact with a prophylactic already contaminated by someone else construct an algorithm which minimizes the number of prophylactics used (we allow the use of any number of sterile rubber gloves to permit manipulation of the devices).

(c) Prove that your algorithm is optimal.

(d) Can you generalize the problem to n men and m women (all heterosexual)?

(e) Can you generalize the problem to n bisexual people?

[I mean, *really*]

UltraClassifieds

Friends of MTHEL 302a/b : How much interest is out there? If enough people want to take either of these courses, we can convince the university to offer it for one term (the university will offer any class if you can demonstrate that it will pay \$\$ back). If you would like to rescue the course for a term, please reply via the **mathNEWS Black Box**, on the third floor.

Kimmo: Your box of scruples, ethics, morals, principles and dignity was sighted while passing through Oshawa. You have to stop losing things there. A.F. (1/2 SF2)

To Penguins everywhere:

On saturday night, bring your favourite human to HH 180 for TheatreSports. I've managed to wrangle a deal so you can get them in for half price.

Jeeves

Desparately Seeking Susan plus 11 letters. To discuss movies and twizzlers. See you Friday at 8:00 pm.

Blue Eyed Therapy

Thanks for all of those who tried to help me find my principles etcetera. But my good taste was not part of the original connection. Thanks for the effort but I have decided to order morals and scruples from Sears.

Kimmo Rautapuro
3B Chemical Engineering

Why does it take six Imprint staffers to write 270 words? Why does the result have comma splices and other poor grammar? Rolls Royce is plural. (your and my) expense. Sheesh. - Sauron

Hackery Rhymes

Have you ever wanted your children to become overachievers? Or wanted to give them a head start on the best things in life? Well, now you can get them started into the wonderful world of computing at an early age.

Studies have shown that little children love music, and once they know a tune, they won't ever forget it. That's why Quality Records (formerly K-Tel International), in association with **mathNEWS**, is presenting this new album of songs written by Weird Jim Jordankovic and arranged by the University of Waterloo Warriors Band, to help your ever-spoiled little ones to learn the proper attitude, terms and lifestyles involved in being a successful computer wizard. Here's a sample:

I've Been Working at the Console

(tune: *I've Been Working on the Railroad*)

I've been working at the console
All the live-long night.
I've been working at the console
Just to keep things running right.
In bed at seven in the morning;
Rise early in the afternoon.
Can't you hear the console beeping
Saying, "System going down soon?"

System going down soon,
System going down soon,
System going down real soon.
System going down soon,
System going down soon,
System going down real soon.

Someone's sending output to /dev/null;
Someone's sending output, I know.
Someone's sending output to /dev/null
Right down the old black hole.
Fee-fi-fiddly I/O,
Fee-fi-fo-o-o-o,
Fee-fi-fiddly I/O,
Right down the old black hole.

There are songs about user interfaces.

Hickory Dickory Dock (Apple version 1.1)

Hickory dickory dock.
Use the mouse to point to the clock.
The mouse clicks once,
The clock shuts down.
Hickory dickory dock.

And ones that teach about how programs work.

Pop! Goes the Stack Frame

(tune: *Pop! Goes the Weasel*)

All around the dynamic RAM
The processor pushed the stack frame.
The function stopped to return its result—
Pop! goes the stack frame.

Pointers to parms called by reference,
A pointer to the caller.
That's the way procedures work—
Pop! goes the stack frame.

To get your copy of this album, mail \$100 000 (but not your address) to the **mathNEWS** "Join the ICR" Crusade, MC 3036, 200 University Avenue West, Waterloo, Ont., N2L 3G1. No receipts will be issued; no questions will be asked; no obligations are given to any party, except that we will throw one. And remember, just because you missed out on this once-in-a-lifetime learning experience does not mean you have the right to deny your children of it.

dwarf

⁴ Unix is a trademark of AT&T Bell Labs.

Pseu-Pseudo-Code

To the tune of "Susudio"

There's an algorithm on my mind,
All the time,
Pseu-pseu-pseudo-code, oh-o-o.
Now I can't find this function's name,
But I think it should run just the same,
Pseu-pseu-pseudo-code, oh no!

