mathNEWS

Friday, January 16, 1987

Volume 43 Number 1

Happy
Gnu
Ear

Château Laurel

Brewed in the heart
of the East 6
whine district.

35% Al. vol.

no added preserves
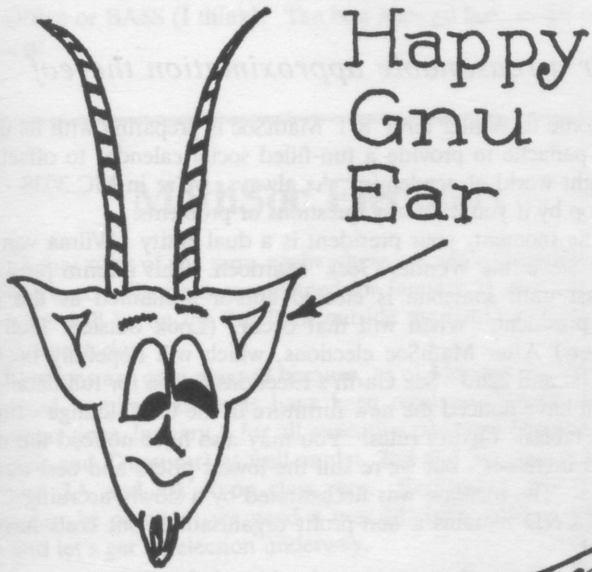
STUDENT   JO 0000   DATE

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY

University of Waterloo

CONCORDIA CLUB

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☆☆☆☆☆☆☆☆☆☆☆ SCHEDULE MESSAGES ☆☆☆☆☆☆☆☆☆☆☆
ALL COURSES CONFLICT -- PLEASE RESUBMIT
HAVE A NICE DAY
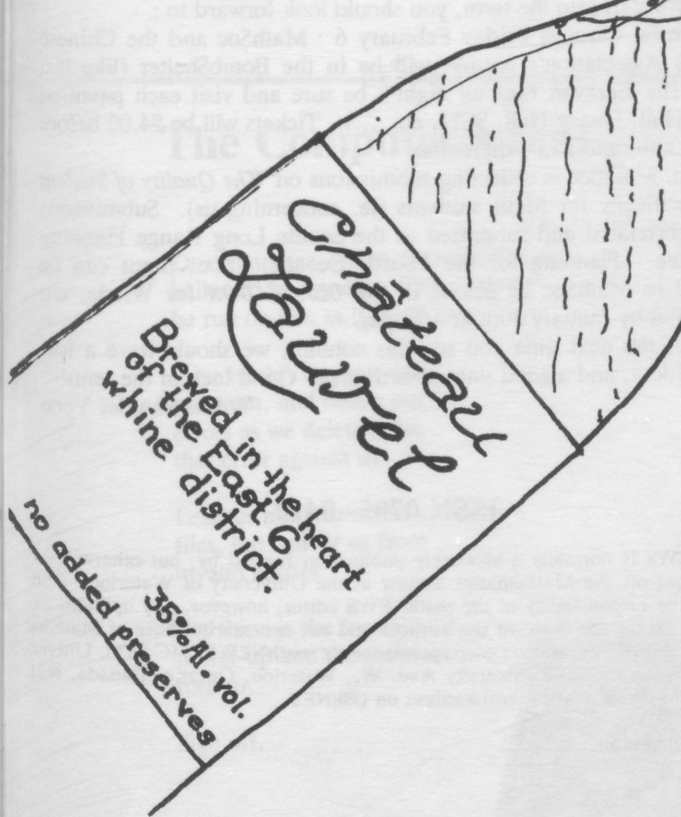
LookAhead

Cinema Gratis	
Jan 21	Cool Hand Luke & Balablock
Jan 28	Brazil & Zea
Feb 4	Death Trap & Vormittagsspuk
Fed Flicks	
Jan 16-18	Club Paradise
Jan 23-25	ALIENS
Jan 30-Feb 1	Back To School
UW Arts Centre	
Jan 17	Nancy White
Jan 20	Terrorism (a lecture)
Jan 21	In Search Of A Sun
Jan 22	The Best of the CANNES Festival '86
Jan 23	Panama, you thought it was only a canal
Jan 24	Drums!
and, of course,	*the infamous* FASS
Jan 29-31	A Touch of FASS (A silver sequel)
Feb 4-7	A Touch of FASS (A Silver Sequel)
DCS Courses	
Jan 19	Graphics Package
Jan 19,21,22	CMS Part II
Jan 26,28,29	Int. GML and UNIX for Doc'n
Jan 27	Mark Proc. w/ WATFILE
Jan 30	Script Formula Processing
MathSoc	
Jan 21,22	Elections - if there's anyone to elect
Math Faculty	
Jan 19	End W87 ADD period
Jan 19	End W87 DROP period - masochists
Feb 2	End W87 DROP period - everyone else
Feb 2	Deadline for withdrawal w/o penalty
Feb 2	Advanced - Honours transfer deadline
mathNEWS	
Jan 26	Issue #2 submission deadline
Jan 26	Production night Issue #2
Jan 30	mathNEWS #2 hits the halls
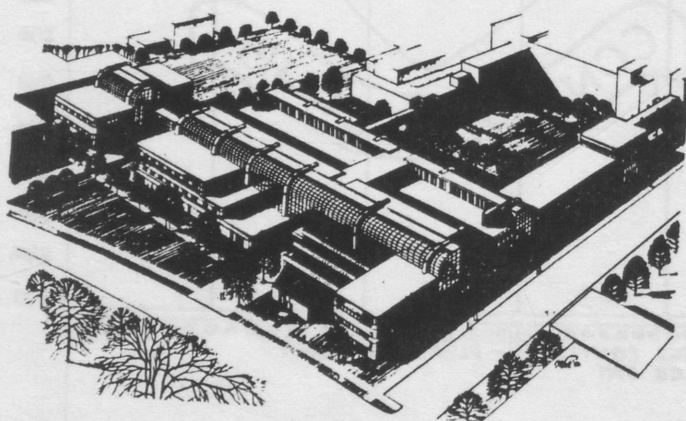
THE WILLIAM G. DAVIS COMPUTER RESEARCH CENTER

Or is it a Gerbil toy tunnel system?

