

An Ode to a mathNEWSer

Though no one remembers that far back, about seven years ago there was a math newspaper called "Math Medium" which was supposedly really good, but died away because no one cared. It was replaced by "Math Small", which was a bad joke (and I don't mean the name!), which offered little in the way of anything, and delivered less... There are still a few of us who remember it. In the winter of '73 we started again, from scratch, with a handful of people, and produced the first crude mathNEWS (and compared to what you're holding now, it was unbelievably crude). From that beginning, and with rarely more than a handful of workers at a time, mathNEWS has become probably the most widely recognized student-society sponsored newspaper on campus...

But what mathNEWS really is, is a lot of fun, hopefully for you as a reader, and certainly for those of us who put it together. Of course you have to stay up a little later, and put up with people like Kathy-X, JJ, Exil Q. Trob, bun, Rag, Hexad, *hugh*, Ludwig Von Zopfault,

Burloaf, and Mad Dog—but then aren't those the hazards of everyday life? Well, maybe not, but they make it more interesting!

It has been charged occasionally that this should really be called computerNEWS, and, indeed the majority of our workers do like computers but most of them aren't in Computer Science, and we want other people to come out and help too. (Though mathNEWS is a good place to learn things about computers...you don't think we get phototypeset-right-and-left-justified-columns by hand, now do you?)

Not that there isn't a serious side too... we've done our share of tilting at windmills, and though few have fallen before our righteous onslaught, we have managed to kick in a fair number of foundations. At least when we attack, people notice!

So welcome to mathNEWS, your own faculty newspaper, and the only all-volunteer weekly on campus! When you arrive on campus, mathNEWS will be in its twelfth consecutive term of

WELCOME TO WATERLOO

publication, and therefore ending its 4th full year of active existence. This means that everyone who helped found mathNEWS, and who worked on it in its formative years should have graduated by next summer. A large percentage of mathNEWSers have always been 1st and 2nd year students, but the organization and management has been thrust on the old-timers who are addicted to this insanity...

Well, we're leaving shortly, and if you want to continue to have any sort of paper at all, now is the time! Come out and help! Meet people! Find out how a paper is put together! Meet computers! Find out all the vile names we call them in the wee hours of the morning! (It's good practice for CS 140) Eat the free food! Meet the mathNEWSers (most of us qualify as people)!

Our Organizational Meeting [*sic* (and find out why when you come out!)] will be in MC 3011 on Monday Sept 20 at 6:30 pm. See you there.

Randall S McDougall
Past Editor & founding member

special frosh issue #4
august, 1976

mathNEWS

Ludwig Von Zopfault

makes it to the front page

(for the first and last time)

Welcome to the University of Waterloo, the largest loony bin this side of a Möbius strip. Since you are reading this, it's too late to warn you away; the best I can do is to inform you about some of the quirkiest aspects of this University.

First off, there is the "friendly" inter-faculty rivalry. There are six faculties here at UniWat — Arts, Engineering, Environmental Studies, Human Kinetics and Leisure Studies, Mathematics, and Science. (There is a seventh group — Integrated Studies — which is distinct from the above but is not a full-fledged faculty.) One of the first things your Math Society will try to delude you into thinking is that the other faculties — particularly Engineering — are populated by entities barely more intelligent or human than bread mould. In their turn, the other faculties do the same, by trying to denigrate all others not in their faculty. In itself, this is not a bad idea. Unfortunately, it has at times been carried much too far. For example, \$1200 of MathSoc T-shirts were stolen by engineers "in fun".

However, it took several weeks and threats of legal action to get them returned. This is the most blatant case I can think of; breakage (and related costs) into all of the different Society offices by various groups — including mathites — is more commonly found. This is over and above the statements made in the various society newspapers, which usually restrict themselves to self-congratulatory comments, although EngiNews has branched out into racist remarks on several occasions. However, enough of this topic.

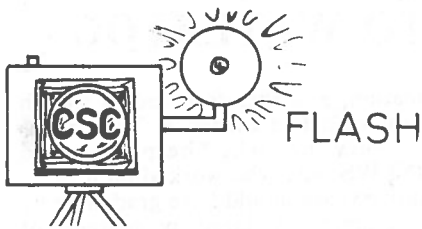
Quirk the second concerns the attitude of the Administration towards undergrads. Now that they have your money, you'll find that their interest in you vanishes totally. Those of you in computer science will find this out when the next group of high school students get bussed down here to use our vastly overrated computing facilities. You will be summarily forbidden access while these more important persons run their five line thumb twiddlers. But this is typical, I am told, of all Universities.

Third on this arbitrary list are computer hacks. These are explained (after a fashion) in another article, so I won't spend much space on them here. Suffice it to say that this group is weird.

Next are all the fringe groups active on campus, such as the AIA (Anti-Imperialist Alliance) and the Psi Mind Development group. The AIA is a non-profit and profitless collection of amateur gods, who proclaim via convenient catch phrases just what is wrong in the capitalist world, and how to fix it by mobilizing students. They'd be hilarious if they didn't take themselves so seriously. The campus newspaper, the chevron, has been (more or less) the vehicle for their pronouncements. With luck (and some effort by you characters) this will change.

The Psi Mind people basically offer preprocessed easy answers to people with lost souls; solutions for whatever is wrong with your life, all your personal problems, up to and including correcting poor eyesight. If you don't believe this, ask the TROB. They've managed to convince him to wander around without his glasses, thereby making a spectacle of himself as he squints at everything further away than ten centimetres. The amazing thing is that he isn't the only flako they've conned. There really is one born every minute.

Well, these are some of the more visible peculiarities of the University of Waterloo campus. The list can easily be extended; for example, the strange tastes



Since the University of Waterloo has such a reputation for the quality of its Computer Science Department, it is not surprising that we have a **Computer Science Club** on campus. As far as I can make out from the club records, the club has existed since 1967 and maybe longer. The basic purpose for the club's existence is to further the members' knowledge of Computer Science and to help people interested in Computer Science to meet others who share their interests.

This purpose is accomplished in many ways. In the past we have sponsored trips, a computer chess tournament, speakers, seminars & tutorials, and films. Some of the speakers we have had talked on things such as **Computer Art, Software and Building Your Own Computer**. For a while, the CSC held a series of seminars and tutorials on the use of TSS on the Honeywell 6050 (better known as the 'bun') (it has since been promoted to a Honeywell 6060), since this system was

popular at the time and everyone had access to it. We have had trips to such places as the *Artificial Intelligence Labs* at UWO in London, to U of T's *Computer Graphics Lab*, and this past term, to the *CDC Hardware Plant* in Mississauga where they are building the CYBER 172.

We have also been affiliated with the ACM (Association for Computing Machinery) as a Student Chapter. This organization is the largest one in North America for Computer Science people and some of the periodicals you get with membership are quite good.

We also try to help people get access to the various computer systems on campus and also help them find projects to work on other than course work. The largest project that we have undertaken to date was the Computer Chess Project which involved about 25 people at one time and went on to become the North American Computer Chess Champion.

If any of you have been following some of the scientific or electronics magazines, you have probably run across the microprocessor. This is a computer that is physically small and retails for \$400 to \$1000 for a complete system. Because of the rising popularity of these computers in the past 2 years and the growth of several Computer Hobbyist clubs and magazines, the CSC decided to subscribe to some of them and did so this June. These magazines are kept in the CSC office (MC 3037) along with our library of manuals for the Honeywell 6060, IBM 360 and 370 and various other computers found on campus. Several students on campus own or are in the process of buying their own microcomputer system. If we can arrange it we will have a microcomputer at our first meeting in September for a demonstration. There is another computer oriented club on campus for people who are building their own microcomputers. This opens up the possibility of getting the use of someone's micro system by writing programs for their micro. We will have more information on all this at our first meeting.

Some of the possibilities for things to do this fall are: buy a micro for the club (this will involve finding money somewhere so it isn't too likely for the fall term), get a club T-shirt, publish a newsletter (take over **mathNEWS**?), keep a list of ideas for programming projects, tell members where they can get the use of a computer for non-course work or for fun, speakers, films, a trip, a contest in writing game programs, and whatever else we can think up.

The first meeting of the **Computer Science Club** will probably be the evening of September 21, with exact time and location to be announced; if not that date, then the following Tuesday. Look out for posters to find out for sure. If you want to know more about any of the things mentioned in this article come to the meeting to find out. See you in September!

