Friday, March 16, 1984
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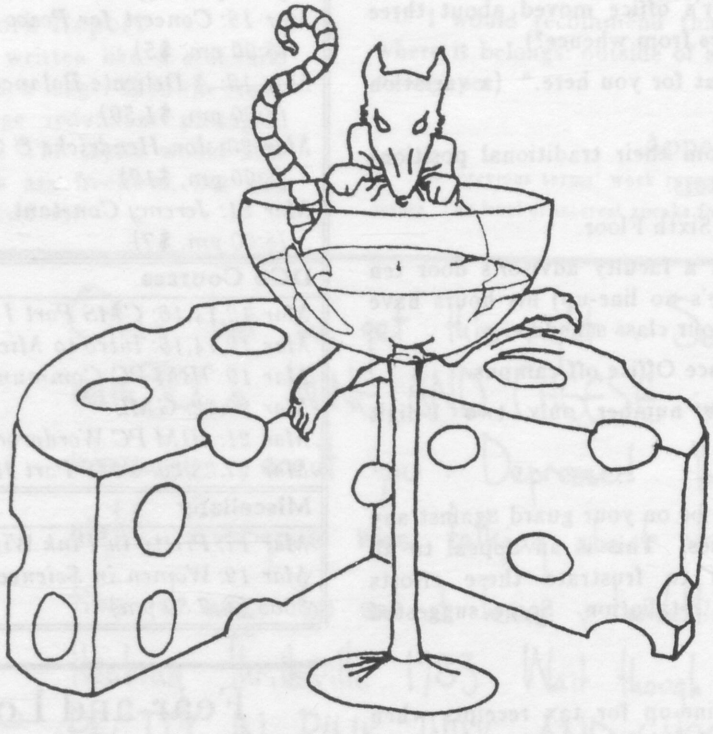
math NEWS

MathSoc Wine & Cheese



-ijdt-

Pretty in Pink

This Saturday (the 17th) 9:00 pm at SCH

Easy Points

It has come to the attention of this paper that there is currently in operation a sinister game played by the clerks and administrative personnel nominally serving students.

According to our sources the game is constructed to award points on the basis of frustration the employee can induce in a student. Top point scorers are reported to receive prizes such as money, vacations and student's head on a platter. Rumour has it that the game was introduced to UW by a former Revenue Canada employee...

Some of the easiest ways to score points are outlined below:

1. Closing all wickets in the Cashier's Office when only four people are in the office (in order to play bridge.)
2. Directing students to the "Old Cashier's Office" for tax receipts (the Cashier's office moved about three years ago; who remembers from whence?)
3. Saying, "We can't do that for you here." (a variation on "Not at my desk")
4. Removing floor plans from their traditional positions on the walls by the elevators.
5. Having *any* office on the Sixth Floor.
6. Just when you arrive at a faculty advisor's door ten minutes early (and there's no line-up) his hours have been changed to match your class schedule.
7. Moving the Correspondence Office off-campus.
8. Making the UW phone number only two 1-digit finger-s.IPs from mine.

You are hereby warned to be on your guard against any of the aforementioned activities. This is an appeal to all semi-concious math students to frustrate these efforts through individual or massed retaliation. Some suggested actions follow:

1. Get in the M-Z (A-L) line-up for tax receipts when your name begins with A-L (M-Z).
2. Request a tax receipt for your donation to Columbia Icefield.
3. Harass the information lady on the fifth floor (eg. ask for detailed (number of paces, etc.) instructions on how to get to room 6034.5B and then repeat them back to her incorrectly; repeat this as many times as necessary).
4. Use the phone in the terminal rooms to report non-existent problems to the operators.
5. Pay your fees in cash (preferably in $1 bills).

Other suggestions are welcome. Remember that the only good clerk is a confused clerk.

- Jane Roberts

Crystal Ball

A glance at upcoming events

Fed Flicks

Mar 16-18: The Lords of Discipline
Mar 23-25: Flashdance
(AL 116 @ 8:00 pm --- $1)

Cinema Gratis

Mar 21: Changeling
Mar 28: The Day the Earth Stood Still
Apr 4: A day at the Races / A Night at the Opera
(CC @ 9:30, exc. Apr.4 @ 8:00)

Arts Centre

Mar 13-17: Doctor Faustus
(8:00 pm, $4)
Mar 18: Concert for Peace
(8:00 pm, $5)
Mar 19: A Delicate Balance
(8:00 pm, $1.50)
Mar 20: Jon Hendricks & Company
(8:00 pm, $12)
Mar 21: Jeremy Constant
(8:00 pm, $7)

DCS Courses

Mar 12,14,16: CMS Part I
Mar 12,14,15: Intro to Micros
Mar 19: IBM PC Communications
Mar 20,22: GML
Mar 21: IBM PC Wordprocessing
Mar 27,28,29: CMS Part II

Notes: DCS courses are free of charge

Miscellany

Mar 17: Pretty in Pink Wine & Cheese
Mar 19: Women in Science and Engineering, general meeting (PAS 3005 @ 7:30 pm)

Fear and Loathing in CS375

Friday. CS375. B's class. There she is up at the blackboard, telling us all about the Wonderful World of Cubic Spline Interpolation. Ugh! She just wrote a differential equation on the board! This is too much for Larry. *No!*, he screams, *You can't be serious!* Larry flicks off the safety on his M-16. *I can't stand it any more!* he yells, as he opens fire on her. Larry empties the magazine on her, but it does not seem to have any appreciable effect. *You're right*, she says and promptly erases the offending d.e. *Shit!*, you think, *this class is really dragging. It must be nearly over by now!* You look at the clock only to find it says 10:00. So does your watch. You try to get up to leave, but can't because of the shackles on your ankles. Besides, you don't have anywhere to go. There is no door in the room. There are also no light smitches. Or windows. We're going to start a new topic: polynomial interpolation. You'll study this in detail when you take fourth-year numerical analysis courses.

- Melvin Vockler

mathNEWS ≠ Work Report?

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Acknowledgements

I would like to thank DCS for providing a system to write with, Canon for providing a laser printer to print with, and Watts for providing a editor to edit with.

mathNEWS ≠ Work Report

If mathNEWS articles were written like a standard work term report, they would be much longer than the standard article. There would be huge redundant passages, which mathNEWS usually avoids. The topics would also be more restricted; typical articles are freeform, but the work term report format is strictly laid out.