Prezz Sezz

Or a reasonable approximation thereof

Welcome to Winter term '87! MathSoc is preparing with its usual style and panache to provide a fun-filled social calendar to offset the peril-fraught world of academia. As always, we're in MC 3038 - feel free to drop by if you have any questions or problems.

For the moment, your president is a dual entity : Wilma van der Veen and Steve 'the Wonder Geek' Murdoch. This interim presidency will last until someone is elected and/or acclaimed as the new MathSoc president. When will that occur? (Look outside. Hell *has* frozen over.) After MathSoc elections, which will hopefully be held January 21st and 22nd. See Garth's Elections article for full details.

You'll have noticed the new furniture in the C&D lounge - finally some real tables! Luxury rules! You may also have noticed the marginal price increases - but we're still the lowest prices and best quality on campus. The increase was necessitated by a slowly accruing C&D loss. The C&D remains a non-profit organisation, but costs have to be covered.

As we start into the term, you should look forward to :
The Cultural Caravan Friday February 6 : MathSoc and the Chinese Student's Association's portion will be in the BombShelter (like last term). The Caravan runs all night - be sure and visit each pavillion (in Fed Hall, Hagey Hall, SCH, etc. ...). Tickets will be $4.00 before January 30th, and $5.00 thereafter.

Also, MathSoc is collecting submissions on *"The Quality of Student Life"* specifically for Math students (ie. concerning us). Submissions will be correlated and submitted to the Senate Long Range Planning Committee - Planning for the Fourth Decade. Your input can be delivered to MathSoc or placed in the *BLACK BOX* for Wilma, c/o mathNEWS by January 30th at 4:30 pm.

Well, the next time you see this column, we should have a for-real president, and a good slate of activities. Good luck in the term!

Wilma van der Veen

A Touch of FASS
The Silver Sequel

Omigosh! FASS '87 opens in less than two weeks! Yes, it's that time of year again, when Faculty (the sole representation being from Math), Administration (?), Staff, and many Students, entertain you with their own blend of comedy, music and dance. As this is the 25th year of FASS productions, it is indeed a special occasion.

Ian Chaprin, this year's director (who also recently directed "The Mousetrap") already has the large cast (100+) and crew hard at work (and fun!), so as to be ready to open on Thursday, January 29th. The show continues on January 30 and 31 (limited seating for this Saturday matinee performance), and on February 5-8, in the Theatre of the Arts. Tickets are on sale already, for $4.50 through the Humanities Box Office or BASS (I think). The best seats go fast, so get your tickets soon!

BP

MathSoc Elections

It's that time of the term again where we are into elections for the MathSoc exec. Elections are planned for January 21 and 22. The polling booth will be on the 3rd floor outside the C&D and will be open from 9-4 each day.

Elections are only *planned* because, as of Monday January 12, few completed nomination forms have been received. Nominations have been open since January 7 for all executive positions (President, Vice-President and Treasurer) as well as 1st, 2nd and 3rd year regular class reps and 2A and 3A co-op class reps. Remember that before any events can be planned, we need a new MathSoc exec so hustle your buns and let's get an election underway.

Garth Mann
CRO

The Computer's Prayer

Our computer, which art infallible,
hallowed by thy data. Thy program
be run on-line as it is off-line.

Give us this day our daily
print-out, and delete our
errors as we delete those
that error against us.

Lead us not into unauthorised
files, but deliver us from
invalid entries.

For thine is the format, the
power-up and the modem
forever.

Sign off.

THERE IS NOTHING
WRONG WITH
YOUR EQUIPMENT.
YOU WILL
STOP GLOWING
SHORTLY.

Your SVA and You

• Have any career or job search concerns ?
• Don't know which career to choose ?
• Want some tips on writing resumes, or want your resume checked over ?
• Want to develop or practise interviewing skills ?
• Don't know what types of jobs are available, or which companies to apply to ?

Is there somewhere to turn with questions like these ?

Yes! I (your SVA) can answer your questions (or at least I can tell you where or how you can find out!) Visit me in MC 3035 Tuesdays between 1:00 and 2:00 pm or Thursdays between 11:00 am and 1:00 pm. Everyone is welcome!

Your SVA
(Student Vocational Advisor)

Letters to the Editor

Dear MathNEWS,

I am quite distressed. Last time I was here, it was summer term. The trees were green, the halls were uncrowded and there was never more than 25 people in the lounge with the couches. Now, three people can't sit together at lunch without brandishing a weapon and the halls are almost impassable between 20 after and half past.

Rumour has it that this is because of something called "regular students". I am also told that, as I am in 3B, I will have to spend the rest of my undergrad life with these people. Frankly, I don't like it.