Ah, here it's calling,
Up to there,
I'll get it running,
And still have hair.
It's all I'd need,
All my life.
I'd feel so good if I just understood my-yyy
Pseu-pseu-pseudo-code.

Now the stupid program's hung,
My assignment's just begun!
Pseu-pseu-pseudo-code, oh-o-o.
Oh God give me a chance, keep me on-line,
I'll get this done on time,
Pseu-pseu-pseudo-code, oh no!

I, I've got to finish, finish now,
But I'm not any closer and I don't know how,
I'm getting nervous, getting scared,
I'd feel so good if I just understood
My-yyy pseu-pseu-pseudo-code.
I just understood

My-yyy pseu-pseu-pseudo-code.
Ah, I'd be freed,
Rest of my life
Would be so good, if I just understood
My-yyy pseu-pseu-pseudo-code,
If I was a CS nerd, oh-o-o.
Pseu-pseu-pseudo-code,
I would have understood my-yyy
Pseu-pseu-pseudo-code.

(Repeat and fade, then look up and see everybody around you looking at you funny - you were humming and moving your head!)

(With deepest heart-felt apologies to P. Collins.) (Dedicated to all CS 140 students)

Teenage Mutant Ninja Mathie from Hell

Sing a song of Stats Class

To the tune of *The Volga Boatmen*

Zzzzz...

Midterm Blues

(Sung to E. Presley's "Heartbreak Hotel")

Since the prof announced,
The midterm was next week.
My breath got kinda shallow,
And my knees got really weak.

Chorus:
Oh, I'm so scared -- Oh baby.
I'm terrified.
If I fail this midterm,
I'll die.

Calculus and Algebra,
Equations left and right.
On top of all this studying,
My CS is due tonight!

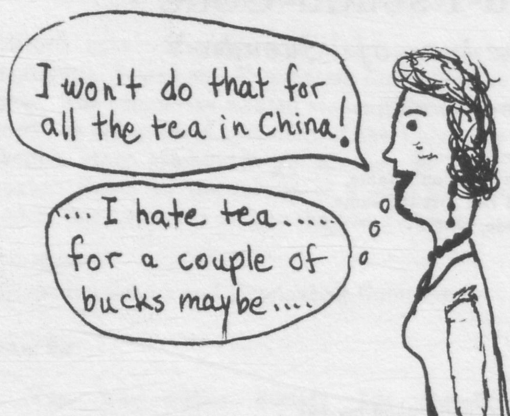
Chorus

Up 'til 4 am,
Proofs coming outta my ears.
Do I really want to do this stuff,
For four more painful years?!

Chorus

Sitting in the test,
I don't know who to blame.
I can tell ya the $\sqrt{366}$,
But I can't remember my name.

Brother B



THOUGHT - full

Penguin Tails

These two penguins are in a bath together. One turns to the other and says, "Please pass the soap." Of course the other penguin replies, "What do you think I am? A RADIO !!!"

Penguin Prime

Keener Bingo

Everything you wanted to know but were afraid to ask because you thought people would think you're a keener.

Version 1: Basic K.B.

- 1) A keener is acknowledged to be keen only if the prof has called on them (hand raising is not sufficient). One point is awarded for each keener question.*
- 2) Keeners can be distributed among bingo players in the following manner: one keener per person or two keeners among two people (but these people only receive half point score. This strategy may come in handy if you can't decide which of two keeners to pick, so you go in partnership with another player).
- 3) Winners are to be determined in the following manner: most points per week (the week right after midterms, because it's a slow week, is valued at double the normal scheme).
- 4) A keener can be disqualified from use if his or her "keener ratio" is greater than five (keener ratio = total class time in minutes / number of questions).

Version 2: Deluxe K.B.

Same as Basic K.B. with following additions.

- 1) Exactors (picking first place keener and second place of the week, in that order) are worth 10 points.
- 2) Quinellas (picking first and second place keeners, not in any order) are worth 7 points.
- 3) Only one exactor or quinella can be placed on Monday for each person.

* Double point score if the keener stumps the prof.
 Double point score if the person stands up and says "Bingo".
 Triple point score if the person stands up and says "Bingo" loud enough for the professor to notice.