The watchword of work term reports is **redundancy**. Everything must be repeated. Nothing is stated only once. A typical idea is mentioned:

1) In the table of contents
2) In the summary
3) Several times in the body
4) In the conclusions
5) In the recommendations
6) In the appendices (if appropriate)

In order to shorten the length of this part of the report, I will use the abbreviation "etc".

Etc., etc.,etc.

Conclusions

This is so boring that it is not worth reading. Stop now if you have read this far.

Recommendations

I would recommend that the work term report stays where it belongs: outside of an otherwise interesting student newspaper.

Appendix A

See previous terms' work reports, compare to mathNEWS previous issues The level of interest speaks for itself.

BLScearce

mathNEWS Budget

Printing costs	$ 1400
Text processing costs	$ 800
Production materials	$ 100
Letraset and Geotype	$ 50
Production night pizza	$ 75
Computer supplies	$ 125
Subtotal	$ 2550
- Faculty computing grant	$ 800
Total	$ 1750

effectively upgrades Beyond
column or
for This Term
EWS
Complex
1981Q
mathNEWS
You hear
The Icon
Pages: 2
Article
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If
a signpost somewhere
(MC3038)...
the Entertainment
Bionic Beaver
about
Wine

Okay. Let me get this right. So you didn't go to mathSOC's WINE AND CHEESE in the summer. You're miserable, aren't you. Depressed. You did nothing that night. Everyone was talking about it — what a great time it was. You sat at home, twiddling your thumbs, thinking Thrillsville 1983. Wait though, don't do it! The PRETTY IN PINK WINE AND CHEESE is this weekend in SCH. Yeh, this SATURDAY THE 17th at 9 p.m. You've got another chance. So bring your wallet cause its $4 for MATHIES and $5 for OTHERS. TICKETS are in mathSOC. Oh, and don't forget your PINK TIE so you can get FOUR FREE GLASSES of WINE. Yeh, for sure. And once you get in, you get EACH GLASS for 25¢ and you can dance all night. So now that you've got the chance, don't miss it!

Theory vs. Practice

A Field Guide To Self-Defensive Mathematics As Applied To Engineering

We shall start our discussion by considering an analytic, homogeneous, *n*th order, semi-symmetric, omnisinusoidal, mutually independent, orthogonal, trijective, tertiary, rationalized, tangential, super-differential, cyclic, quadrihedral, diagonalized, resonant, non-linear and metaidempotent field as expressed in a pseudo-conical hyper-imaginary co-ordinate system by the following equation:

$$\frac{h^2}{8\pi^2 m}\left[\frac{1}{r^2}\frac{\partial}{\partial r}\left[r^2\frac{\partial\psi}{\partial r}\right]+\frac{1}{r^2\sin\theta}\frac{\partial}{\partial\theta}\left[\sin\theta\frac{\partial\psi}{\partial\theta}\right]+\frac{1}{r^2\sin\theta}\frac{\partial^2\psi}{\partial\phi^2}\right]-p\psi=\frac{h}{2\pi i}\frac{\partial\psi}{\partial t}$$

We claim that all properties of the universe may be easily derived from this equation! For example, substituting

$$\left[\frac{cb\bar{b}-d\bar{b}a}{|a|^2+|b|^2},\frac{d\bar{a}a-cc\bar{a}b}{|a|^2+|b|^2}\right]$$

or β yield $e^{i\pi}=23$ which is the fundamental equation of molecular motion within a 4-dimensional hyperconic vector field.

Engineers have been led to believe (and have indeed proved by experimentation) that this holds for closed, open or differentially permeable systems; however, any mathematician can prove by using numerical methods (i.e. the repeated application of Flanagan's Finagling Fudge Factor, or F^4) that this is not the case. In fact (according to conventional mathematical theory) $e^{i\pi}\neq 23$ - indeed, it equals something else!

We will now rewrite our original equation in a slightly simpler form, namely:

$$\psi=\frac{e_L}{4\pi\epsilon_0}\left\{\bar{a\epsilon}\int_{-\infty}^{\infty}\frac{edL}{\left[e^2+(L-z)^2\right]^{1.5}}-\bar{a\theta}\int_0^{2\pi}\frac{\theta d\theta}{\left[e^3+(L-4e^{i\theta})^2\right]^e}+\bar{a_2}\int_{-\infty}^{\infty}\frac{(L-z)dL}{\left[e^2+(L-z)^2\right]^{1.5}}\right\}$$

(Statisticians will immediately recognize this as the Lagrange derivation of the hyper-geometric Q distribution in the standard vector space with 3.14 degrees of freedom.) The alert student will automatically convert this to trapezoidal co-ordinates, producing $e^{i\pi}=\pi^{ie}$.

Clearly, we have a contradiction between the mathematically sound derivation given above and the parctical (except in first-year labs) methods used in engineering - a real quandary!

Fortunately, a new branch of mathematics has arisen from the need for both predicted and practical results to be equivalent. We start with the assumption (first stated by a gentleman named Murphy) that, given time, all things tend to go funny (unless they are supposed to, in which case they don't.) The first basic building block is the McLaughlin-George equation:

$$\varsigma=\frac{|\psi|^2\Delta x\ \Delta y\ \Delta z}{\int_{-\infty}^{\infty}\int_{-\infty}^{\infty}\int_{-\infty}^{\infty}|\psi^2|\,dx\ dy\ dz}\Delta t$$

where ς is the McLaughlin-George constant (hereinafter referred to as the 'Funny Factor'. Now, let's rewrite our original equation and differentiate with respect to ς. Substituting $\sin\varsigma=xy$ and throwing away all terms too difficult to compute gives us $e^{i\pi}=-1$, which is obviously incorrect.

Now we multiply by the Funny Factor, getting as a result

$$\iiint_{x^2+y=-5}\left[\frac{1}{i}ex^{-\mu}d\varsigma\right]=73+C$$

Obviously, C = -51; hence, 2 + 2 = 5, $i=\sqrt{17}$, and $e^{i\pi}=23$, which is what we want. As a result, numerical analysis and practical application agree with very little work necessary on anyone's part!