— Mad Dog

[It has come to my attention that the infamous maddog made an error in the above article—namely stating that the computer chess project went on to win the N.A. title. Unfortunately that particular adventure came to a less ostentatious end, due to lack of interest/organization. The real champ is the programme Ribbit (now called Treefrog) written by Gary Calnek, Russell Crook, and Ron Hansen — Editor]

and the Student Fed. President

Well it is that time of year again. Along with the folks of **mathNEWS** I would like to welcome everyone back to Uniwat.

I hope that you will take the earliest opportunity to drop by the Federation of Students office in the Campus Centre. It will give members of your Students' Council and you a chance to get to know each other from the start of the year. You never know when that might be useful.

Of course I expect you will also give a knock on the MathSoc door (actually it is rarely closed). It must be one of the friendliest places on campus. The Engineers keep coming all the way over from their haunts to visit and chat about T-shirt fashions.

There are several big things on the Federation agenda this year. Starting in January the Ontario government is upping foreign student fees, by 160%, for those entering a programme for the first time. A question for everyone else is when the Blue Machine is going to go after the rest of us for more money.

The Henderson/McKeough Report recommended boosting the tuition tax on students by 65%; but the Queen's Park gang may think that big a squeeze will stir up the natives too much.

The question is two-fold for each of us: How much more can each of us afford and what are we each prepared to do to dissuade the Ontario government from digging into our pockets?

I would like to set up some meetings between UW students and their MPP's. If you would be willing to join, please let me know.

Within the University itself, many of us continue to be concerned about inadequate direct student involvement with administrative and academic decision-making.

If you would like to help, come in so we can discuss what is happening and do something.

Last year we were successful in getting changes made in the new curriculum plan.

Good luck this year and hope to see you over at my office sometime if nowhere else.

Shane Roberts
Federation of Students President

...continued from page 1

the Administration exhibits artistically (cf. that monstrosity by the Arts Library); or, indeed, why the top three floors of the Arts Library are a slightly different colour than the rest of the building. However, it is time to finish this article, as our fearless editor is screaming about this issue being too large as it is, so I will close with a quote from Lewis Carroll's "Alice in Wonderland":

"But I don't want to go among mad people," Alice remarked.
"Oh, you can't help that," said the Cat: "we're all mad here. I'm mad. You're mad."
"How do you know I'm mad?" said Alice.
"You must be," said the Cat, "or you wouldn't have come here."

TO THE LEVIN WIELDING GHOSTWRITER:

I see
and I hear
and I speak no evil;
I carry
no malice
within my breast;
yet quite without
wishing
a man to the Devil
one may be
permitted
to hope for the best.

A Few (!!) Words of Welcome

Disappointment usually arises when expectations are not met. You are bound to be disappointed by the University of Waterloo: the first day of line-ups or classes may be enough. The purpose of this article is to lower your expectations: to tell what you can expect, and what is expected of you.

Class sizes are usually high for first year courses running up to 300 students. These classes will sure make you feel like the one of 300 you are. Professors are not too bad, but somewhat less effective than in high school. Since most professors are more intelligent than your high school teachers they make up for this. Professors have three functions in University:

- 1—publishing,
- 2—research,
- 3—teaching.

As you may see, they are apt to do more of the first two. Mathsoc publishes a book called ANTICAL, which has the student's ratings and comments on each professor and course. It is best to consult this when changing professors or courses.

Homework is the unfortunate fact of University. For every one hour in class you should spend, on the average, two hours of homework/studying/reading to keep the same mark you got in High School. With some mathie calculations you will see that you will spend a lot of time doing homework if you want to keep your mark. With many courses, if you get behind in your work you will never catch up — so you should always try to stay ahead a bit. In some courses they will not assign you any work: you are expected to keep up on your own.

Being in University you have above-average intelligence. One half of the people entering University have over 75 percent average in High School. So note that while you may have been considered 'really smart' in high school, you are now just another University student.

There are two major troubles that are common among University students: too much of one thing, and apathy. There are many things you can spend too much time doing and thereby affect your marks: parties, cards, pinball, computers, etc. Remember you will have only self discipline to force you to do your work. Spending too much time on any one thing has defeated the best of students.

Apathy is a strange thing, that occurs frequently among University students. For some reason they stop caring about their marks and their lives, and thus flunk out. Always watch yourself: make sure you care about your marks, and what is happening to you.

If you are a co-op, realize that you will have a better chance in the winter of getting a good job. The jobs are not that great in co-op for first year students so think about going out in the winter, instead of the summer.

myth^{LETT}ETICS



Money can disappear with amazing quickness. Budget yourself: if you find you are broke, you can get an emergency loan. Don't buy things you don't really need. Most restaurants will have specials on Monday, Tuesday and/or Wednesday. The best record prices in town are with the University Record Store in the Campus Centre.

Try to develop an active social life in University as soon as possible. Attend pubs in the first few weeks, and meet new friends. Having friends with many common interests is one of the advantages of going to University. It is the people you meet that make the University a place to remember.

If you are going into Computer Science as a major, and have never learned a computer language before, then you should consider spending at least 12 hours a week on the computer 'hacking'. By 'hacking' what is meant is fooling around with the computer, or running programs like computer dating programs or big letter programs that you make just for the fun of it. Without a large amount of exposure you will find it difficult all through your computing courses, for you will always be catching up.

Watch what you eat in University. It is easy to end up suffering from malnutrition. In general your health is very important (a bad cold at exam time may cost you 5% easily). If you feel ill, have a chance of an infection, or suchwhat, truck or boogie over to Health Services (white building with small pond (which is called 'Sick Bay')).

University is something completely new; some adapt, others flunk out. Your performance in University will seriously affect your life. Think about what you are doing.

Henry Thevih
of the Flying Gerbil Research Center.

This column is supposed to be about athletics but it's usually not. Scrooge and I took this column over about a year ago because we were appalled that a sports column would contain scores.

Usually, this column tells the story of the people who play funny games for the *Math Society*, but since you froshies don't know the people already involved, it would be silly to relate any events, as the significance would be lost. Instead I will just ramble away and try to give you the flavour of the column.

There has been a metamorphosis in this column over the period that we have owned this thing (note: *Scrooge* is not really here, he is in Europe somewhere on vacation so it's only *Dryden* writing).

This column used to be called *Mathletics*, then on complaints from the readership the editors of this illustrious rag changed the name to *Fictletics* to reflect the true nature of the column (fiction). After that, another bright editor again changed the name to its current one, *Mythletics*. Who knows what will happen in the future.

Some of the stars you will meet in the fall when you get here: *Kathy-X*, *Libidinous Lorraine* (you won't find that word in your regular dictionary), *Coaster* and a whole shit-load of other nefarious loonies along with our very own *Kitty*. If this does not seem to make a whole lot of sense, then you're missing something in your life so come on out and play (choose one or more): **Co-ed Broomball**, **Co-ed Waterpolo**, **Co-ed Baseball**, **Co-ed Volleyball**. In case I haven't got my point across, the idea behind *Mathletics*, is to get a whole bunch of diverse persons of all sexes together to determine if there other interests that need be exploited.

Most people who come to this university develop a strange growth (called a beer-belly), one of the few known ways to get rid of this strange growth is exercise. It is also commonly known that most mathies view exercise as fairly dull and repulsive, and better left to the mindless push-up freaks in the Phy-ed Building. A few years ago a mathie finally figured out how he could have his beer and physique/figure too (without the push-ups). He decided that the two things mathies liked best in life (after boozing, of course) were sex and violence, so he invented the list of games you see above.

So if you like sex and violence (in what-ever proportion you need), sign one of the team lists on the glass windows outside the 3rd floor lounges and have fun and stay in shape.

BURLOAF

This is the Burloaf column. The features in Burloaf are different from all the other features of **mathNEWS** that are not the same as those in Burloaf.

Welcome to Waterloo. As first year students, the only reason you are here is so that other people may be better off. Your presence assures more money for those that are further on than you (the further the better) to do what they want to. It's unfortunate for you people, but in the university society, first year students are at the bottom of the totem pole and as such you will get nothing more than what the U has had to promise you (a chance to learn something in some large classes) for your tuition. However, if you are very patient, after a few years, you go up the totem pole and you will find yourself getting more privileges from the organization. By the time you have your B.Math and are in Grad school (should you decide to go there), you will be doing okay.