Mark (944) Kerbel



BREEDING GROUND

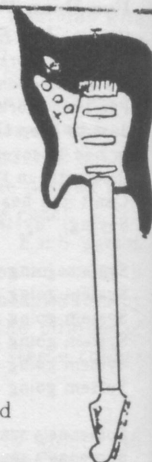
at Federation Hall
 8:00 pm Thursday June 26th

plus the 1986 Classic:
 Battle Of The Airbands
 MATH vs. ENG

1st Prize : 2 cases of liquid refreshment

2nd Prize : 1 case of liquid refreshment

Anyone interested in entering an Air Band
 come to the MathSoc office - MC 3038



MastHead

The Night of the Day after the Watpub on the Dawn of the Morning of the Return of the Son of the Second Cousin of the Bride of the Giant Living Radioactive Masthead in Smellorama. Thanks for the *Prof Quotes*, but make sure to give us enough that they make sense by themselves! This issue had a small but effective staff, who should have been studying. Thanks to everyone who made it out. Gratitude to our dedicated writers - fwletniowski (GridStuff), Taivey (Values), the WunderGeek (no Prez Sezz), Dr. O Blitheration (Slight), MED (Health), Flynn (PTtMTtoMil), Al "Go" Rithm (RapidFire), The Stranger (Blues), MathSoc (Search) Fuzzy (Flash), Dwarf & Teenage Mutant Ninja Mathie from Hell & Brother B (the *mathNEWS* singalong), Penguin Prime, Mark Kerbel, Bigmouth Profs (unintentional Prof Quotes Only! Tsk Tsk!) and me (Alan George interview, sundry other bits). Some things didn't make it this time (Smith, darren) due to technical glitches, etc. We'll try again next time! Our munificent and capable production staff: Spiff (Pizza ordering, layout, trim, typing), MED (layout, typing, Profsort), AFD (IO run, forgoing the scenery), Ken Dubuc (layout, pasteup, trim, eating the last piece of pizza, disciple survey), Steve Furr (layout, trim, pasteup, disciple concept), Frank Letniowski (layout, trimming, gridwading, last one out), Ron Pfeifle (Asking delicate questions), P (indicate answers), Brad Sokol (LookAhead, typing, Penguin Posterior Advice). As for Hffls, the word for Monday is defined in Funk & Wagnalls as a carnival barker who swallows live animals to create a sensation. Thanks to the remaining disciples for divine guidance.

Thanks to Little Caesar's for pizza. Eternal everlasting servitude to Graphics Services for their nifty print process (which does not include photocopying, thank you, Zlatko), and the I/O room staff for quick and efficient service! Does anyone ever wonder why it rains every hour between 20 past and half past? Especially if you're dressed for an interview? Does anyone know where I can get a cover at 2 am?? Sigh. Oh, Well. Tidings of restrained enthusiasm to you, the ever-vigilant and not-listening-to-the-prof-right-now readership. The Black Box hungers for you ... Next article deadline is Thursday June 26. Shop Early for Canada Day ... Stuart L. (or is that Q.?) Hodgins

Ethics

mathNEWS has been requested to print this material on behalf of the Ethics Committee. The Ethics Committee receives its mandate from University Policy 33 which states that:

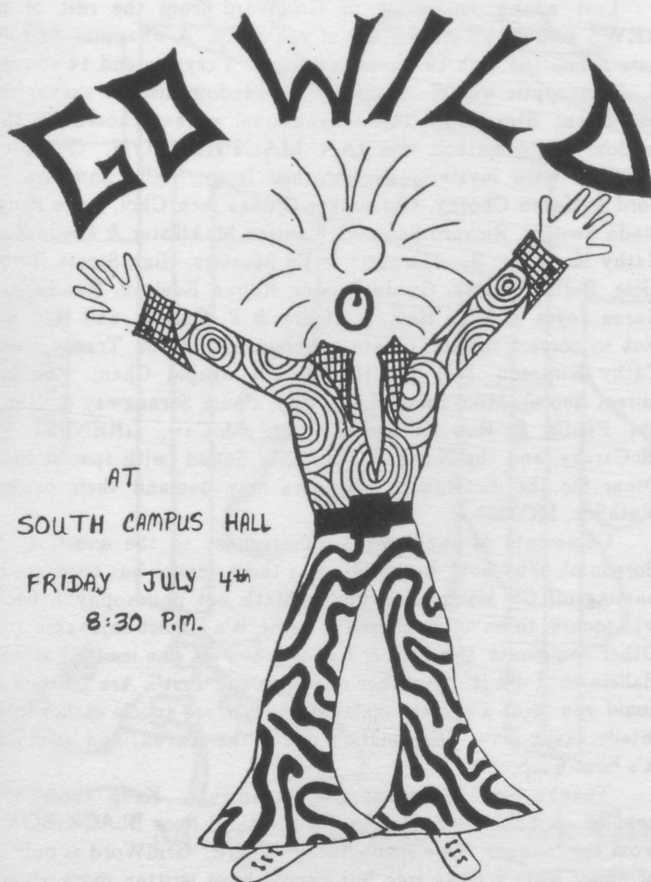
1. no member of the University Community will be discriminated against, on the basis of sex, race, age, creed, sexual orientation or handicap.
2. no member of the University Community will unduly interfere with the work or working environment of other members.
3. those with academic or employment supervisory authority use such authority solely with regard to the aims and purposes of the University.