I propose two solutions: 1) The University senate decrees that there will only be summer terms all year. This will make life easier for the squirrels and should please all but the most devoted skiers. 2) The University senate decrees that all regular students go on a work term this winter. (I am sure they could use the bucks anyways.)

If you find any support for these recommendations, please pass them on to the appropriate parties.

Thank you,
The Anonymous 3B Co-op Student

Dear Anonymous,

Stop bitching! I am a regular student and feel that co-op students are scum. These are some of my major concerns: 1) Anyone keen enough to pass a course in the summer doesn't deserve to live. 2) All you rich co-op students monopolize the female population of Fed Hall sporting fast cars and the latest big-town styles, only to leave for Pinawa in four months, leaving us regular students to pick up the emotional pieces until the next capitalist lot comes through. 3) Considering the job training-learn-to-dress-for-success attitude diplayed by the co-op students, you don't deserve the space required for existence in an academic institution. Rather you should leave our precious space for academic pusuits and do your lounging in the hallowed halls of such shrines as IBM or Government office blocks.

It's a pity you're past the point from which you can repent. May your career have all the excitement of a co-op job programming COBOL accounting packages for a Computerland store in Peterborough.

dan schnabel (the editor)

Ode to the Arts
(Part 1 in a continuing series)

Located at the southwest corner of the campus, this faculty has much to offer the mathie. The attire of artsies (or a person who takes the humanities) is quite comical. It can quite frankly leave one in stitches for hours.

Aside from the humourous apparel of faculty members, one can also find some really attractive babes in this somewhat looked down upon faculty. The lack of available or interested men in Arts leaves the field wide open for an enterprising mathie.

Yes, life in the Arts is far more relaxed. Why, you don't even have to go to class. All you need do is drop in to see your prof once in a while to discuss the joys and experiences of life. What could be more exhilarating than the power of a James Joyce novel? What could be more emotionally satisfying than the theatrical genius of G. B. Shaw? What could be better than sleeping in whenever you please? Oh, what a beautiful life, complete with optional multiple guess finals. The rigours of integral calculus can easily be forgotten through bird courses such as Philosophy of Hammock Weaving or History of Peruvian Pottery.

(Editor's note: The authors to this article suddenly wondered what the hell they were doing in math and immediately transferred to the Arts faculty, leaving this article unfinished. We apologize for any inconvenience.)

Change

Long ago, in a simpler time, I could exchange one disk (with a stamping of the Queen on one side and a moose on the other (or vice versa)) for a donut.

If I didn't have any such disks, the machine in the carpeted C&D lounge would give me some in exchange for a picture of the Queen, and at least two-and-a-half times as many for a picture of Wilfrid Laurier.

(This seems to violate the idea of equal value for work of different sexes, and seriously overvalues WLU. Said machine also refuses to accept Sir John Eh? MacDonald at all - perhaps due to excessive alcohol content.)

Anyway - moose disks. They're also useful for laundry, Robotron and parking costs. I like 'em.

So now I walk into the C&D, only to find that my humble, all-purpose disk doesn't cut it anymore. Since I routinely toss the practically worthless little beaver-coins onto my dresser (Jeeves is very patient about such abuse) I have to surrender TWO !! moose-disks. I get back my donut and two EVEN SMALLER coins - the Bluenose in MicroMiniature. I can't even hold onto these little cretins - I lose them almost instantaneously, like TTC tokens. My donut consumption has dropped dramatically - for me, their price has essentially doubled!

Now the government is going to give me a *loon* coin? Bloody noisy lonesome-sounding birds. The machine won't even convert them to moose-disks. Anybody want to barter a real snazzy COBOL string manipulator for some donuts? (Stop laughing.) No? Oh, well.

Al 'Go' Rithm

FASS

This year's FASS show is once again chock full of those lighting changes we all know and love. The inaudible dialogue was more than made up for by the heavily made-up cast and energetic seating arrangements. Hats off, gentlemen, a reasonably credible effort.

Carrie
per Cary

Prof Quotes

Well here we go again with another term of the original math-NEWS prof quotes. This issue contains some favourites from the fall term specially for those co-op types amongst you. Without further adieu here we go …

"Suppose you are stranded somewhere without Chi-squared tables, not a likely problem, but just in case …"

K.Shaw, Stat 231

"Don't write this down! If you see anyone writing, break his pencil."

J.Wainwright, Math 140a

"Everybody know the definition of a function? I mean, give me an x and I'll 'f' it"

K.Woolner, Phys 121

"If you have something that looks really ugly, you either put a paper bag over it or let u equal it."

C.Rogers, Math 130a

"Since the series is infinite, it's a good idea not to write all the terms down."

C.Springer, Act Sci 221

"You sound good when you sing in the shower because you're in a small contained area and the sound bounces off the walls, but when you get out and sing in the living room, you don't sound as good, but the people will applaud anyway because you forgot to put on your clothes."

W.Eastman, Sci 205

"That's the second time that chair's attacked me today."

K.Woolner, Phys 364

"Oh shit! I hope you didn't copy all that, … What am I doing, that's my 2:30 lecture."

W.Cleaver, Bio 114

"You know what I mean by a small animal—something that gets eaten."

F.O.Goodman, AM270

"Everyone knows the earth is flat … approximately."

D.Siegel, Am 481a

"If you can do these problems, don't bother; if you can't do them, you should do them."

Wentzell, Math 130a

"That's a good question and I appreciate you asking that … I wish I knew the answer though."

D.H.Younger, Math 134a

And now for something completely similar, some new prof quotes:

"If there were someone in here mastering in Statistics, they'd be snickering at every third thing that I said."