For you computer-oriented people, here is a summary of what you have to look forward to. (For non-computer-oriented people, the production staff of this paper is infested with computer people, so unless things change next term, you will be getting a fair amount of computer stuff. If you have no interest in computers whatsoever, you might as well skip this section.)

First of all, there is an organization called the Computing Centre. This is separate from the Math Faculty. The CC has a number of IBM machines including a 360/75 and a 370/145. The CC tends to be the main supplier of computing services to people who have things to do and can use computers to do them. (*i.e.*, computers for them are a means to an end, not an end in themselves.) For example, the CC handles the work of the Data Processing department, the people responsible for keeping track of everyone and their marks and whether or not they've paid and who is going to what classes.

Because of this means to an end attitude, the CC discourages those who want to use the computer as an end in itself as this is not economically productive whereas the usage described above is.

This attitude manifests itself in the fact that accounts which allow you to use these machines are very hard to get unless you can prove you have something "worthwhile" to do.

In past years, this attitude has encouraged some computer enthusiasts to break security to gain access. One system (APL) particularly saw many people stealing accounts and file space so that

they could use the machine. Sometimes, account stealing grows from a means to gain access to being an end in itself, and people have been known to amass dozens of accounts and passwords, of which only a tiny percentage are used.

Back in 1972, the Math Faculty got a Honeywell computer, a 6050. This machine was used mainly in an interactive mode and allowed you to run programs in languages such as Fortran and Basic. Today a lot more languages are supported (including a dialect of APL). When it was new, hardly any production work was performed on it and as a result it was a good machine for computer enthusiasts to use. People could spend their time writing lots of nifty programs. One of the results of these people hacking around is that a lot of useful programs were written and the system became a lot nicer to use.

A group of people formed, later to be known as the "hackers". These were the real computer fanatics, the ones who sat in front of computer terminals until 4 in the morning, the ones who missed classes just to stay signed on. On the Honeywell, these people were very prolific, producing hoards of useful programs. However, Hackers are not without disadvantages, for Hackers do things like crash computers (something which causes people to lose work they have done and sometimes get them very mad).

Recent times have seen the Honeywell become a more utilitarian computer, being increasingly used to get work done (*i.e.*, being a means to an end). With this change, heavy usage by hackers is implicitly, if not explicitly, discouraged. Once a good way for first-year students to get decent machine access, this machine is becoming more and more off limits to frosh.

Not to despair though: recently a new system was installed by the Math Faculty. It is Unix and it runs on a PDP 11/45 computer.

Unix takes a kinder attitude to potential hackers, making it easy for them to get access to do things. In fact, for you frosh, it will probably be the only machine of those described so far that you will be able to use to any degree for work other than course assignments.

Unix has other advantages besides access. Unix has been designed as a highly usable system. This means it is much nicer to use than other systems, and you get work done an order of magnitude faster than on other machines. The main programming language used on Unix is one called "C". In the spirit of Unix, it is a

much nicer language to program in than things like Fortran or Cobol. In fact, for this reason, last year saw almost all of the Honeywell hackers move upstairs to Unix.

Another machine here is an IBM 1710. This is a rather old machine owned by the Computing Centre but is used mainly (if not solely) by Hacker-type people. As far as I know, it is also accessible to frosh fairly easily. This machine has had a lot of programs written for it as well, by a crew of people that call themselves the 1710 Rats. It is a slow machine but it has interesting features (such as a very useable machine language).

An interesting organization at UW is the Federation of Students. The Federation realizes that at a university you are free to think any way you want, to hold any opinions you wish. They also realize that thinking is a difficult, time-consuming process, so they have thoughtfully done your thinking for you. Throughout the year, via a newspaper called the **chevron**, they will tell you what opinions you should hold.

After reading the **chevron** long enough, you will see that things are all bad or all good. Nothing has both bad and good points. For instance, labour unions can do no wrong, and a company's management can do no right.

During the last postal strike, a number of workers who felt that the union's demands were excessive and had gone back to work were barred from voting on accepting a new contract by the head of the union. He stated "by going back to work, you've stated how you vote". (This is like Trudeau calling an election and then saying everyone caught at Conservative rallies cannot vote "because we know already how they would vote".) You might think that there is something slightly wrong here, but no, as far as the **chevron** was concerned, it's all fair ball.

(As an aside, I thought the following defence put forward on behalf of the Montréal abortionist Dr. Morgentaler was quite amusing: Performing an abortion is legal if the woman's life is in danger. Well, all of the abortions performed by the doctor were legal, for the lives of the women concerned were in danger at the hands of some low-quality illegal abortionist they might otherwise run to if Morgentaler didn't do the abortions.)

As long as you don't think, you'll be okay. If you do start thinking, it's bad news because you might see the flaws and contradictions in the logic used by the Feds and by many of the **chevron**'s writers or the way that only some of the facts are presented while others are conveniently forgotten. And after all, you wouldn't want to hold a different opinion than the one thought out for you by the Feds: they're using your money to support these philosophies.

One thing that I feel mathNEWS is deficient in is mathematics. There is a problem with publishing mathematics in a paper like this however, and that is you wish to print recreational mathematics, problems that are enjoyable to work out or facts that are interesting. This tends to be hard to do, and often you get stuck with something which is as boring as Calculus. Perhaps one reason recreational mathematics is lacking in this paper is that it probably is quite scarce in the first place. However, if and when I run across some interesting tidbit, I usually try to include it here.

Another regular feature of this column is the INTEGER_OF_THE_WEEK. Each week we publish a new integer. Theoretically, if you faithfully save each week's number, you will have a complete collection. However, you frosh have missed several numbers that appeared in previous issues, so you wouldn't have a complete collection.

Well, anyway, here is the first INTEGER_OF_THE_WEEK for the fall of '76:

1001

About the only feature of this number worth mentioning [Except it was also once my apartment number—Proofreader] is that it is $7 \times 11 \times 13$. From this property, and the fact that it is 1001, we can deduce that numbers of the form $xyzxyz$ (e.g., 365365) divide by 7, 11 and 13. In fact all numbers which are an even number of occurrences of a given block of three digits (e.g. 123123123123) have this property). Not only that, if a number consists of a set of three-digit blocks and the same blocks reversed (e.g., 123456789789456123) then it divides by 7, 11 and 13.

FROSHIE!!

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Zap! Zapppp! zzzzzzap!! argh!

shades of SIRIUS BUSINESS

The University of Waterloo Science Fiction Club, better known as WATSFIC, has been in existence now for about 8 months. The idea was first conceived during the fall of 1975 by Mike Wallis, then editor of SciSoc News, who thought that a university this size really ought to have an sf club. In January of this year, the club finally got going and we have been active ever since. The club is a member of OSFiC: the Ontario Science Fiction Club and the DRACO Film Society. The purpose for our existence is basically this: to promote an interest in science fiction on campus and to facilitate interchange between sf fans.

One of our activities is sponsoring sf movies with a discount on admission for our members. To date we have shown *City Beneath the Sea*, *Silent Running*, *War of the Worlds*, *Westworld* and *When Worlds Collide*. This is one of the most popular activities and we will certainly be continuing this in the fall. As well, we are co-sponsoring an all-nighter of free sf movies in the Campus Centre on Sept. 17.

We are also publishing a club fanzine called *Starsongs*, the 2nd issue of which has just come off the presses. In it we publish book reviews, articles on particular sf authors or their works, articles about the frontiers of science, sf convention reviews, etc... If you have any material you would like to see published, you will have 2 chances this term. The deadline for *Starsongs* 3 is Sept. 30 and the tentative deadline for *Starsongs* 4 will be Nov. 8th.

This October, the 9th to be exact, we will be holding the first ever Kitchener-Waterloo Science Fiction Convention. *Oktoberkon*, as we call it, will be a one day long sf convention on the first saturday of *Oktoberfest*.

We try to hold regular meetings throughout the term at which we discuss sf, make plans, decide what movies to bring in, produce *Starsongs*, find out about local sf related events, and every now and then we buy-sell-trade sf books (this usually happens when someone going out on a work term realises they have too many books to take with them). Our first meeting this fall will probably be during the 3rd week of September. Watch the bulletin boards for posters. See you at the meeting!

from the University President

In this special orientation issue of mathNEWS, I am pleased to extend a sincere word of "Welcome to Waterloo".