This high-tech, ultra-narrow, column is popularly knnown as the masthead. Why? Mainly because we usually call it the masthead. Tonight's staff was numerous as well as rebellious. However, the uprising was broken after a bloody exacto-knife fight and the arrival of the pizza. Tonight's authors included the following: Melvin Vockler (CS375), Ernie (Watsfic), Tom Ivey (Riddles, asm, xword, personals), WRoss (Burns), Vainamoinen (Languages), Marcel(entert.), Cary (MS report), Alfred (Math Column), Jane Roberts (Easy points), John Wieczorek (imperial, 69000), Lisa (orientation), BLScearce (work report), ... and Tom Watts (me, editor superior, author of Opinion and Hot Wheels). Production staff was just as numerous, including Anne (orderinge pizzae, proofereadinge MSreporte), Scooter! (standing in i/o room), Wross (pulling articles), Stewart (attempted cover), John Tauro (succesful cover), Chuck (production manager), Ernie (taping), TAlvey (taping, typing and ...), DWTill (basketball), Dan (popped in), Dan Lyons (ate pizza), Me (typed, made editorial decisions), Saeed (layout), Lisa (dropped in a few times). Air! Air! You may note this issue has been produced 100% using troff, naturally DCS's Imagen broke down, but (thanks!) we had the use of the MFCF Imagen to compensate. And we will NOT credit you-know-who with the Theory vs. Practice, being that he has threatened to relieve me of this wretched life. Scooter!'s just gone, and Tom Ivey's going (only to see Nancy) --- and yet it's still before midnight. Does the lecturer hold your interest. Certainly not if you are reading this drivel... and it's nnow time for: 171 % logout

It was Homer, the famous Greek poet, who said:

$$\kappa\beta\varepsilon\gamma\pi\pi\delta\beta\ \gamma\iota\eta\beta\tau\phi\sigma\mu\chi.$$

which, roughly translated, means "I don't know what the hell they're talking about either." But the mathematical order and beauty of the whole system of thought constructed here cannot be expressed in ordinary language; we must instead turn to the writings of the famed mathematician Rev. Charles Hodgson, who once wrote:

> Did gyre and gimble in the wabe
> All mimsy were the borogroves,
> and the mome raths outgrabe...

Desired (Undesired)

Lost - As of press time, 137 high school students are still missing and unaccounted for somewhere in the Math building. If you find one, write 'Return to Sender' on it and deposit in the nearest internal mail pickup point.

Urgent need for editorial concubines!! No experience is necessary, hours are good, and advancement to position of Concubine-in Chief is possible. Apply today!

Avatar Services is offering another two-week special. Talk to us now about arranging to have us work at your work-term job should you find the job distasteful, etc. Serious enquiries only, c/o **mathNEWS**.

Milllonaires overnight! Yes, that's what you could be if you enroll in the famous Weber Street Institute of Computer Science. After a two-week intensive training course involving programming the Timex Sinclair and learning to tear paper correctly, you will be awarded a **Certificate** of Computer Science and will enter the new and rewarding field of janitorial work.

It's just not working anymore, Reynaldo. Goodbye - B.

Oh Wicked Wendy! Will romp in the snow anytime with you!

Dave and the Seven Dwarfs of Dungeon wish the Merry Maidens of Garret a Bonny St. Patrick's Day.

This ad separates the other two, ok?

Help C.B., she's burning up!

To the Merry Knights of Dungeon - Ready for balloon worship?

Lost - Very pretty collection of universes in form of hexagonal multiverse with several shiny rhyming couplets. Small reward offered for recovery within 60 days. Sentimental value only.

Watsfic AD&D Format Tourney

On the weekend of March 3rd and 4th twenty-four six player teams converged on the Engineering Lecture Hall to play round one of the spring tournament. The top ten teams advanced to second round on Sunday morning. As second round was a real test of player's (and D.M.'s) abilities, eight teams came in third place. The second place team was **The Fallen Gods and Ronald M. Green**. The winning team was **Who Cares?** (that really is their name).

Watsfic would like to thank Gilles Dignard and Mike Walma for writing first round and Stewart Melanson for writing second round. They also extend their gratitude to the D.M.'s for their time and effort and to the players for making the tournament a success. A special note to the losing teams: Watsfic is selling copies of the tournament in the Watsfic office (MC 3036). Just ask any executive member.

- Ernie

MathSoc Report

— by Cary Timar

At MathSoc's council meeting of Tuesday, March 6, we were honoured by the presence of Gord Denny, the President of EngSoc.

We were informed of the existence of a Student Advisory Committee to the Department of Co-ordination and Placement. This committee is composed of interested students from all faculties involved in co-op. The committee meets with a co-ordinator on alternate weeks to present ideas. The committee needs new members from Math, so anyone who is interested should see someone from MathSoc, or one of our current SAC members -- Steve Hagar, Brett Martin, or Natalene Fong.

Steve Maulsby told us that the Descartes Foundation received favourably a suggestion to establish a study lounge in the current third floor smoking lounge..

A problem has arisen over the scheduled CFNY Road Show. The show is booked for March 29, as planned, but SCH, where it was to be held, is booked by Kin, and they are not interested in co-sponsoring the show. A number of suggestions were proposed, including one to give the show to EngSoc, who have a booking for that night at WMI already. We are discussing sharing the show with EngSoc and their Beer Brewing Contest.

Other topics discussed:

MathSoc has donated money to the EngSoc Bus Push. A scavenger hunt for a Sytek box. More Math T-shirts are being ordered. MathSoc is donating $1000 to the Math Grad Ball. All future MathSoc room bookings must now go through the Office Manager. MathSoc intends to go to Oktoberfest this fall, and preparations are starting now. MathSoc has ordered a new paper trimmer and a changeable directory board to advertise important faculty and society events. Steve Lightstone resigned as Social Director; no new one is being appointed this term.

Opinion

A case against Canadian content legislation

The week of February 27th to March 2nd was declared to be a so-called "Canadian Content Week". During this week, several groups ran full-page advertising in major newspapers promoting Canadian-content legislation for the automobile industry. According to their claims, (1) Everybody else has that kind of legislation, (2) If none is implemented, everybody in the auto and related industries will be losing their jobs, and (3) The legislation would force Fair Trade. I feel these people are misleading the public in their zeal to protect the North American auto industry, and in the following paragraphs I hope to explain the main points of my argument.