H.Slaney, Act Sci 338

"Why are we interested in this stuff? Well maybe we're not."
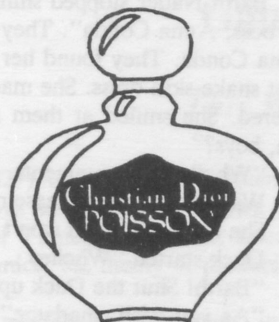
A.Conn, CS 337

"I don't know where I am either."

M.Bennett, Act Sci 332

What if...

Fashion Designers

Were Mathies

With a number of top mathematicians introducing new perfumes last fall, the old saying "the fragrance of Christmas" was never more true than this past Christmas. The young lady with more than common scents no doubt had many male admirers at Christmas. Now she may choose her favourite fragrance and so too choose the man who understands her best.

Perhaps you have not had the opportunity to sample all of the many bottled pleasures of the senses. If such is the case, a word or two about our favourites and least favourite might be valuable next time you are with that special mathematician.

A prime example of Chanel's leadership in the perfume industry has been Chanel No 5 and the new No 5 eau de parfum spray must indeed be an integral part of the wardrobe of any woman interested in number theory or number theorists. This will always be a favourite of mine.

On the other hand, the computer scientists at Chanel have come up with perhaps the poorest fragrance since the wearing of Vicks Formula 44 became unfashionable. Named after their favourite computers, Chanel's Coco is a fragrance to avoid - it is best described as colourless.

My favourite new fragrance comes from Christian Dior, a man whose name is usually associated with differential geometry. Dior has captured the essence of mathematics and bottled it in a perfume he calls Poisson. The moment I took that gorgeous green bottle in hand I knew I held a power that even Dior's bold advertising campaign could not express. The fragrance itself was pure magic, though it did have a hint of a fishy smell to it. Christian Dior has again proven himself the unSung hero of fashion and applied mathematics. Poisson has my highest recommendations.

The most interesting new fragrance idea comes from the topologist Calvin Klein. Though I've not been able to actually get any perfume out of Klein's uniquely designed small bottle, the packaging is extraordinary.

elizabeth

UltraClassifieds

Lost - No, wait a minute, here it is!

Where is the K-W Sheriff when you need him? -Sandy.

Okay, A.R. of Listowel, when is our next squash game? I haven't been trounced in four months - miss the agony already. Give me a call. I'm at the same number. -K.R. Of North Sudbury.

Desparately Seeking Susan, Catch you at the movies again. Twizzlers are my treat if you spring for the sprite. -Blue Eyes Inc.

P.H.O.P has moved to a new improved location on Dietz Ave. Same great service, same reasonable rates!!

Snuff Rock at Fed Hall

Tickets go on sale Thursday, January 15 for the first cconcert by Toronto's Mangoes from Hedon, Friday January 23 at Fed Hall.

Mangoes from Hedon play a highly controversial form of rock music known as snuff rock. Snuff rock is characterized by the onstage death of all the members of the band and the occasional overzealous fan.

Typical snuff rock bands don't practice, they might release a video or two but these are never commercially available. They also don't release records prior to their concert, releasing only a single "live" album in their entire explosive careers.

Mangoes from Hedon promise to be an exceptional snuff rock band as they actually have had a short practice, six months ago, to which i was invited. Now that Ollie Ropeburn, the Mangoes' lead singer has healed they are prepared to start their brief world tour at Fed Hall.

Although they wouldn't actually say how they were going to "snuff it", rumour has it that at least Ollie's head will be bitten off by a giant mechanical bat. Should be exciting.

Tickets are: Feds $4, others $5, WLU students who stand at the front of the stage $2.

dan schnabel
music editor

Imprint, Friday July 11, 1986

Compuer age arrives for Imprint typesetting

Imprint, January 9, 1987

"Exciting" course thretened by high student demand

Spell Check software virtually eliminates typos.

the hours and hours of corrections which followed are now part of history.

Partly because everything can be run through spell check software, the need for three time consuming checks by proofreaders has been eliminated.

THE ADVENTURES OF WATMAN

Returning triumphantly after exams, our intrepid super-heroes travelled to Needless Hall, to discover what classes they had in the new term. They were apprehensive, for they hadn't found out their marks.

"Wholley major wars, Watman," said Duck. "All our courses are in conflict!"

"But that is impossible, Duck. We only took the required math courses, and ANTH 337. We can't have all conflicts."

But it was true. The only class they had was Math 010 on Thursday nights. They had to find their faculty advisor, Mr Barth Nader.

He was in his office and smiled as they entered. Barth Nader examined their timetable. He chuckled. In a deep voice, he said "The source code is not with you. I can not help you here."

"Wholley Strategic Defense Initiative, Watman, he sounds like a Star Wars reject." intoned Duck.

Barth Nader stopped smiling. He said, "I must take you to meet my boss, Anna Conda". They travelled across the campus in search of Anna Conda. They found her in her office. She was dressed in a very tight snake-skin dress. She made a slight chuckling noise as the heroes entered. She smiled at them and sweetly asked "What can I do for you, boys?"

"Wholley measurements, Watman! Look at those scales!"
Watman begged "Please ma'am, can we take our courses?"
She laughed. "You won't be needing any courses soon!"
Duck started "Wholley ..."
"Barth! Shut the Duck up!" cried Anna.
"As you wish, madame" replied Barth, and he proceeded to do so. Because of difficulties with the censor board the exact details of what happened to Duck will not be entered into here. Suffice to say it was very unpleasant for Duck, and he will probably not say much more after this.