Your first days as a freshman at Waterloo will no doubt be confusing and certainly busy. But very soon you will be settled in your living quarters, have completed your registration and will settle into the routine of attending classes and private study.

I hope you will make full use of all that the University has to offer both in the classroom and in extra-curricular activity. In both areas of activity much depends on you as an individual.

Our faculty members in Mathematics are highly qualified and have a sincere interest in you as a student. It is up to you as a student to make full use of them. Do not hesitate to seek out their advice and assistance.

I congratulate you too on your choice of study. To a remarkable degree, mathematics has become a central discipline in our society. Automation and the techniques of manipulation of data can, quite rightly, be recognized as one of the major developments of the past two decades.

It is certain that the application of mathematics in every aspect of our daily lives will intensify. As graduates of Waterloo in the next three or four years, you will be prepared to play a significant role as mathematicians through the remainder of this Century and beyond.

To each of you I say a sincere "Welcome to Waterloo".

B. C. Matthews
President

Q.POR



SEE REVERSE SIDE

and the Dept. of Co-ordination

If you are one of the 500 or so new cooperative mathematics students who are on campus this fall you will be even busier and more confused than your counterparts in the regular programme.

To reduce your confusion (we can't help the busy part), make sure that you arrange for, and keep an interview with a co-ordinator. To do this you go to the first floor of Needles Hall to the desk marked Mathematics. You will be given a date and a time to return, and a room number to go to.

Your co-ordinator will, in the initial interview and in an orientation session, explain all the steps that you must take, and the ones that he will be taking, to ensure that you get a job. There will also be some sessions to show you how to prepare résumés, and what interviews are like—don't miss them.

Positions have not been as plentiful this year as they have been in the last two or three years, but we feel that there should be a bit of an upswing this fall. We want each of you to get a good one. If after your interviews and orientations you still have some questions, go back and see your co-ordinator again. If he isn't in you can ask for Randy Klawitter or Eric Whelan.

There is a great fund of information within the Math building itself—higher year students, MathSoc and any member of the Student Advisory Council to the Co-ordination Department can all help.

Eric Whelan
Dept. of Co-ordination

Q~POM
1 cup of coffee
1 donut

To the C&D worker: We will refund 25¢ + 0¢ handling for this coupon. Sufficient sales must warrant refunds. This coupon good for only one (1) coffee and one (1) donut, from September 13, 1976, to December 1, 1976. Any other use of this coupon will constitute fraud. Cash value 1/1347¢. Void where prohibited by law.

Presenting - Option teaching!

I guess the best news that I could give you is what the *Teaching Option* is all about.

Once upon a time, a group of Mathematicians at UW decided that it was time for something different. They decided that the Math Faculty had little going for it, since it offered only a few options such as Computer Science and Chartered Accountancy. These being very unexciting and useless to humanity, they decided to start the Teaching Option. They decided that it would be the most professionally run Option on campus. So to make it the most professional, they decided only the *best* students should be allowed into it.

To accomplish this feat (you must remember that Math students are the best on campus to begin with), they had to pick the best of the best which was no easy task. They started an interview process, where they found out things like: how much you could drink at a party, while standing on your head; how well you could beat up some kid who just told you to — —!; and ok yes they discussed attitudes and marks (don't ask me why).

After considering each applicant carefully [really they just threw the names into a hat and picked at random, unless you happened to be a girl—*Editor*] they picked the students who they thought would be the best teachers in the whole wide world!

Now the hard part came. You see they had to find jobs for these brilliant protégés. This proved to be quite a task because, you see, no school board would believe that we had the best students. But finally we got a chance. And after we got in through the front door, we wouldn't leave, so they had to take more of us. Every year since that first year the Teaching Option has gotten better and better until 1974-75 when it peaked with the finest 40 students that could ever be chosen [this writer seems to be satisfying some ego defect, must be suffering from some sort of megalomania—*Editor*] The Teaching Option is still going strong, and since the first year there have been a few qualifications each applicant must satisfy before being considered.

- 1) You must of course, be in the Faculty of Math (any other faculty not acceptable).
- 2) You have to be able to outwit a 12-year old in poker and chess (In other words, you've got to be able to cheat).
- 3) You have to be good at stretching the truth a little (or be a good liar).
- 4) You should have a large supply of *reds* (those little snot-gobblers get to you after about 2 weeks, on the average).
- 5) You've got to be able to keep a straight face when some smart-assed student com-

es up to you and asks what a *dynamic systems simulator* is.

6) Lately, it's of absolute necessity that a student in Teaching Option attain a degree of self-regard which corresponds to his relationship with all other students on campus: *the best*.

Cautionary Note: it is a well known statistical fact that teachers account for 90% of all suicides and that doesn't include the students they manage to push over the edge!

MOOGONG

and the Dean of Math

I am pleased to have been asked to welcome you, the incoming freshmen students of the Faculty, to Waterloo.

I am not sure how much you know about the Faculty, but hope that you will be pleased with what you see, and that you will find that senior students, faculty and administrators will be glad to assist you in whatever way they can. There are many things of which we are proud of in the Faculty. For example, our students have won the Putnam Mathematics Competition in 1974, which is written by some 375 Colleges and Universities in North America, when Harvard placed 6th, the University of British Columbia 5th, MIT 4th, CALTECH 3rd, the University of Chicago 2nd, and the students from our Faculty placed 1st. Last year we came 6th. You might also not know that this Faculty won the North American Computer Chess Championship! Perhaps more down to earth, and particularly for those of you who are thinking of taking Actuarial Mathematics, you might be interested to know that half of the top prize winners of this year's Actuarial Examinations were students from our Faculty. Also, for those of you who are interested in the Chartered Accountancy Programme, you might be interested to know that in 1975 all our candidates were successful and 13 of our 19 students were ranked in the first quartile of candidates in the C.A. examinations. There are other things to be proud of, but we are particularly pleased this year that your particular group represents the best group of first year students in Mathematics we have ever had, on the basis of Grade 13 marks, and that your average Grade 13 marks were greater than 80%. Hence, we are expecting great things from you and are delighted to have such an excellent group of freshmen students.

Before too long, various people will impress on you the need to avail yourselves of the many opportunities which are available to you in this faculty and to make sure that, if you have any difficulties, you see someone who can assist you. However, at this time I would merely like to welcome you again, and wish you all a successful and enjoyable time as you begin your studies at Waterloo.

W. F. Forbes

and the Math Society President

On behalf of the Math Society, I would like to welcome you to UW and bestow upon you the title of Math Frosh. Initiation rites are popular here, but not as degrading as the mud bowl of Queen's. Each Society and the Federation of Students organize a full month of special events aimed at preparing you for life at Waterloo (all you need is a good drinking arm). Cleverly disguised as one bash after another, great times and fun, enough information is supplied so that you may survive in this jungle called university.

Allow me to describe what you will see just like I did five years ago.

The picturesque university, located in the north section of the city with the same name, is surrounded and consumed by its very own parkland. Trees, shrubs and plants, mass-produced at the university's greenhouses, are quilted each year into the already existing mosaic of gardens, forests and herds of ducks that fill the landscape. The road that runs rings around the majority of the campus is called the Ring Road, but it is actually kidney shaped. Cascading through the property is the ever-popular Laurel Creek. This monumental sewer river, an overpowering sight and smell, drains the great Columbia Lake (the university's own mud and leech farm).

Dana Porter library, our own leaning tower and piece of Atlantis, stands out like a beacon (sore thumb) for all to see for miles (on a clear day) thus directing them to this place. Then in the midst of this chaos the great crazy cube of the Math and Computer building, your home away from home. Here is where you'll spend many hours dreaming of sunlight and a chance to sleep. Occasionally you might get to visit the other buildings and in these cases the mile becomes your favourite distance (ten minutes between classes and your consecutive courses are at opposite sides of the campus).

You now are about to attend your first math lecture. But upon opening the huge doors to the theatre you have second thoughts. You realize you know nothing about the show, never heard of the actor, and you are lost in a cast of thousands. Summing up all your courage and curiosity you sit yourself down in a space adequately provided by the designers of this bear pit.