Two resolutions which are of special concern to the Committee are abuse of supervisory authority and sexual harassment.

Members of the Committee are available on an informal confidential basis to advise individuals on the application of the Policy to specific selections. A person who believes that any principles expressed in the Policy are being violated should feel free to consult a member of this Committee. It is the practice of the Committee to proceed discreetly and in confidence.

To find out more information, contact the staff representative, Lois Claxton ext. 3602, or the faculty representative, Ralph Staal, ext. 3910, or Shelley Borys, the student representative, ext. 6535 (leave a message).

Every person in the University Community has a right to institute and participate in proceedings under Policy 33 without reprisal or threat of reprisal for so doing.



GridWording It Again

Due to certain requests, I have decided to re-explain how to do GridWord.

Recently the GridWord has become two puzzles in one – a cryptic and a conventional crossword whose solutions fit into the same grid. The difference between the two is in how the clues are given.

For the conventional puzzle the clues are the dictionary definition or related word type that we are all familiar with. What more can I say?

The cryptic puzzle clues are a whole different ballgame. The clues themselves give two definitions for the solution. This may sound easy (WOW *two* clues for each word!) but the trick is separating the definitions. As well, one part does not give a meaning for the word and is called the *cryptic* part. The mixture of cryptic clues and meanings in one sentence may make the total clue sound silly or nonsensical. Hopefully it will make sense when the clue is deciphered (a crooked mind may be necessary to do this).

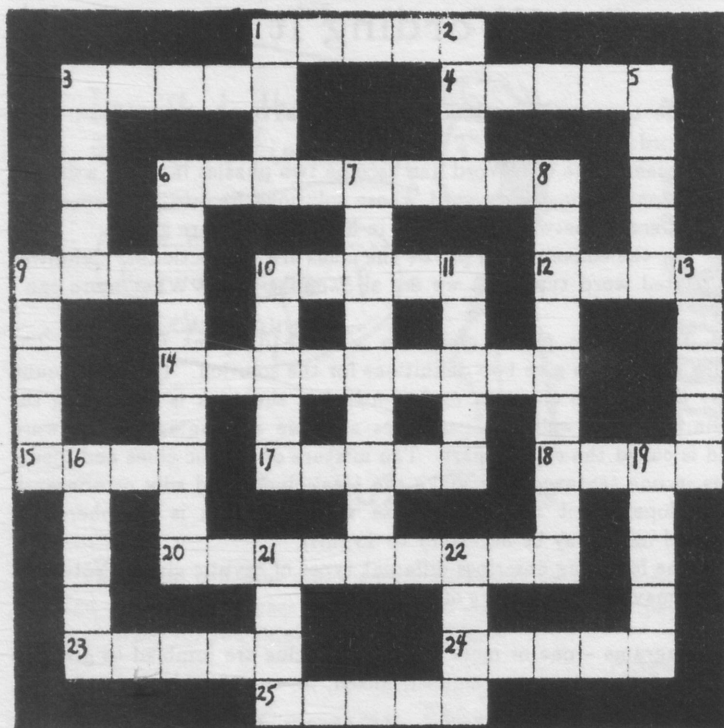
The following describes different types of cryptic clues. Note that a clue may be one *or more* of these types.