"I have been waiting for this for a long time. I am the sister of Boa Contractor. Yes, Boa Contractor, the one who you two reduced down to a singularity. I reprogrammed the computer to make all your classes conflict just to bring you here so that I can get my just revenge."

Watman yelled "Duck, can you think of a way to escape?"

Duck made a valiant effort and said "mph em phiman frumen umph."

"You know Duck, a simple 'Yes or No, Watman,' would have been sufficient"

"You can't escape," said Anna. "Even as we speak, you are being digitized and entered into the computer. You are being entered as conflicts and therefore dropped forever. Good-bye, you hard-coded hasbeens."

Have our heroes been eaten by the computer? Were they good to the last byte? Will Duck ever speak again? Does anyone want him to? Tune in next time, same Wat-time, same Wat-channel.

Na-na-na-na na-na-na-na na-na-na-na na-na-na-na Watman!

The Chuckler

Red Light District a Disgrace

The Society for the Nullification of Offensive Trends was going to do an article this week on the lack of proper hand-drying facilities in the 3rd floor washroom, but a more pressing issue has arisen. It has been brought to our attention that the west hall of the 3rd floor of the M+C Building has become a red-light district. On a number of occasions, S.N.O.T. members have noticed small signs on doorknobs in this area reading "Room in Use - Do Not Disturb". One can only imagine what is transpiring behind these doors. We have challenged various faculty members about this, and they all professed to know nothing of it. This only adds credence to our theory that they are trying to cover it up.

We conducted a survey to gauge public opinion on this issue. 33% said they didn't know what a red-light district was, 33% didn't care, and 33% said it was disgusting. (Okay, so we only asked three ladies. What do you want, George Gallup?)

We at the society find this quite distressing, such lack of concern, not to mention the goings-on in these facilities. On a recent trip to Waterloo, the family of a prominent S.N.O.T. member was enraged at this fiasco. They are reported to still have nightmares of the lewd, disgusting perversions that are occuring on campus.

Yes, this repulsive and offensive trend must be stopped immediately. The Society would like to know what **mathNEWS** readers think of this current issue. (Please explain your reasoning. Visual aids are welcome.)

Lights Out
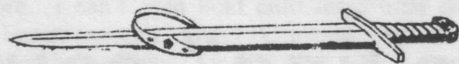
Gauss' House

This Week: Laplace

Pierre Simon de Laplace (1749-1827) was a French mathematician and theoretical astronomer who was so famous in his own time that he was known as the Newton of France. His main interests throughout his life were celestial mechanics, the theory of probability, and personal advancement.

At the age of twenty-four he was already deeply engaged in the detailed application of Newton's law of gravitation to the solar system as a whole, in which the planets and their satellites are not governed by the sun alone but interact with one another in a bewildering variety of ways. Even Newton had been of the opinion that divine intervention would occasionally be needed to prevent this complex mechanism from degenerating into chaos. Laplace decided to seek reassurance elsewhere, and succeeded in proving that the ideal solar system of mathematics is a stable dynamical system that will endure unchanged for all time. This achievement was only one of the long series of triumphs recorded in his monumental treatise *Mécanique Céleste* (published in five volumes from 1799 to 1825), which summed up the work on gravitation of several generations of illustrious mathematicians. Unfortunately for his later reputation, he omitted all reference to the discoveries of his predecessors and contemporaries, and left it to be inferred that the ideas were entirely his own. Many anecdotes are associated with this work. One of the best known describes the occasion on which Napoleon tried to get a rise out of Laplace by protesting that he had written a huge book on the system of the world without once mentioning God as the author of the universe. Laplace is supposed to have replied, "Sire, I had no need of that hypothesis." The principal legacy of the *Mécanique Céleste* to later generations lay in Laplace's wholesale development of potential theory, with its far-reaching implications for a dozen different branches of physical science ranging from gravitation and fluid mechanics to electromagnetism and atomic physics. Even though he lifted the idea of the potential from Lagrange without acknowledgement, he exploited it so extensively that ever since his time the fundamental differential equation of potential theory has been known as Laplace's equation.

His other masterpiece was the treatise *Théorie Analytique des Probabilités* (1812), in which he incorporated his own discoveries in probability from the preceding 40 years. Again he failed to acknowledge the many ideas of others he mixed in with his own; but even discounting this, his book is generally agreed to be the greatest contribution to this part of mathematics by any one man. In the introduction he says: "At bottom, the theory of probability is only common sense reduced to calculation." This may be so, but the following 700 pages of intricate analysis - in which he freely used Laplace transforms, generating functions, and many other highly nontrivial tools - has been said by some to surpass in complexity even the *Mécanique Céleste*.

After the French Revolution Laplace's political talents and greed for position came to full flower. His countrymen speak ironically of his "suppleness" and "versatility" as a politician. What this really means is that each time there was a change of regime (and there were many), Laplace smoothly adapted himself by changing his principles - back and forth between fervent republicanism and fawning royalism - each time he emerged with a better job and grander titles. He has been aptly compared with the apocryphal Vicar of Bray in English literature, who was twice a Catholic and twice a Protestant. The Vicar is said to have replied as follows to the charge of being a turncoat: "Not so, neither, for if I changed my religion, I am sure I kept true to my principle, which is to live and die the Vicar of Bray."