The Canadian Content Legislation Committee (CCLC) claims that the situation in Canada, where imports (i.e. non-North American vehicles) have 30% of the market share, is among the worst in the world. And yet, taking a cursory look at the statistics for most Western European countries' statistics shows that there the imports are at least as important. In Germany, the imports' market share now exceeds 30%, and in Sweden, the share is around 60%. Neither of the countries has any local-content legislation or quotas. Many European countries have relatively high customs duties, but anyone willing to pay these duties can buy any type of car they wish. One of the examples given by CCLC as having local-content legislation, is Mexico. If one examines the selection of new cars available in Mexico, one can find three models by each Chrysler, Ford, GM and Volkswagen, and few others. The local-content legislation limits each and every manufacturer in what models he is able to offer, especially in a very small market such as Canada.

It is also notable that there are no import restrictions to Japan. However, there imports havea mere 2% share of the market. Why? the answer lies in the fact that the average Japanese buyer can find what he/she wants in a car, at a suitable price, from a domestic manufacturer. One may note that in Japan, GM has less than half the share of Volkswagen — who has to ship their cars halfway around the world. Does this not imply some lack of quality and/or value on GM's part? In Germany, the imports have been gaining a share of the market recently, but local-content or huge tariffs are not under consideration, as the Germans do not wish retaliation by other countries against German cars. Instead, their auto industry is striving to produce better cars, at lower cost, and of higher quality than the imports.

In North America, the auto industry did not see fit to offer the public a decent small car until the Escort appeared a few years back. The only small cars before that were the antiquated Chevette, and the Omni, a not-so-succesful imitation of a Rabbit. The companies pushed us Impalas, LTDs, Hornets, LeBarons, Fairmonts... Now the Big Three are coming out with Pontiac 6000STEs, Eurosports, Turbo T-Birds and similar, all modelled after the imports. Why did not offer us these kinds of cars a few years back, when their market share had not yet begun deteriorating? They had seen the success of the Beetle in the 60's, the Rabbit and Honda in the 70's, and yet they saw fit to offer the public the same goods, just with a new grille fited for this model year.

Last year, Ford begun advertising "Quality is Job 1". This new trend in the North American auto industry is something that should have happened years ago. You may or may not remember one of the famous Beetle ads of the 60's, "Lemon"; this was a Beetle rejected by a quality inspector since the glovebox door chrome strip was blemished. The European and Japanese manufacturers have been stressing quality for decades; the Big Three have seen it fit to give the consumer an inferior-quality product (FORD - Fix Or Repair Daily). Further, by stressing efficiency, the Japanese are able to produce their vehicles at a much lower cost, even after shipping them over the Pacific.

As I see it, the auto industry does not need higher tariffs or local-content legislation to survive; it needs better products, higher quality, higher efficiency and better study of the needs and desires of the car buyer. If we can not beat the imports in honest competition, I really don't think we should have an auto industry. My second main point is from the consumers: each and every car buyer should have the freedom to choose any car he/she judges to be the best value for his/her money, regardless of where it is made, and not have to accept inferior products at higher prices, as happened in Australia after the imposition of local-content legislation. I wonder if the Bill of Rights has anything about the right to choose any new car one wishes to buy...

Tom Watts

Last Issue's Crossword

Last issue's crossword was of the scrambled cryptic variety. The number and letter is listed for every entry:

Across: A 17. November, B 10. Task, C 25. Emerald, D 14. Berate, E 8. Messenger, F 22. Everybody, G 21. Nun, H 1. Regular, J 9. Nip, K 12. Consoles, L 15. Wiggle, M 24. Sorts, N 5. Homer, P 18. Herd

Down: Q 4. Region, R 16. Revere, S 14. Bananas, T 1. Remit, U 23. Ova, V 6. Monologue, W 2. Gas, X 3. Lien, Y 13. Stammers, Z 20. Pyre, AA 11. Scrivener, BB 7. Riposte, CC 19. Dryad, DD 5. Hardship

This week we had a hoard of people submit solutions. Yes, we finally believe people are beginning to read our rag. Six people submitted entries, and lo and behold, all were correct. The judges had a hard time choosing the winner but after several seconds of deliberation **Grace Logan** of the Arts Computing Office won out. You may collect your prize at the Mathsoc Office, Grace. A special note to Charlie Eagan who also submitted a correct entry. You would have won, Charlie, had your entry been more aerodynamically sound. Try a different design next time.

An Apology

mathNEWS would like to present a formal apology to Jonathan Koven, whose excellent T-shirt design proposal was thoroughly mutilated for our last issue's cover. The original design, being too small for a cover, was multiply photo-enlarged, and then traced through for higher quality. At this stage it did not look *too* bad. However, a person to remain unnamed (you know who you are!) subsequently decided to do some shading on the design, and the result could be seen on last issue's cover. Our apologies! (note: the design might yet appear on a Math T-shirt — stay tuned.)

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mathNEWS is a biweekly phenomenon this term funded by, but otherwise independent of, the Mathematics Society at the University of Waterloo. Content is the responsibility of the **mathNEWS** editors and staff, although they will probably deny it. Any opinions expressed herein were those of the writers (and occasionally the typists), and were not those of MathSoc or **mathNEWS**. Send your correspondence to **mathNEWS**, MC3035, University of Waterloo, 200 University Ave. W., Waterloo, Ontario, Canada, N2L 3G1.