- 1) Anagrams – one or more words in the clue are jumbled to give the solution. Key words: scrambled, mixed, to, so, around, about, sorted, scattered, confused, etc.
eg. 'A beat to slow down' = ABATE (from A BEAT)
- 2) Construction – assemble the answer from parts of the clues. Key words: lead, start, follow, after, before, on, etc.
eg. 'It's intended that I lead the insect' = MEANT, from ME + ANT
- 3) Misleading clues – clues that seem to say one thing but are really indicating something else.
eg. 'The golfer's are starting to come in here' = TENTH HOLE
'A sign of balance' = LIBRA
- 4) Double clues – two meanings of the word are given.
eg. 'An article on French tea' = THE (the French word for tea)
- 5) Alterations – words should be split up or switched around. Key words: in, around, split, cut, about, turn, back, up, etc.
eg. 'Exist up to this age' = ERA which is ARE raised up.
- 6) Dropping letters – drop a letter from a word. Key words: headless, tailless, directionless, etc.
eg. 'The head of the host was lost to the wealthy bird' = OSTRICH, ie. HOST lost h + RICH.
- 7) Hidden – the answer is hidden in the letters of the clue. Key words: give, show, contain, has, etc.
eg. 'The really rich give a word in music' = LYRIC, from realLY RICH.
- 8) Homonymns – the answer to one part of the clue sounds like the required answer. Key words: anything related to hearing or sound.
eg. 'I hear the crew will be mean' = cruel, from crew'll.
- 9) Other instructions – look for other words that may indicate how to construct the solution.
eg. 'Every other oblong marsh' = BOG from oBlOnG.

Below is a list of words that lead to different portions of the solutions:

direction: N,S,E,W; hesitate: ER; soft: P (pianissimo); loud, fail: F; year: A (annus); love: O (tennis); sailor: TAR; German soldier: SS; curve: ESS; many: D (Roman 500); ordinate: Y; current: AC; and many others.

Even after using these instructions, you will likely find that GridWords can be quite discouraging. Reading through the clues may produce no results at first, however, going back through, looking for key words, and fiddling things around in your head will give you most answers. One or two solutions often start the ball rolling (as the saying goes). Another suggestion is to keep your puzzle from one week and get a copy of the next mathNEWS to compare solutions with clues looking for the connections. Remember though, the key to successful GridWording is perseverance!



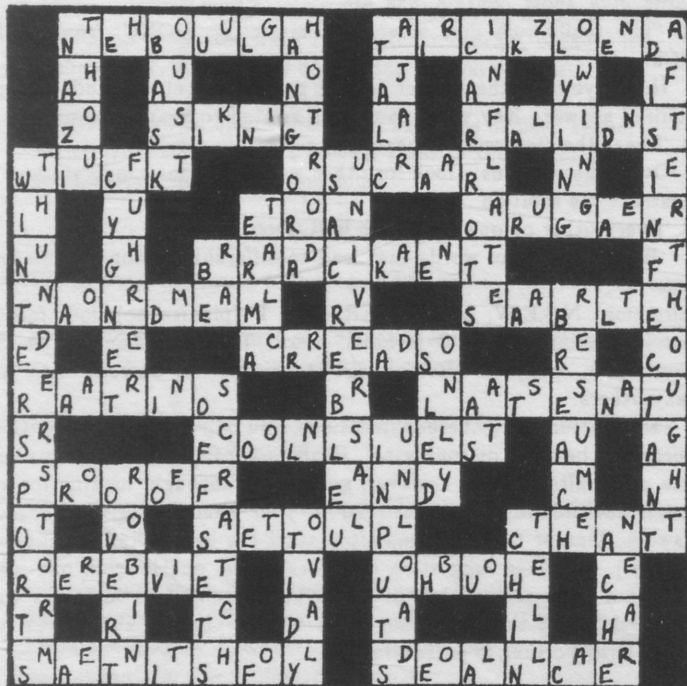
CONVENTIONAL

Across

1. MEDITERRANEAN ISLAND
3. FAT
4. POISON
6. SPACE TRAVELLER
9. RATE OF MOTION
10. TAKE AS OWN
12. FIDDLER
14. GREEK VENUS
15. SPIRITUALLY DISCIPLINED PERSON
17. GERMAN REPUBLIC
18. VERY SMALL THING
20. BARGAIN
23. GOLDEN KING
24. GREEK LETTER
25. LIGHT BENDER