To balance his faults, Laplace was always generous in giving assistance and encouragement to younger scientists. From time to time he helped forward in their careers such men as the chemist Gay-Lussac, the traveller and naturalist Humboldt, the physicist Poisson, and -- appropriately -- the young Cauchy, who was destined to become one of the chief architects of nineteenth century mathematics.

A Light in the Closet

I own a lot of Clothes and, because i own a lot of Clothes, i have a big closet. I can walk right into this closet; it has its own light which is turned on by pulling on a chain. Hanging on the end of this chain is a bottle opener in the shape of a naked woman, but that's not important.

I spend a lot of time in this closet, mostly deciding what i should wear but sometimes i'll just think about Bill 7. Since i have a lot of Clothes it often takes a long time for me to decide what to wear. Then i will be late and people will tell me i should come out of the closet.

But i like it in the closet because i have a lot of Clothes, all of which i take good care of.

Some friends of mine design their own Clothes. They know a lot about fabrics and have made some really impressive articles of Clothing. They get a lot of attention but they also get a lot of criticism. I don't think i can deal with that and besides, you can't make Clothes in a closet, not even my big closet with a light in it and some photographs of people i used to know and a few pairs of shoes that don't fit me any more.

dan schnabel (a pseudonym)

Hot Rumours of 1986

We got bored so we decided to start up some rumours. Here they are:

Nothing is even close to being normally distributed.

UW administration has agreed to sell the new computer Billding for use as the world's largest Burger King.

There is a new computer course offered for arts students called "Video Games 111". This course will be worth one full credit.

Biology has started a course which is geared to for arts students. It's called "Space Invaders Wrist 404".

Rob Brown (of the Statistics and Actuarial Science Department) has donated his back yard for the construction of Village III.

The president of GLLOW is really a heterosexual.

Wilfrid Laurier University is moving up University Avenue at the rate of three inches per year and will be across the street by the year 2217.

Arts degrees can be found in specially marked boxes of Wayne Gretzky Pro Stars' cereal.

Members of the Math Faculty are secretly conspiring to make

$$\int e^x \, dx$$

equal to

$$\frac{\sin^{-1}(ln\,(x\,!))}{\tanh(3^x\,e^{-7x})} + C$$

just to make life difficult.

Mohamar Quadaffy is currently teaching an Environmental Studies course at UW.

dan schnabel played an instrumental role in the recent arms deal with Iran.

Professor W. Cleaver (biology) is wanted in eight states for grand theft auto.

The Plasmatics have reformed to do one more gig. Wendy O Williams said that the Math Grad Ball committee's offer was too good to turn down.

Jimmy Hoffa has been encased in cement in the new computer Billding.

The Bombshelter got its name from a bunch of engineers who were afraid of a nuclear attack. It was decided to make it a pub when it was found that the designs called for it to be placed in a hole 150' deep. The engineers had placed it in a hole only 150" deep.

C.J. and Superdave

The Most Memorable Albums Of 1986

1986 was an interesting year for the music industry. The following is a review of the most interesting albums of the year, they will be remembered for a long time.

1) Reign In Blood - Slayer. Definitely the best album of the year. After listening to this group, one begins to understand why they want warning labels on record covers. With titles like "Raining Blood", "Piece By Piece", "Necrophobic", and "Angel Of Death", they are assured to receive the applause of all black metal fans. Despite the fact that drummer Dave Lombardo left the band shortly after the release, the band will be touring and are scheduled to play at Massey Hall on January twenty-ninth.

2) Vomitorium - Jugular Fountain. The debut effort from this Portage la Prairie shock-rock band has raised a lot of eyebrows with tunes like "Graveyard Smorgasboard", "I Got The Fungus", and "AIDS For The Wolfman". Ideal for the younger set.

3) GLIM Leaper - GLIM Leaper. Considered by many to be the best underground album ever recorded. This masterpiece includes the hits "Bring It Back", "What Can I Do You For", "Mornin' Sports Fans", and the classic "Comments, Questions, Protestations?". Great for insomniacs.

4) So - Peter Gabriel. What can we say that has not been said already. Its about time he received the recognition that he deserves.

5) Thretened - The Dimwits. This may well be remembered as the most inept album of the century. Monumental in its stupidity, ballads have a slight communist flavour. Band members are reported to have a cumulative I.Q. of six. Worth buying for a good laugh. Definitely amateur hour.

6) The Final Countdown - Europe. Most of the success of this band is due to guitarist Joey Tempest. He has written several tunes for the new Scorpions album, which is due for release in the near future.

They have had four songs make the top ten in their home country of Sweden and the title track spent several weeks at Number 1 in Europe. By far they are the most promising new group of 1986.

7) Top Hits of '86 - Various. A ripping compilation that blew a lot of minds this past year. Includes "Unbiased" by Red Auerbach, "Bachelor Party" by Don Rogers, "Jailhouse Rock" by David Crosby, and "Don't Drop the Soap" by Lamarr Hoyt.

8) Dayglow Abortions - Dayglow Abortions. Hard-core punk at it's best. How can you miss with tunes like "Argh Fuck Kill", "Dog Farts", "Kill the Hosers", "Religious Bumfucks", and who can forget, "Ronald McRaygun".

9) Landing On Water - Neil Young. In spite of the proliferation of synthesizers, Neil has managed another hard-rocking album, a welcome relief from the country drivel of "Old Ways" or the technogarbage of "Trans". (We did have another album to put in this slot, but it was a little legally dangerous to print. Ask anyone at math-NEWS for details.)

10) XBGLZRMP - Ginger Baker. A double live album from the former Cream drummer. Features a 43-minute drum solo that takes up both sides of album one and part of album two.