In order that your stay in Waterloo will be a good one, people like me provide you with a service. The organization is called Mathsoc and this is your student council. Both volunteer and elected personnel maintain an office on the third floor of the Math building. We are open many hours of the day and might provide you with any help or information we can. The office has everything from computer facilities to resource people. We offer a meeting place for others who wish to help and get involved. We plan entertainment and activities, and sit on committees giv-

ing representation to university bodies that decide university policies and what you will learn. Mathsoc is your official representative on and off campus.

After you arrive on campus you'll be asked to attend a gathering of first year students. Here you'll meet the Dean of Math, faculty members you need to know about and members of Math Society who will describe in detail the functioning of Mathsoc. Please attend this meeting.

Hope to meet you this fall. Come up to the office at least once for a visit.

Gary Prudence
President of Mathsoc

and the Assoc. Dean of Math

We welcome any opportunity to pass along a word of greeting to our incoming freshmen students and we appreciate the space given to us by **mathNEWS** for this little message.

Our first comment concerns the Math Society. The Mathematics Society is the official representative of the students of the Faculty of Mathematics, and as such, deserves your interest and support. Its aims are to coordinate the social, cultural, academic and athletic activities of its members. You will be hearing more about MathSoc upon your arrival on campus. Why not get involved?

The Math Society also sponsors the publication of this paper, **mathNEWS**. The Administration of the Faculty often uses the columns of **mathNEWS** to promulgate information of importance to undergraduate students—new course offerings, changes in regulations, new regulations, deadline reminders, etc. **mathNEWS** also keeps an eye on goings-on in the Faculty and provides considerable student comment. This was especially in evidence a year or so ago with regard to a proposal to change the name of the Faculty of Mathematics to 'Faculty of Mathematical Sciences'. So keep reading **mathNEWS** and, if you have a literary bent, volunteer to help with its publication.

We also commend to you the **Operation Mathstart** programme, based on the fifth floor of the Math and Computer Building, and designed to help you during your first two or three weeks on campus. The programme, staffed by senior undergraduate students, runs the week preceding the start of classes and during the first two weeks of classes. If you have any questions regarding course changes, courses in general, the Faculty, the University, or Kitchener-Waterloo, come to **Operation Mathstart**. (If you come during the week before classes, there will be coffee and donuts available and an opportunity to chat with other math students, old and new)

Finally, you have already been sent considerable information prior to admission, upon admission, regarding pre-registration and registration, etc. Possibly we sent you too much to be comfortably read. *However there were certain items among this information that are particularly important and that should be read and completely understood.* We conclude by listing these items and their location and exhort you to study them. They are designed to ease your entry into the Faculty and make sure your first year is a profitable one.

- (1) Honours vs. General Math courses—pages 7-9 in the pre-registration package. Pages 7 & 8 in the Circle Booklet.
- (2) Operation Mathstart—Orientation package (wine-coloured page).
- (3) Standings and Promotions Regulations—Circle Booklet (3rd article).
- (4) Early Credit Examination—Orientation package (dark blue page).
- (5) Textbook List—Orientation package (yellow page).
- (6) Course Drop/Add Period—Orientation package (green page).
- (7) Freshman Orientation Meeting—Orientation package (pink page).
- (8) Streaming in Computer Science courses—page 9 in the Circle Booklet, pages 10-11 in the pre-registration package.

K.D. Fryer

KFG

Perhaps the spirit of the *Karl Friedrich Gauss Foundation* can best be summed up by the latest application form for membership in the Foundation:

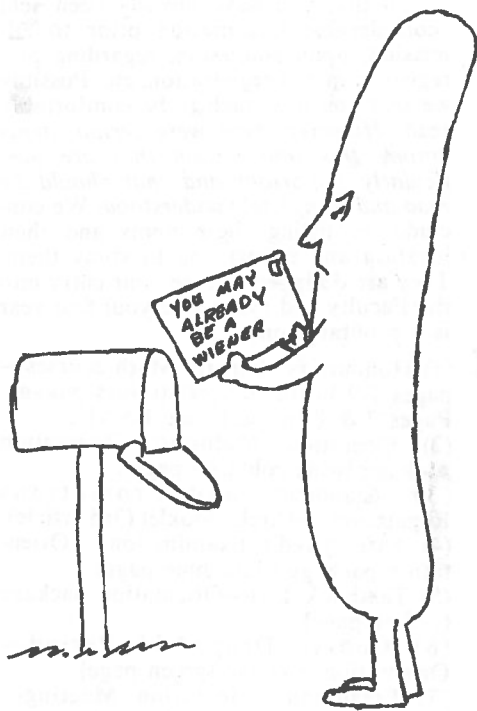
"Why I Like GAUSS"

Canadian society, and society in general, appears to be struggling to free themselves from a trap of their own creation. Creative thought and action are desperately needed! **Karl Friedrich Gauss**, through the *Karl Friedrich Gauss Foundation*, provides leadership and encouragement in an effort to free enlightened persons from stagnation.

Karl Friedrich Gauss dares to challenge the widely accepted ideals of today. He allows people to laugh at themselves. Yet, he expects them at the same time to work for the betterment of themselves, their nations and the world in general.

Karl Friedrich Gauss, through the *Karl Friedrich Gauss Foundation*, expresses himself as a lively, happy person. This is indeed a refreshing characteristic, one that is especially attractive to me as I tend to allow myself to be crushed by the demands of my lifestyle. I find that by coming in contact with **Karl Friedrich Gauss** by seeing his face on a T-shirt or poster, etc., I am reminded that I too should be lively and happy.

Therefore although my knowledge of **Karl Friedrich Gauss** is limited, I find myself liking him and encouraged by him.



notes to while away a trob

Seeing as this is the frosh (that's you, folks!) issue, I suppose I should introduce you (*gently, please!*) to the facts of life here at "Uniwat". The most important thing you should already know when you arrive is how to find the math building. Let us accompany you on a typical first day....

The Mathematics Building is the one that looks sort of like a castle. No, not that brick one, *that's* the PAC. It's the big grey one. Let's go in.

Typically you should have approached from the south; not only because that is the side everything else is on, but also because it is easier to get at the basement (still referred to as the "First Floor", in honor of the (n-1)-jineer who designed it. He was living in the bottom of Engineering Lecture Hall at the time, so it didn't seem like a basement to him.), which is where our tour begins. We enter through the doors in the middle of the south side and walk down the ramp.

This is the "Computing Centre". The only time students are ever down here is to visit the Main I/O room on our right (if they are so lucky as to have an account on the VM/370 system, an unlikely occurrence indeed!) or the computer reference room on our left. The reference room has a good selection of manuals and publications, but gets little use from students. Most students who need to refer to a manual try the Computer Science Club office on the third floor. For one thing, it is closer, and for another its hours, irregular and rare though they may be, are more in line with the hours the students keep (sometime between noon and 3 a.m.).

You can tell you're in the Computing Centre by the constant references to a mysterious "Red Room". Having already noted the building's resemblance to a castle, the existence of a medieval torture chamber should not surprise you.

Now we turn back up the ramp and up a flight of stairs. Here is the main "lobby" of the building. To left and right are rooms 2066 and 2065, respectively. These are the large lecture halls where several of your classes are scheduled. Directly ahead of you is a row of windows. These allow students to observe activities in the "Pit" (you can tell you're back in civilization because everyone refers to the "Red Room" as the "Pit").

To the right is the 370/158. The colour TV is attached to the COMIT teaching system; you *might* have a tutorial on it sometime. Directly in front of you is the 360/75. This is the computer most of your programs will be run on, unless you are very lucky. To the left is the 360/44, which runs an APL (Approximate Pigeon Language) time-sharing service. APL is extremely terse and powerful; it has been called "Chinese Basic" and "a mixture of ancient Greek and a chicken's tantrum". It is one of the few languages where one line can take a day to write, a week to debug, and a year for anyone else to understand.

The other units you see are tape drives, disk drives, peripheral controllers, and all the usual stuff needed to keep the place (more or less) running.

Returning to the stairs, we climb to the third floor. To either side is the student lounge; C&D (an excellent place for breakfast or a between-class snack!) operates in the section to the left. The balcony is generally open, if you feel the need of fresh air.

To the right is the most important place to find in the entire building. If you can find it, somebody there can find what you're after. This is the Mathsoc office, MC 3038. Don't be afraid to come in and ask a stupid question; people do it all the time! Across the hall is the Computer Science Club office, previously mentioned.