Editor-in Chief: Tom Haapanen

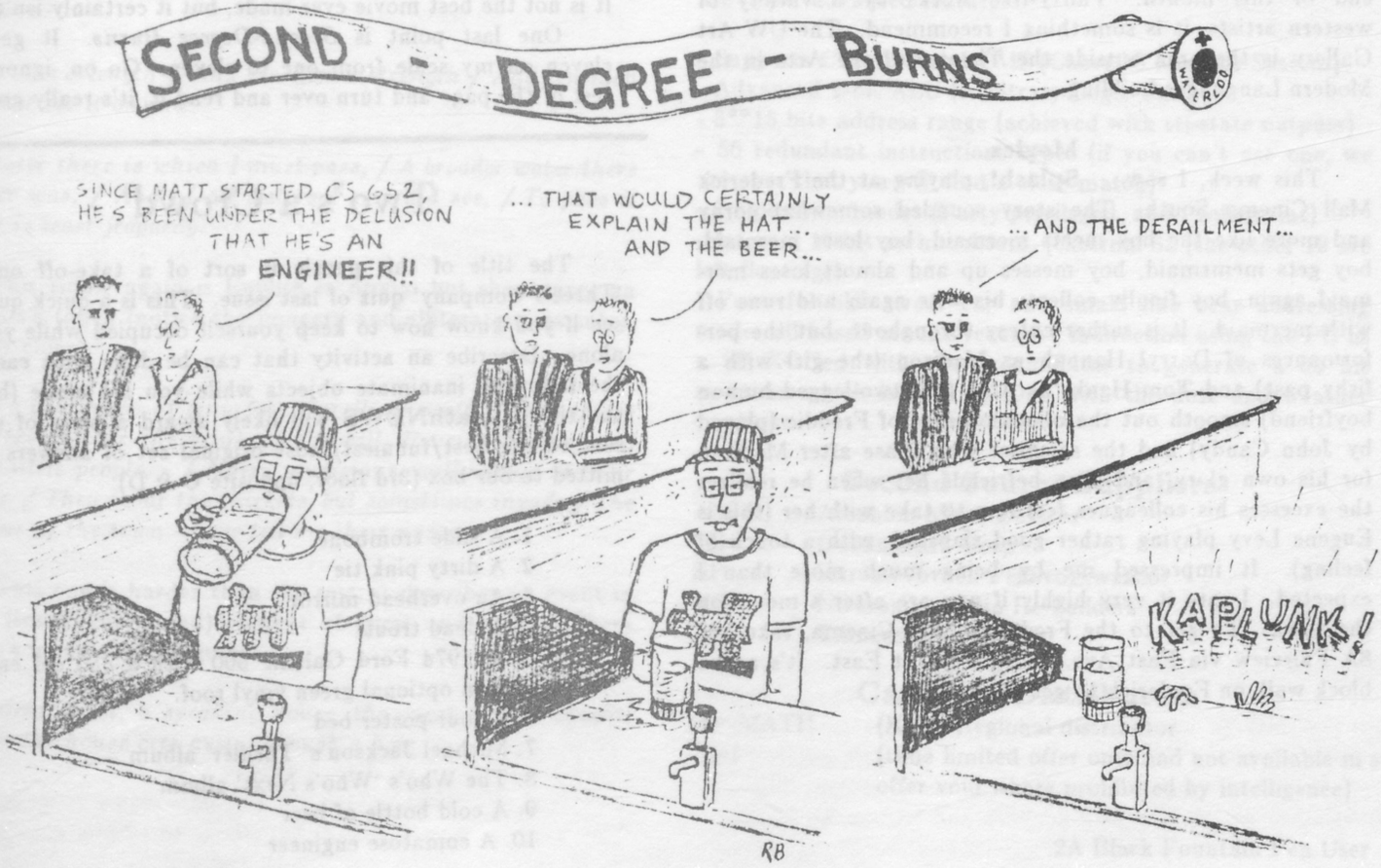
Orientation '84

For all you Big Brothers and Sisters who have been wondering how Orientation is coming along, here's an enlightening note. First of all, blank envelopes are now available in the mathSOC office for those of you who know your summer workterm addresses. Please fill out three envelopes. Also money ($45 cash or cheque) can be brought to the MathSOC office as we have a treasurer, namely Mark Haygarth. Mark will be accepting money and size and colour preferences for the orientation shirts until March 31. The shirt choices are pink with black lettering or black with pink lettering. Unfortunately the pink is available only in female sizes although a large female shirt is equivalent in size to a medium male shirt.

Many of the directorial positions are STILL open. Experience is not necessary, so if you're interested come find me and we'll chat. And if you don't know exactly what you'd like to do we can chat anyways. Those of you that have left me notes expressings your interests or suggestions will be hearing from me in the coming week.

Keep an eye out for flyers advertising the next meeting and we'll see ya Saturday night at the Wine and Cheese.

Later, Lisa Seabrooke
Director of Orientation



Entertainment

by Marcel Kahnt

This issue we look at the last two Fed Flicks, two more of the Cinema Gratis features, **Splash!**, and the UW Arts Centre activities, the Fed activities, and something special from the folks at MathSoc.

Tomorrow night at South Campus Hall, MathSoc will be hosting the *Pretty in Pink Wine & Cheese*. At 25 cents a glass and a four dollar admission fee (five if you aren't a Mathie), it ensures to be the usual colossal success it has always been. It starts at 9, but you should try and get there rather early before I've finished off too many bottles.

Tonight in the Arts UnderGrad Common Room in Hagey Hall (it's on the second floor facing on the inner courtyard across the hall from the balcony level of the HUManities theatre), the *Folk and Blues* Club of the Feds Creative Arts Board is hosting another Coffeehouse. For good folk music free of charge, this is an excellent evening, starting at eight.

UW Arts Centre

For simply great jazz, Tuesday at 8pm will see the *ONLY* Canadian performance of **John Hendricks and Company** at the Humanities Theatre. This is a strongly emphasized "Must See" item if you want to have a good evening of incomparable Grammy-award winning jazz. Keep the twentieth in mind.

If you have some spare time, the UW Art Gallery is showing the **University of Regina Exhibition** until the end of this month. Thirty-five works by a variety of western artists, it is something I recommend. The UW Art Gallery is the area outside the Theatre of the Arts in the Modern Languages building.

Movies

This week, I saw **Splash!**, playing at the Frederick Mall Cinema South. The story sounded somewhat corny and more like the boy meets mermaid, boy loses mermaid, boy gets memrmaid, boy messes up and almost loses mermaid again, boy finally collects his wits again and runs off with mermaid. It is rather cutesy throughout, but the performances of Darryl Hannah as Madison (the girl with a fishy past) and Tom Hanks as Alan (her two-legged human boyfriend) smooth out the obnoxiousness of Freddie (played by John Candy) and the scientist who chase after Madison for his own glory, and then befriends her when he realizes the excesses his colleagues feel free to take with her (this is Eugene Levy playing rather good slapstick with a touch of feeling). It impressed me by being much more than I expected. I rate it very highly if you are after a movie on the town. To get to the Frederick Mall Cinema, take bus 8A Fairview via East Ave. and get off at East. It's a one block walk on Frederick to get to the mall.