Dr. Darryll

Math Column

Six colours of paint are to be used to paint each face of a cube a different colour. In how many ways can this be done if two colourings are considered the same when one can be obtained from the other by rotating the cube? The solution will be in the next issue of **math-NEWS**.

This problem comes from:
Yaglom and Yaglom; Challenging Mathematical Problems with Elementary Solutions: Volume 1; Holden-Day, Inc.; San Francisco; 1964; pg. 13

Now, for something totally different. Optimizing functions under constraints is an important growing area of mathematics. For many simple problems, the use of Lagrange multipliers is often effective. For certain well-suited problems with integer constraints on variables, the branch & bound method is a recently developed optimization technique.

Basically, picture the construction of a solution to an optimization problem as a search over a decision tree (see fig. below).
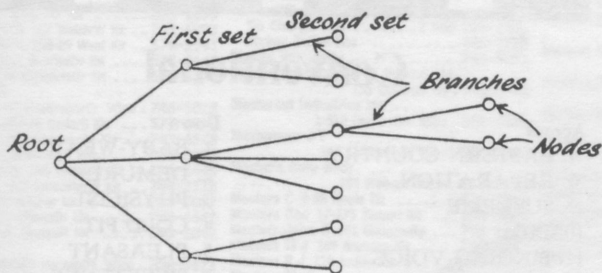
The total tree corresponds to all possible solutions of the problem, but the aim is to estimate the best possible results which can be attained down a branch early on in the construction of the branch so that masses of possible results can be eliminated. Owing to lack of space, I will just give a short example. Suppose we have a problem in 4 variables, say $X1$, $X2$, $X3$, and $X4$, each of which may assume values of 1 or 2 and a function $F(X1, X2, X3, X4)$ to be minimized. We can construct the optimal solution by assigning the values of $X1$, $X2$, $X3$, and $X4$ in turn. At each step, we require an estimate of the least value which the function F can take down either of the two possible branches, then take the branch with the lower bound. We continue in this fashion until we reach $X4$. For the problem $F = X1 + X2 - X3 - X4$, the final result is shown below.
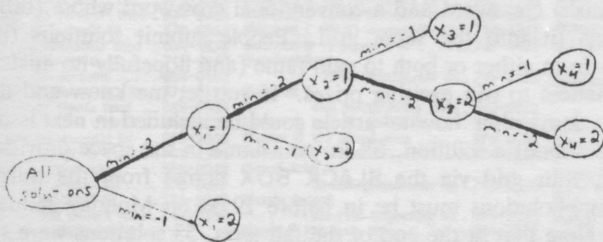
This discussion comes from:
Nicholson, T.A.J.; Optimization in Industry: Volume 1, Optimization Techniques; T. & A. Constable Ltd.; Edinburgh; 1971; pg. 123-125

The Final Alias

Good morning math-cadets. And especial greetings to those hapless 1B and 4B Co-op and Regular cadets who have just returned for their second consecutive tour of duty aboard the *W.S.S. Mathundergrad*... (cue mysterious sounding music with horn effects) .... and her four year mission to seek out new electives, identify new pseudo-prof-types, to boldly go where no frosh has ever gone before .... (cue theme tune) .... Yes, that's right, it's that all-time math-cadet favourite "Mark Trek". But the **mathNEWS**quizmaster digresses. Just simply turn down the volume on your auto-prof, and examine .....

mathNEWSquiz #13

1. Who authored the science fiction classic "The Invisible Man"?
2. By what name is the following dictum known: "In a hierarchy, every employee tends to rise to the level of his incompetence."
3. Which body of water separates Newfoundland from Cape Breton Island?
4. Where did Crosby, Stills and Nash board the "Marrakesh Express"?
5. What was the name of the great military and naval expedition sent by Phillip II of Spain to invade England in the Summer of 1588?
6. Who said: "I could dance with you till the cows come home. On second thoughts I'd rather dance with the cows till you come home."
7. Which classic of the "film noir", based on a Graham Greene screenplay, was filmed in Vienna, and starred Joseph Cotton and Orson Welles?
8. Who is the "Pocket-Rocket"?
9. Name the short story that begins with the following lines: "When I go into a bank I get rattled. The clerks rattle me; the wickets rattle me; the signs rattle me; the sight of money rattles me; everything rattles me . . ."
10. What do "The Lodger", "The Lady Vanishes", "Notorious", "Rebecca" and "Rear Window" share in common?

Quiz solutions may be submitted on or before January 26, 1986, in the "Black Box" on the third floor outside the C+D Lounge. Consideration will be given to all solutions, and yet another skilled **math-NEWS**quizexpert will be announced along with a the solutions to **mathNEWS**quiz #13, plus a brand new **mathNEWS**quiz, in the next issue of (your friend) **mathNEWS**.

And now, for all those mindless drones (up front) in "Keener Row", here are the solutions for **mathNEWS**quiz #12: Sherlock Holmes first appeared in "Beaton's Christmas Annual for 1887"; the Mohawk, Oneida, Onondaga, Cayuga and Seneca nations comprised the Iroquois Confederacy; the Beaufort scale; Charles Lutwidge Dodgson is Lewis Carroll (just ask Alice); the Alamo; "The Zombies" recorded "Time of the Seasons"; Ethel Merman was "Lola Lasagne" on "Batman"; Cuba; "The Cremation of Sam McGee" by Robert Service; and Arsenal, Aston Villa, Notts Forest, Tottenham Hotspur and West Ham United are all English Premier Division Football (Soccer) Clubs.