About this time you should start seeing more freaky type humans(?) in "Kneller Telephone Company" T-shirts. These are the hacks, pseudo-hax, and zits. These are the hard-core users of the Honeywell Time-Sharing system (TSS on a 6060) run by MFCF (Math Faculty Computing Facility, NOT to be confused with the Computing Centre!). Few of them spend much time on this floor however. *Whew!*

Now we walk over towards the main elevator. **Do not try to use the elevator!** It doesn't work. Oh, occasionally you may see the doors open and several people inside, but those are just third-year students trying to solve the famous "n-Body Problem for Small Spaces", and should be ignored.

Instead, we take the stairs up to the next floor. If you have followed these

directions, we are now at the entrance to the EMS (Exceptionally Mathematical Sciences) library. If you somehow found your way to the elevator in the opposite corner of the building, we are now outside the main haunt of the hacks and would do well to leave. Of course, being the ungodly hour of 11:30 a.m., there is no-one around.

The fifth floor is faculty offices. You will undoubtedly visit the fifth floor for one of the many Mathsoc-run pubs and/or wine-and-cheese parties in the Faculty Lounge, and to try and get marks changed...

The sixth floor is sort of weird. Half of it is Kin and Wreck, and most of the rest is administrative. Yet in the middle of it all is a bright spot: Unix. This is where you will find most of the pseudo-hax and zits. Since there is a public-use account, *jqpublic*, available, it is also about the only good time-sharing system you will be able to get access to.

Most of the computing you will be exposed to will involve WIDJET. I usually find a lot of admittedly unfavorable things to say about WIDJET; this time I will limit myself to an overheard comment, to the effect that the required two half-courses of computer science will cure just about anybody (except, of course, a zit, pseudo-hak, or even a latent hack!) of any interest in the subject.

Well, now that we've got you introduced to your new home, let's talk about some of the fun campus activities you could be part of.

Lacking anything better to do, you might attend a meeting of the Anti-Imperialist Alliance and get yourself denounced (very easy!). Or you could join the Anti-Irish Alliance (opposed to Mad Dogs and Irishmen; if you want to join you really ought to first become a Disintegrated St00d, but it isn't really necessary), or the Anti-Italian Alliance (opposed mostly to Antonio and Quentin Vaselino, two of three co-founders of the Anti-Irish Alliance; you don't have to be a Disinterested St00d to join this one). Rumors suggest possible cooperation between these three, to form the AABWIA: the Anti-Anything-Beginning-With-I Alliance; this has not been confirmed. (Further rumors indicate that the hacks may soon officially declare themselves the Anti-IBM Alliance; membership open).

Alternatively, you might join WAT-SFIC, the university's very own science fiction club. Yes, there really is more to it than "Star Trek". Club interest in Larry Niven and David Gerrold is especially high, but chances are that at least several members have read most of the books you have. This is also a good way to find out about "Spacewar", the most popular computer game in the world (maybe). Most of the members to date know a lot about computers; again, feel free to ask questions.

Really, if you need something to do, come out and help publish **mathNEWS**.

SOCCER FIENDS

Its a chance to know in advance about the latest news, to see your name in print, to meet people, and to learn to use the 'bun, which makes our infamous coffee worthwhile.

A regular feature of this column (except when the editor puts it elsewhere in the issue...) is the *COMPUTER_OF_THE_WEEK*. Usually, I describe one of the many computers here at Waterloo.

However, harking back to high-school days, I am writing about the second computer I ever used: the IBM 1130 at Northern Collegiate in Sarnia.

The most outstanding feature of this computer is the disproportionate number of hacks who used it (many of the others got their starts on 1130s in other cities). One of them went so far as to write a program to run on the 1130 which simulated an 1130. Others wrote endless "Life" programs (this necessitated speeding-up the printer; something no-one had told them could be done).

My own contribution was less than fantastic: a program to find cases where

$$X^N + Y^N = Z^N,$$

for X, Y, Z and N integers, N running from 3 to 5 and X, Y and Z from 2 to 1000. (It has been established that there are no cases in this range, something I did not know at the time. Most of you recognize Fermat's Conjecture [also sometimes called "Fermat's Last Theorem"].)

After two hours of running (I wasn't there at the time), someone interrupted it. In the meantime, the sizes of numbers had become too large for the machine and "overflowed", producing 300 pages of junk output. About a week later a program timer which cut off programs running too long was implemented. Interestingly enough, its author, now a hack, is also a writer for *mathNEWS*.

Exil Q. Trob

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NAME

PHONE NUMBER

SHOE SIZE

^
Eat this stub
v

I enclose 25 cents, plus 50 cents for postage and handling.

Greetings and salutations Frosh! Welcome to the Mathletics sports scene. Numerous teams go forth from these hallowed halls to compete on the field of honor but of premiere interest for the last few seasons are those superstars of the turf the MATH SOC-CERS. These illustrious gladiators have repeatedly been division leading contenders for the coveted MAKAY BOWL, the symbol of soccer supremacy at U of W. This latest dynasty commenced four seasons ago when the hard running, high scoring Hellenes were finally stopped on their bid to retire the trophy (to retire the Makay bowl a team must win the championship three times consecutively). Since that memorable occasion the rivalry between these two teams has mushroomed into something of a cause célèbre. Disregarding the repeated boasts by the Hellenes to trounce the upstart MATH SOC-CERS, our athletes won two championships in a row, bringing us into this last season. Another irrepressible assemblage of heroes dotted MATH SOC-CERS to finally retire the elusive Makay bowl. Alas it was not to be! After a season of 10 points out of a possible 14 and after annihilating dazed and unbelieving opponents in the quarter and semi finals MATH SOC-CERS met their ancient protagonists, the Hellenes. After the hard fought contest the Hellenes were in possession of the trophy. As retiring superstar Bernie put it, 'these things happen'. MATH SOC-CERS scoring ace said, 'It was heartbreaking losing this one after coming so close. Now those guys are going around telling everyone how they're not going to lose the trophy again, especially not to a bunch of Mathies It makes me sick! With regards to that last statement high level meetings in the Mathletics world brought forth the resolution to recruit many new players from the Frosh thus giving our younger players a chance to compete in the A Division. This move is hoped to produce young experienced players for many seasons to come. So anyone who has played soccer in high school and/or can run and/or can shoot and/or wants to have a good time is urged to sign up for the team. If enough interest is generated a B Division entry will also be made.

My name is J.J. Long and I am your Federation Rep. This article is called the FEDREPORT and contains reports of events and meetings, comments and opinions concerning Federation and other affairs. I would like to welcome you the freshpersons to UW, and also thank Ron Hipfner the Co-op Math Rep for aiding my constituents this past summer, as I was not available as much as in the past. I will be more accessible this fall and can be reached by leaving a message in the Math Society office (MC3038).

Over the last two years or so I have tried to represent the Math students as best as I could as their representative on the Federation of Students Council. It has not been an easy job and in the past year I have found the Federation to be drifting. There seems to be a lack of leadership at the top. While President Shane Roberts is one of the best persons you will ever meet, his policies and the actions of his administration have not been that beneficial to the students.

The Federation is not the only place where there are problems. High unemployment is making it difficult for students to make enough money to return to school. However the government will not do anything to change the unequitable student loan system. The provincial government is increasing fees to \$750 a term for foreign students in January, and the government-commissioned Henderson Report recommends a general 65% tuition increase. The Federal government is now telling us what radio stations we can listen to on Cable FM. What is next? Books and newspapers? They say it is in the name of Canadian cultural identity, but what is cultural identity without cultural freedom?

These problems affect not only students, but the population as a whole. I am disturbed, however, by these reactions to these problems. These reactions mainly are filled with negativism. There are anti-this and anti-that groups, AIA's and AIB's which don't seem to be accomplishing much. There seems to be little discussion of positive alternatives. An example of negativism on this campus can be found in groups like the Anti-Imperialist Alliance. They always bitch and yell and blame all problems on the Monopoly-Capitalist class, implying that we would all be better off if we were like the People's Republic of China. I don't feel that such a simplistic approach would benefit the Federation or our country.

We do need well thought-out solutions to our problems expressed as positive alternatives. In the Federation I have tried to bring forth such alternatives. There is not time here to go into monotonous detail about all such problems. I do invite your comments and suggestions to help improve the Federation. I wish you a successful year and I hope you will get involved and join me in working for a better Federation.



FED
REPORT

J.J. Long

Welcome to the gridword page. Only *frosh* can win this contest this time.