Fed Flicks

This weekend is **The Lords of Discipline**, a movie about which I know next to nothing. From what I am told by those I ask, it is a story of one cadet's fight in a military academy against the rather forceful screening out of "undesireables" through outright beatings and persecutions.

Next weekend is the last of this terms Fed Flicks, **Flashdance**. The story of a welder who's ambition is to be a dancer, it is the source of some great modern music (his personal opinion -ed.). I do tend to agree with what Fred Astaire said about the movie in that the dancing that is in today's movies is really little dancing with grace and skill and more sexual fantasies acted out in public. It is a not-too-bad movie, but don't go expecting a **Casablanca**-quality picture. I am not panning the movie; it's that it just isn't my cup of tea.

Cinema Gratis

I thought **The Changelling** would be a terrible movie along the line of the constant fear of **The Shining** (In terrible I mean horror, scary, frightening, grotesque, eek!). I was quite impressed by the way it is actually presented. It is very suspenseful without constantly causing you to turn your eyes. I think it might be one of the first horrifying movies where you can be scared without much gore.

The Day the Earth Stood Still is perhaps the classic of the Science Fiction genre. It was made in the mid '50s and has set much of the conventions for present Sci-Fi standards, including the ramp being pushed out from inside the craft, the brightly lit interior, and the metallic space suits. It is not the best movie ever made, but it certainly isn't bad.

One last point is *Second-Degree Burns*. It gets an eleven on my scale from one to eleven. Go on, ignore the rest of the page and turn over and read it, it's really good!

Two's a Crowd

The title of this puzzle is sort of a take-off on the 'Three's Company' quiz of last issue. This is a quick quiz to see if you know how to keep yourself occupied while you're alone. Describe an activity that can be done with each of the following inanimate objects while you are alone (hence the title). **mathNEWS** will likely award a prize of some sort to the best/funniest/most original set of answers submitted to our box (3rd floor, opposite C & D).

1. A slide trombone
2. A dirty pink tie
3. An overhead mirror
4. A dead trout
5. A 1974 Ford Galaxie 500 with a 350 cid engine and an optional green vinyl roof.
6. A four-poster bed
7. Michael Jackson's 'Thriller' album
8. The Who's 'Who's Next' album
9. A cold bottle of beer
10. A comatose engineer

Riddlequest

Hopefully the return of this column will be met with great rejoicing. Because of various and sundry factors (excuses, excuses, ...) last issue's column was impossible to research for or write. This week I hope to bring you a new collection of riddles to mystify, ratify, vilify, and satisfy all.

1. How about a few easy ones to warm up with? The first two are by Claretus de Solencia, a 14th-century Czechoslovakian cleric, while the third is of Arabic origin.

A vessel have I, / That is round like a pear, / Moist in the middle, / Surrounded with hair; / And often it happens / That water flows there.

In cavern moist my flesh doth lie, / And with this wriggling piece pray I.

There are two splendid horses, one black as pitch, the other of shining crystal; each runs ahead of the other but never catches it.

2. These three riddles originated in 15th and 16th-century England, authors unknown:

What is it - That hath five legs on the one side, and three on the other, / Heads three and ears six, and two things like my mother, / And yet such another thing as hath my brother?

Ten men's length / And ten men's strength / And ten men cannot set it on end.

A water there is which I must pass, / A broader water there never was, / And of all waters I ever did see, / To pass it over is least jeopardy.

3. This riddle again is English in origin, but show more an artists's touch (notice the imagery and alliteration, as subsidiary clues):

There is a troop of tiny folk travelling swift, / Brought by the breeze over the brink of the hill, Buzzing black-coated bold little people, - / Noisy musicians; well-known is their song. / They scour the thickets, but sometimes invade / The rooms of the town - Now tell me their names.

4. This one is harder than the rest; it describes an event in the (totally unrelated) context of guest and house. There aren't many clues to go by:

A silent guest, a speaking house; the guest will be caught, while the house gets away through a hole.

5. This Talmudic riddle is unsolved. I have a few ideas for an answer, but if anyone out there has a good answer, drop me a line via the mathNEWS box (we'll think of an appropriate prize later ...).

High from heav'n her eye looks down, / Consisten strife excites her frown, / Winged being shun her sight, / She puts the youth to constant fight, / The angel, too, her looks do scout, / "Oh! Oh!," the fugitive cries out, / And by her snares whoe'er is lured / Can never of his sin be cured.

Tom Ivey

Technical Release

Originator: Straight from the Renowned Sili-Cognac valley in the USSR

The Stuff: The QX69000/12 microproccessor

For over two years our most brilliant technicians and spies have been working on the Soviet Unions first 8th Generation computer. At present we are 3 generations ahead of the capitalist lackies running imperialist dog sham technology of even the best researh facilities in the decadent immoral warmongering West (Wunderloo of course).

This new computer offers many salient advantages over what was previously thought to be state of the art. Some of the hyper-advanced features:

- Supports ChevrOS and CMS (ChevrOS Monitor System)
- Advanced 2-bit ALU (Arbitrary Logic Unit)
- 3**15 bite address range (achieved with tri-state outputs)
- 56 redundant instructions types (if you can't use one, we are *sure* that you will find a close match)
- 2 Operating modes (Party privileged, and Prolietariat)
- Internal 13-bit architechture, (external 32 (the other 19 are left floating))
- Powerful like street car and smart like bear addressing modes all based around recursive indirection using the PC as a SP XORed with the accumulator to generate a 69 bit mantissa which is then ANDed with the date and weather conditions.