"Full pints" (sorry, that's "Full Points") to **mathNEWS**quizexperts . . . . . . Thomas&Eliot for their brightly coloured solution to **math-NEWS**quiz #12 submitted over Christmastime. Be sure to bring your "Quote of the Week" to the MathSoc office (MC 3038) when you pick up your prize and especial **mathNEWS**quizcertificate. Good luck to all aspiring **mathNEWS**quizexperts on this **mathNEWS**quiz and tune in next issue for more **mathNEWS**quiz.

the **mathNEWS**quizmaster.

GRIDWORD

Cryptic

Across

4. By the sound of the clock upstairs (5)
6. Normal to urge an American city right (7)
8. The intervening time or average period (9)
10. Keats wrote about meat (5)
11. Encountered the right love on the French subway (5)
12. A measure flaming about (5)
13. At the end, I laughed at the thing from the island country (5)
15. Back a nobleman around no salivation (5)
18. The limb completion has no direction awry hence is mythical (9)
20. Wrap up the group era? (7)
21. Vigorously act out of hesitation with time (5)

Down

1. A pigpen noted directly and put in an awkward position (6)
2. Many an uncooked sketch (4)
3. Completely literate of the sickness every new trainee starts (6)
4. Maps near the French articles (5)
5. Rice Krispies are sounding for a street drug and a long fish (9)
7. Traveled over no cowboy exposition (5)
9. At this moment, I am a doctor above one tea arrangement (9)
13. Has Bob or my brother initiated a nuclear device? (1-4)
14. Exist as earth in the ocean (5)
16. An elementary need of combustion (6)
17. Soundly a linear arrangement of the composer (5)
19. One edition holds a necessity (4)

Who ....
First time ....
Comment ....
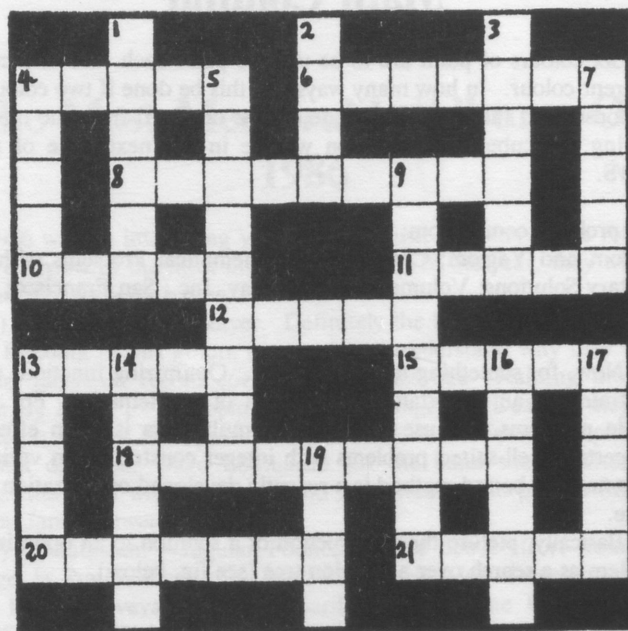
Conventional

Across

4. EASTERN COUNTRY
6. REPARATION
8. SUPREME
10. BIG
11. SINGING VOICE
12. ELSEWHERE
13. CLEAN INTENSELY
15. FILM
18. SPECULATIVE
20. SUNSHADE
21. DAMP

Down

1. BABY-WEAR
2. DEMURE
3. PHYSICIST
4. COLD FIT
5. PLEASANT
7. SWEETENER
9. FINAL OFFER
13. BRUSH AWAY
14. GO TO REST
16. ONE WHO SUFFERS
17. PERFORM
19. GOVERN

Did you know...?

Did you know...

that there is an underground river running under the new ICR building, and that it's foundation has shifted twice in the past three weeks?

that members of the mathematics faculty are required to participate in bizarre cult rituals in order to become full professors?

that twenty participants in the last pub crawl have mysteriously developed Legionnaires Disease from drinking a shooter called "the Big Surprise"?

that of three of the only seven living doctors of pedalogical proctology received their degrees from the Faculty of Environmental Studies?

that the library, contrary to popular belief, is, rather than sinking, rising as a result of an enormous geothermal bubble which vents through the central services smoke stack?

that the entire collection of paintings removed from the Louvre by the Nazi's during WWII, and which are as yet unrecovered, are sitting in boxes marked "Not to be opened until April, 1996" residing in the basement of the Conrad Grebel College?

Amazing, isn't it??

MLE
(emily)

Comments of the Revival GridWord

Welcome back everyone from Christmas and from co-op terms. I will again attempt to supply you with a term of enjoyable (?) GridWords. For those of you who may be new to the game, GridWord is the **mathNEWS** 2-in-1 crossword puzzle/contest. It is both a cryptic (or British) crossword and a conventional crossword whose (different) solutions fit into the same grid. People submit solutions (if they desire) from either or both to gain fame (and hopefully no misfortune) and chances to win exciting prizes. If you let me know and there is enough demand, a 'how-to' article could be included in next issue.

To submit a solution, fill in your name in the space provided and deposit your grid via the BLACK BOX across from the third floor lounges. Solutions must be in before 19:00 on Monday January 26, 1987. Note that at the end of the fall term, 53 solutions were submitted, so I demand at least as many from this term who are more familiar with my GridWords. As always, constructive or destructive comments are appreciated.

One more final comment: Viel Glück! (the umlaut dynasty lives on)

fletniowski