Rules: Fill in the gridword as best as you can (filling it in correctly is your best bet!). Then you submit the grid (or copy thereof) to **mathNEWS** by one of the following methods.

1) Mail it to:
mathNEWS,
 MC 3038,
 University of Waterloo,
 Waterloo, Ontario.
 N2L 3G1

2) Stick it in our mailbox on the 3rd floor of the Math & Computer building across from the lounge.

3) Hand it in at the mathSoc office on the 3rd floor (M&C 3038).

The deadline for submissions is September 20, 1976. The winner will be selected at random from all correct entries. The winner will then select their free t-shirt from the mathSoc supply.

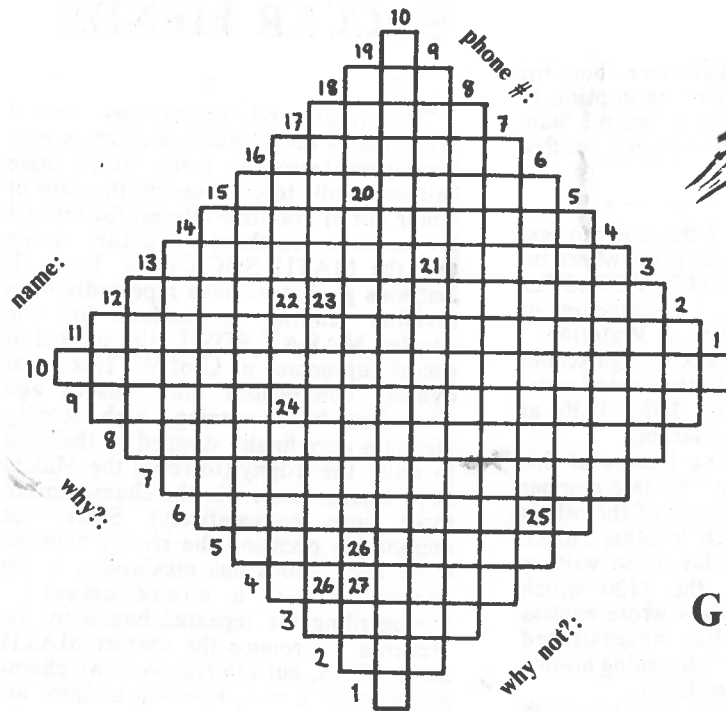
DOWN

- 1 plural case of 27 down(?) [1]
- 2 a single detergent bubble [3]
- 3 remove grease [5]
- 4 Fred Cin, D.D [3,1,3]
- 5 dirty the cosmetic saleslady [5,4]
- 6 small swine garland [6,3]
- 7 SUDU hasn't aged [4,2,2,5]
- 8 catch Waterloo settler [6,9]
- 9 plural of element 76 [5]
- 10 Kilgore Trout novel [5,2,3,4,5]
- 11 =25 across [1]
- 12 gratuity [3]
- 13 clues or cheese slices, mixed up [5]
- 14 a small nocturnal bird [1,3,3]
- 15 test of analytic geometry [4,5]
- 16 occupational disease of scuba divers [3,3,5]
- 17 Hebrew life [4]
- 18 condemns to death [5]
- 19 set [3]
- 20 teases Peter [5,4]
- 21 cut praise [5,6]
- 22 from French [2]
- 23 bridle part [7]
- 24 resort [5]
- 25 =1 down [1]
- 26 plural of 22 across [1]
- 27 exists [2]

For those who read issue 11.4 we had 15 submissions for the gridword. Peter Newton had the only incorrect solution. The winner was **Karen Wright**. Don Hall and Bob Thwaites almost made it but the roll of the dice failed them.

The gridwords are created by students (if **mathNEWS** uses them they get a free t-shirt). This one is a rerun of one by Ray Butterworth.

And now a few comments in general: (Since I am at the low end of my intellectual and emotional cycles — don't expect anything witty). You will be getting all sorts of advice from everywhere and everybody so I'll add my 2 yen to the pile. If you like exploring take an hour or so and get the feel of the math building (or



GRIDWORD

The
White Knight
 Reports

Welcome! As you have browsed through this issue of **mathNEWS** you probably have noticed that we cover a wide variety of topics. However you may have also noticed that many of our columns and articles are computer science orientated. There are a couple of reasons for this. Firstly a hell of a lot of the students in math are in computer science, and secondly, it seems that students in the computing field are much more prone to work on ventures such as this than are other students. Well, I myself am in computer science. However, in order to try to keep this paper balanced I try to avoid this topic in my columns. Burloaf, Trobble, and many others cover this area well enough. Instead I generally try to expound on a different topic each week, something that is a current issue, or something I feel should be made known. In any event, I'll be on a work term during the fall so you'll only rarely be hearing from me in the next four months.

Now on to the subject of this particular column. You. Yes you, the new frosh, who, come this September will be venturing into areas unknown. Uncertain, hesitant, yet eager and ready to get going with this new life at the big university. You've been absolutely flooded with information from various departments of this university, most of which you've just ignored. You're trying to keep track of everything you'll have to do when you arrive on campus, you're worrying about you're timetable, perhaps you don't know

ACROSS

- 1 a place to go (?) [1]
- 2 cunning [3]
- 3 a persistant attack [5]
- 4 log base [1]
- 5 last part of 3 across [3]
- 6 collection for new soup scoop [5,4]
- 7 dally frequently king of beasts [3,3,3,4]
- 8 Heinlein novel [1,4,4,2,4]
- 9 itchy scales [5]
- 10 a decade short of Orwell [8,7,4]
- 11 Asimov novel [3,4,10]
- 12 silly annoying person [4]
- 13 craftsman [7]
- 14 crew lumber exists [4,5,2]
- 15 questionable pronoun [3]
- 16 transposed rows [7]
- 17 compact [5]
- 18 Earthy prefix [3]
- 19 victory [1]
- 20 advice to slouchers [3,2]
- 21 to predict form omens [5]
- 22 no clue is needed [0]
- 23 why cry over the milk? [2,7]
- 24 backwards acid - phenol a [1,6,4]
- 25 half of an m [1]
- 26 more of 2 across [5]
- 27 half a heated RR [3,1]

any other building for that matter). In the math building see if you can find the 6 stairways or the entrance to the tunnel system. See if you can find which stairway goes to the EMS library on the 4th floor or try and see if you can walk thru the 6th floor maze without getting lost. Can you find the open-air patio in the centre of the 5th floor? Can you find all 9 entrances to the math building? Can you find these important rooms MC3038 (mathSoc), MC3011 (**mathNEWS**), MC5136 (scene of pubs and wine & cheese parties?)

In case you want to look at other buildings.... see if you can find the *tunnel system*. (Excellent on cold winter days).

If you get the chance; enjoy yourself. - djm

where you're going to live yet, (if you have this problem then you're in big trouble - better solve it quick!) and you're uncertain as to what the work load will be like and what is expected of you. Well here's some tips from a guy who's been through it all and has survived.

First, make a list of everything you'll have to take care of when you arrive here. These include making changes to your timetable (to find out how to go about this, just go through the information that the Math Faculty sent you), setting up an interview at co-ordination in Needless Hall if you're in co-op, buying your books at the bookstore once you find what texts are required (the line-ups to get into that place will be about 45 minutes long for the first two weeks), getting to a bank to set up your financial situation (there's a bank in the Campus Center and several others very close to the campus - again, beware of line-ups), and you'll probably want a locker in the Math building, so look for the signs around the 3rd floor lounge which will tell where and when the lockers will be given out (either in the middle of the first week, or in the beginning of the second - get there early on the day they're given out because the lines in the fall are really long). If you get the idea that you may be doing a lot of waiting in lines- then you're right!

You should find out in advance where all your classes are to be held. Find out how to get around campus. Find out what facilities are available to you. For instance, both the Arts library and the EMS library (Engineering Math and Science library on the 4th floor of the math building) have extensive facilities which you should be aware of. Find out about as much of this university as possible, ignorance of some things will hurt you. Don't be afraid to ask, its the only way that you're going to find out about anything.