Down

1. STOP
2. VOLCANO
3. SPIRITUAL BOARD
5. NOT AT ALL
6. CERTAIN BIRTHS
7. EAR SPECIALIST
8. PSEUDO-ORANGE
9. SMALL PERSON
10. HATE
11. LEG PART
13. MUSICAL STORY
16. DRUG
19. CROWN
21. PANT
22. PARTICLE



CRYPTIC

Across

1. Andy finishes the Spanish and French back between the buildings (5)
3. Fail to lap the film (5)
4. Not right to be a lady (5)
6. No wit for shady lenses curved (9)
9. Rich aristocrats hide and singe (4)
10. Poles end names and hesitate to be winter people (5)
12. Lied about being lazy (4)
14. Not a thing exists in a reverse cartoon (9)
15. Filth must be mixed (4)
17. Point extremely and all possible (5)
18. I offer to be in the same place (4)
20. Slash yourself in a poker game (3,6)
23. An alloy to be trusted (5)
24. Mulronee confused in the brew that's abundant (5)
25. Turn an American city solidified from the courts (5)

Down

1. One little artsie is related ??? (4)
2. A locked American school ? (4)
3. Soundly just not in the money but ahead (5)
5. Doubly sized above everything but little (5)
6. Satirical about the racist sac (9)
7. Two girls come together as one to rule (9)
8. Lab worker in prescient Istanbul (9)
9. A game she confused in a math department (5)
10. Lead Sally to a parasite piece (5)
11. Wet air washed New York (5)
13. Made a mistake but hesitated to blush (5)
16. The deceased raised a thousand in gold (5)
19. Copy me and mother at the appliance company (5)
21. Fee for a ring? (4)
22. Not one friend has a gem (4)

Who?:
Why?:
Comment:

The Living GridWord

Last week's separation of GridWord from the rest of math-NEWS sure didn't scare many of you away. A whopping 28 solutions were submitted with 19 correct solutions: 5 cryptic and 14 conventional. The cryptic winner chosen by the random disciple survey method was **Peter Simpson**. The conventional winner chosen by the Bell random digits method was **IAN MACPHERSON**. Other correct solutions were mysteriously obtained from: Stella Sampara, Karen Ford & Karen Chorny, Christopher Clunas, Ken Choi, Dave Provost & Linda Switzer, Richard Schmidt, Laurine McAllister & Freda Zomer & Cathy Kimpton, Ric Marcucci & Ed Musters, High Street Heroin addicts, Barbara Adey, Gordo Broom, Robyn Edelson, Randy Richard, Karen Joyce & Mike Hess, L. Henry & F. Coretti, and Ken Sulston. Not so correct solutions were acknowledged from: Tracey Upham & Cathy Kimpton, D.B. & "the Socially Stupid Chem. Eng. Grads" (direct quote), Mike Swan, Len Popp, Paula Strangway & Ron (Randy) Pfeifle & Rob Sutherland, Jim McCaw, GRENDEL, Darryl McCarthy, and the North Six Morality Squad (with special thanks to Oscar for the dictionary). Winners may demand their prizes from MathSoc, MC3038.

Comments of the week - in response to the question 'Why?': Boredom!, Why not?, because it was there, 'cause bus trips are boring, putting off CS assignment, I'm in Math not philosophy!!!, because it was square, to be immortalized in print, it's almost enjoyable. Other comments: Der Fuhrer hat es getan (tr. the leader has done it!), Hallelujah! I did it!, "Another one bites the dust", Are hotrods spiffy?, could you print a cryptic explanation (typ. see article earlier in paper), intellectually-Now, "Enigmatic" quoth the Raven, and stimulating - it's been a ripper!

Thanks for the encouraging comments. Keep those solutions coming. Submit your solution via the third floor BLACK BOX across from the lounges. One final closing remark, 'GridWord is only a piece of paper from a large tree but people have written more about trees than GridWord!' (all right, so I should have went to sleep instead).

fletniowski