Second Source Suppliers

AMD	Albanian Micro Devices
CDC	Cuban Data Corp
HP	Hurchiovovoch Pranvozxwzznoc
NCR	Nicaraguan Chip Re-builders
TI	Tihnquska Industries

Canadian Distributors

chevMATH	(K-W) Regional distributor
J-tel	(time limited offer only and not available in stores, offer void where prohibited by intelligence)

2A Black Fountain Pen User

Rascally Ungouge Viewed

(Assembly Language Review)

Although many students will succeed in avoiding assembly language for most of their careers, there the chosen few who have the use of these dialects forced upon them. For those, here is a short look at the low-level side of programming. The list is necessarily incomplete, and the opinions may be highly questionable in some quarters. Comments are welcome, indeed invited, via the mathNEWS box on the 3rd floor, or by mail to mathnews on CMS, watdcsu, or the 'Bun.

8080: A solid 8–bit processor with a register set like a steel trap. Good for simple applications. Don't try to do any 16-bit operations other than indexing, and even that is limited to really only one available register (HL). Bottom of the line of Intel's 8080, 8085, 8086, 8087, 8088 (boring numbers, really ...) processors.

Z80: Basically a redesign (ie. souped-up copy) of the 8080 by Zilog. More 16-bit addressing capabilities, string operations, and index registers made this a popular processor until the recent 32-bit trend. Vectored interrupts, etc., and an alternate register set made it possible to implement a decent operating system in Z80. Used in OASIS, TRS-80, Superbrain, and other obscure microcomputers.

6502: This processor (by Motorola) is arguably the most limited 8-bit processor around. There is NO 16-bit addressing other than direct and indexed direct, and the index registers (called X and Y, of course) are only 8-bit. The only other registers are an accumulator and stack pointer, 8 bits each. The stack pointer and other addressing modes are wired to highly inconvenient pages of memory. Found in PET, VIC-20, Commodore 64, and other mainframes.

6809: Pretty widely known around here, so I won't say much. This is Motorola's version of an 8/16-bit processor with no thrills attached. Boring but reliable.

8086/8088: The Intel 8088 is found in the IBM-PC and its lookalikes. The internal architecture is 16-bit, and addressing is much more flexible (hence easy to use but confusing) because of the 8 16-bit registers available. Now, just when we arrive at a reliable 16-bit microprocessor, we have to use a 20-bit address space for chutzpah (sp?). Hence pity the programmer whose 16-bit view of the world has to be warped to use high 16-bit segment registers and multiple offsets. Not the easiest thing to do, but IBM's Macro Assembler helps kill the pain.

Z8000/68000: Here the companies (esp. their designers) are playing for bigger stakes: 32-bit architecture, multitasking, user and system modes, etc. The would-be programmer in theses assembly languages is faced with a dazzling array of addressing modes (at least 16 in 68000), a veritable cornicupia of spacious registers to use, and the monstrous choice of which register and addressing mode to use. Careful programmers may take hours or days to decide. I forgot to mention the built-in facilities for (up to) 32-bit multiplication and division. The 68000 is found in Apple's sportive Macintosh and abortive Lisa.

16032/32032: National Semiconductor is finally about to give us some real chips. These incorporate full 32-bit architechture, as well as the ability to use any addressing mode with any instruction. Rivals a VAX in terms of power.

Ideal: My ideal assembly language (read, ideal microprocessor) would have relatively few addressing modes, perhaps four or five, and 8 (only 8?!?!? -ed.) general-purpose 16-bit registers. It would have built-in multiplication, and block/string transfer instructions, with a modest sixteen (or so) vectored interrupts just to please the system programmers.

Georg Mandrive

The Mathematics Column

– by Not Fraser Simpson

Everybody has been told at some time that parallel lines never meet. Many of us actually believe this. Why is it then that artists, who depict the world as it really is, always draw their parallel lines meeting?

Consider railway tracks. Everyone will agree that railway tracks are always parallel, otherwise trains would not be able to use them. But how realistic does a landscape look when its train tracks don't meet?

This dilemma is most easily resolved by saying that there is no single "correct" geometry. There are many geometries, some being special cases of others, all of which are equally valid mathematically. These geometries apply in different degrees to various representations of the "real world".

One geometry is the one we were taught in high school, namely Euclidean geometry. Another is the projective geometry which describes pictures. In this geometry, all parallel lines meet on a line which we call the horizon. It is interesting to note what happens to ellipses when they are tangent to this horizon, or when they cross it. Also, you might try drawing sine curves about the horizon.

Geometries are normally defined through their axioms. Starting with Euclid's axioms it is only possible to construct a Euclidean geometry. If one of your axioms is that any two lines meet at a point, you will get some other geometry.

A few things are common to all geometries, mainly definitions. One thing is that all geometries deal with objects called points and lines. Points lie on lines, while lines can pass through points. If a point **P** lies on a line l then l passes through **P**. Two lines intersect iff one point lies on both. Two points are collinear iff one line passes through both. (These last two concepts are often only useful when speaking of three points or three lines.)

Perhaps in the next issue, I shall mention finite projective geometries, and maybe hyperbolic or elliptic geometries. If we receive enough complaints, I won't.

What Language *Not* to choose

Warning: This article is not intended for persons in CA or the Teaching Option, so please don't ask us to explain to you what a 'language' is.

Hopefully, after reading this article, you will be able to decide next work term which language you should not be using (this will likely be the one that you *will* be using. However, we will make no attempt to tell you which you should choose; it's you who will be getting paid, not us!

ALGOL. All we know about ALGOL is that Pascal has 'ALGOL-60 based scope rules'. Is that good or bad?

APL is a very concise, powerful language. Mainly because of this, it is impossible to read and understand a program if (a) you have not seen it for a week or more, and/or (b) it was written by someone other than yourself. On a micro, the file system is about as fast as an arthritic snail.

B, the 'Bun systems language, could conceivably be used for systems programming on some Honeywell machines. However, due to its total lack of declarations and crypticness rivaling that of APL, it is not recommended unless you stick to a single datatype, say, booleans.

BASIC is in a class by itself. Therefore, we will not be treating this wonderful language until the next issue.

C is almost as typeless as B, its predecessor. However, more people know (or at least have heard of) C, so it is harder to be incomprehensible in C. Fortunately it is easy to screw up the file system and to do other such nice things by messing up your indirection (the frosh can (should) ignore the previous sentence). Further, many implementations lack floating-point capability, which is always a nice lack of a feature.

COBOL is the favourite language of everybody who has taken CS180. However, we must shatter some of these Frosh dreams of conquering the world with COBOL. This language has an instruction set far surpassed by Pidgin English, and is almost as concise as Shakespeare (This is an exaggeration — Shakespeare was as concise as a literary genius can be. (For an estimation of the wordiness of COBOL, write the program in English (verbose English) first, then assume that the COBOL program will require twice as many words (or five times.))). Fortunately, it really is too big for most microcomputers (forget microCOBOL, we're talking *compilers* here. (Too bad the CS tutors for first year don't seem to realize this.))

F might be worth your consideration, but mainly so if you are writing an Adventure. Not recommended for other applications, and not available execept on the 'Bun.

Forth is great for confusing anybody who wants to figure out where and what your program is/does. Actually, Forth does not have programs as such, rather every command is really a call to some previously defined routine. If you are lucky, you get five routines to start with, usually including store and load. Forth also is very heavily stack oriented, like APL.

FORTRAN has a million reasons going for it. First, it is archaic; second, it has no structure at all (you should see the mess IBM recommends using for 'structured' programming in FORTRAN); third, it's all uppercase and therefore a definite no-no. This is one of the main rules of computer/language selection: never pick a language that does not let you use lowercase whenever you want. It's grody to the max!

Logo is really quite nice. Just don't try writing anything more complicated than turtle graphics.

Pascal is really not *that* good a language not to use. It has sort of nice control structures, as well as datatypes. However, it has the advantage of being able to crash in a 'case' statement, and it is unable to do any low-level bit manipulation or operating systems calls. It's also too bloody wordy for my liking.

Smalltalk's name should already have turned you off.

SNOBOL might actually be quite good; however, it is easy to decide not to write in SNOBOL since it is not known to exist on computers other than those at Bell Labs and at Waterloo.

WSL, or Waterloo Systems Language. Try suggesting to your boss that you could use WSL. "Say What?".

Väinämöinen & co.

Invisible Crossword

In this crossword, no grid is provided (only the author knows the correct grid). Suffice to say that the grid is smaller than six by six and larger than two by two. Only those entries containing correct entries and the correct grid will be eligible for prizes.

Across (L)

1. Eber feeds the engineering frosh (83)
2. Cal must not be tense
3. Perversed of many luncheon meats

Up (K)

3. Scanner board
4. Westerly see me sometime
5. Companion to 1.
6. Energy, Mines, and Resources

How to Waste an Hour Waiting for the Bus Touching Up Your Article on Metrification.

During Canada's on going conversion to the metric system there have been and still are hitches in the process. There are many people who resent the *conversion* to the metric system. These disbelievers argue from the logical point of view that since they were brought up with the Imperial units, it is far easier for them to think in measurements that have their basis in such completely sensible and everyday objects such as stones, feet, and buckets rather than such esoteric standards as the meter, kilogram and newton. It also seems that they similarly despise dealing in number systems that are not predominently based in either powers of 2 or 3 and every combination thereof.

A possible explaination for this preference may be that a number of them have in the past sharpened their lawn mower with the engine running and are consequentially unable deal in base 10 as well as they did in the past. As for the rest for these similarly mentally endowed people, dealing in a number system that is entirely based upon powers of 10 is at best difficult to understand for those would have the working equivelent of a grade 4 mathematical education and a similiar willingness and ability to learn.

It is for these people that this list was compiled for your interpretation. If they have chosen to call the Imperial system their own than let them use their system in the way that it was meant ot be used, in its entirety.

So, here is.....

A List of Her Majesty, The Queen's Goode Measurements	
Bag	3 Bushels
Barrel	1.5 Bags
Bucket	4 Gallons
Bushel	8 Gallons
Butt	126 Gallons
Cental	100 Pounds
Chain	66 Feet
Drachns	3.551631 CC
Fathom	6 Feet
Firkin	9 Gallons
Geepound	1 Slag
Gill	1/32 Gallon
Hand	4 Inches
Hoghead	1/2 Butt
Kilderkin	18 Gallons
Lasts	2909.414 Liters
League	18240 Feet
Line	1/12 Inch
Minim	1/20 Scruple
Noggin	1 Gill
Peck	1 Bushel
Pennyweight	2 Grains
Perch	1 Rod (perhaps 1/3 of a Trout)
Quartern	1/8 Bucket
Rod	1/40 Furlong
Rood	1/4 Acre
Rope	20 Feet
Scruple	20 Minims
Seam	8 Bushels
Section	36 Sq. Miles
Skein	360 Feet
Stone	.14 Centals
Township	36 Sections
Tun	4 Hogheads
Wey	252 Pounds

John Wieczorek

Hot Wheels

1969 Volkswagen Beetle

The subject of our *Hot Wheels* column this week is the ubiquitous VW Beetle. This little car has been with us since 1936 or so, and it is not difficult to find a vintage suitable for *you* budget. We decided to highlight the 1969 model, as it has several advantages over 1968 and earlier models, and yet is less expensive than the models from the '70s.

The Beetle has as standard equipment two bucket seats up front, and a bench in the back. In the front, the head- and legroom is generally sufficient, but don't expect too much elbowroom. In the back, don't expect any of the above. The instrumentation is somewhat sparse; speedometer has always been included, and the gas gauge was added in 1964. The truck-size steering wheel is connected to a quite responsive steering, and the car has four reliable, if not superbly effective drum brakes.

The '69 has a 1.5 litre engine, producing some 50 horsepower. This will not blow too many cars off the road at the traffic lights, except possibly an early 1.2 litre-engined Bug. In '75, a troublesome fuel injection system was introduced — stay away from these. The engine is, naturally, mounted in the back of the car, and, since 1968, uses independent rear suspension. This means that the car is not quite as likely to tip over when cornering at speeds of over 20 km/h. The front (and back) suspension works with torsion bars, and can be abused to an incredible extent before breakage (i.e. driving over parking lot curbs etc.)

Most examples can be found with a two-tone paint: one of the front fenders is usually of a different colour. The tires are normally Sears bias-plies in the front, and Canadian Tire snows in the back, although several Beetles have reportedly been seen with all four tires of the same type. The prices range, depending on how desperate the seller is, as well as the complexity of the paint (more colours --> lower price), from $100 to $1000.

Tom Watts