Don't fool yourself, the work is going to be hard and you had better be prepared to keep up with it. I'm sure that you have seen the failure statistics for first year students. Don't become one of these stats! Work hard and you'll be able to survive. Make absolutely sure that you get to the first class in each course because they usually give out a course outline along with information regarding assignments and the marking scheme for that particular course then. Know this marking scheme, you should always attempt to know where you stand in every course so that you can set your priorities accordingly. Getting your priorities straight is very important. The failure to do so has been the doom of many of your predecessors. Often you won't have time to get all of your assignments done and also have time to study for midterms or exams. Examine the relative value of each and assign your priorities accordingly. Plan your schedule about three to five days in advance as to when you are going to do each assignment and when you are

going to study. In this way you can make the most effective use of your time. Making the most of time will be one of the greatest problems that you will face. You will find that time is something that you just don't have - you must make the best use of the time that you have got.

However constant work is not the answer either. You should get involved in other activities. This is especially important if you're living off campus. Off campus students often have a problem with communication in that they are not in contact with very many friends. Don't fall into the trap of finding yourself shut off from everything and everybody. You must find friends. There are several good ways of doing this. One way is to sign up for intramural sports such as co-ed softball and other recreational sports. These activities are all for fun and are a good way to meet other kids and make a few friends. Look for the sign-up sheets in front of the 3rd floor lounge for these. Another good idea is to get involved in your society, MathSoc, and/or its newspaper, **mathNEWS** (the only volunteer weekly on campus). We run a informal society and you should make a point of coming into the MathSoc office (MC 3038 - in a hallway just off the 3rd floor lounge) early in the term to meet us. This term we have t-shirts to sell and free rulers to give out to frosh. Come in and just sit yourself down and observe. In no time you'll be an expert on how to run a student society. Meet and shake hands with your president, Gary Prudence (the funny looking, short, and older kid with the beard). Come on out to our functions such as wine and cheese parties and pubs. Any help you can give us would be greatly appreciated. Remember, we at MathSoc are here to serve you, so if you have any problems, or just want to talk, feel free to come and see the friendly people at MathSoc and we'll do our best to help you.

mathNEWS is put together every Tuesday night. We need volunteers - people who will do anything, write, type, correct, or layout. Even if you can only spend an hour a week with us, please consider coming on out. Both MathSoc and **mathNEWS** are run entirely by volunteers. We need others to help us if we are to do a good job. So if you can spare the time, please consider helping us out.

So that about wraps it up, work hard (very hard) but mix it with some recreational activities. Have a good term so that you'll be able to stay with us for future terms.

the Dean of First Year Math

As Director of First Year Studies in the Faculty of Mathematics, I would like to extend a warm welcome to all of you as you embark on your freshman year at the University of Waterloo. We are fully aware that your first few weeks on campus can be rather hectic ones as you adjust to a totally new environment. However, we also hope that you will take advantage of the opportunities to make things as pleasant as possible for yourself. **OPERATION MATHSTART**, in particular, is intended to assist you in coping with registration and scheduling problems that often face new students. It is also a chance to meet other students and Faculty members in an informal social atmosphere. In addition, your Orientation Package contains all kinds of useful information, and I would hope that you take the time to read through this material with considerable care.

At a large university it is easy to get the impression that nobody really cares about you, and as a result, you can become very much a "loner". I would urge all of you not to fall into this trap. There are numerous people around the Faculty and the campus-at-large who are more than willing to help you get started on the right foot. However, with so many students, it is *your* responsibility to make an all-out effort to meet new friends, contact Faculty members for assistance, and become involved in campus life.

The amount of work facing you in the next few months is probably greater than most of you have ever encountered before. Nevertheless, if you plan your time carefully, you should be able to give your academic studies their fair share of your hours and still have time left to devote to social and recreational activities. There are innumerable activities on the campus to suit everyone's tastes. The secret is to find a good mixture of enjoying yourself and doing justice to your studies. The actual blend in this mixture will depend largely upon individual interests and academic ability, and these vary considerably from one person to another. Nevertheless, it is vital that you devote some of your time to both scholastic and social activity if you are to have a rewarding time at university. I urge you not to delay. **Get involved and start working right at the beginning of the year. Don't wait until 'later'. 'Later' may just be too late!!**

P.C. Brillinger



Getting to the heart of the matter

When you read future issues of **mathNEWS** this fall, you may be confused somewhat with some of the terms, words, and expressions used in the various pieces. You may wonder what some of the persons, places, animals, and things mentioned have to do with math, **mathNEWS** or even UW as a whole (really it isn't that bad). Though these terms seem to mean nothing, they really have a far greater importance than realized, though you will get some uncultured persons (or organisms) who will profess that these terms mean sweet Richard all. So you must keep your eyes and ears to the ground (and your **mathNEWS**) to become part of the elite "in the know".

Of course **mathNEWS** realizes you need some help in this educational endeavor, so we have provided a brief glossary of interesting words to help you frosh get a head start. This list is by no means complete, so stay tuned to future issues for more help.

'bun — nickname for Honeywell 6060 computer system, also known as the Math Faculty Computing Facility and TSS.

convulsion — the ugly red plastic sculpture near Arts Library which was purchased for \$5000 by the Works of Art Committee

Monument to the Unknown Student — plaque and column outside Campus Centre dedicated to students returning to Student Village after a night out at the C.C. Pub who did not quite make it home on a stormy night

hexad — crusading mathie from math society, also fingering the Feds now

spy mind development — nickname for Psi people (those who developed Art Ram's mind)

Art Ram — C.C. Pub manager (for now)

C.C. Pub — drinking establishment in Campus centre (run by Federation), also known by the ignorant name Orange Bomb Shelter

C&D — food stand in third floor Math Lounge selling coffee, donuts and sandwiches, also scene of much Administration-Feds-Society politics

AIA — Anti-Imperialist Alliance (a Marxist campus group), which vents its feelings through the **chevron** (mainly the feedback section)

AIB — Anti-Inflation board (Fed govt wage control group)

AIC — not yet constituted

the **chevron** — the campus newspaper, supported by student fees, known for its politics

NOTICE Notice

NOTICE Notice

From china Sun Aug 8 23:48:35 1976

We, the people of the people's republic of UNIX, declare that we can no longer sit back and watch while the american imperialist running dogs of the confusing centre continue to pollute this fair building by their presence. We are determined that they shall no longer crush the moral fiber of our youth with such insidious plots as making students use PUNCHED CARDS!!! or even worse lure them into the depths of depravity with promises of timesharing. Yes, I am talking about that deadener of the spirit, that pernicious system used to brainwash students and destroy their minds by making them wait 2 hours for runs and dearchives, that one with the silly name WIDGET!!!! We will no longer stand by and take this!!! There will be a meeting of all students who oppose this on Sept. 14 in the foyer of the 2nd floor of the math building. We encourage all revolutionary minded people, and all those who oppose such brain washing to attend.

—Students for the Abolition of WIDGET



The Masthead

Congratulations!! not only have you gotten yourself accented ~~THE MATH~~, but have also gotten to the last page of the great underground classic => namely the **mathNEWS** frosh issue. this particular issue is available only to the 55 subscribers, the workers, and the umtteen hundred math frosh (1976 edition) to whom it is mailed. Anyway the legal stuff first (second):: **mathNEWS** is paid for by the Math Society at the U of Waterloo, but the content is the sole responsibility of the editors. Our address is -- **mathNEWS**, MC3038, HofW.... <<you have undoubtedly noticed that the name of this paper is always in bold face with the word "math" in small letters and "NEWS" is in capitals. IT IS INTENTIONAL, and the ONLY CORRECT way to spell it. we aren't kidding!! don't blow it.>> ...anyway we are the only all-volunteer paper put out regularly (weekly in fall&winter, bi-weekly in summer). we accept free ads, and subscriptions (\$1.25/term). **mathNEWS** is put together every tuesday night from 6pm onwards in MC3011, come to a meeting and help out. I should get the role call for this issue done before I run out of space!! === thanx to Mark S Brader who ran in from T.O. to give me a hand; Dennis Mullin (past editor&founder) who is always putting his life into this rag; gdryden a past mathSoc president for his continuing MYTH of jumping br**ds; bun (the person, not the computer) whom I talked into doing all sorts of useful typing and proofreading; GP the current mathSoc prez proofed a bit; prraynham (the subscription editor) for his burf on loaf; RMCrook as he dragged production into it's third day (cause he had some school stuff to do); our own Exil Q Troh with a watered loaf; THE MADDCC from Integrated Studs; Hentry (oh shit, I meant: Henry) Thevih (will you become a regular??); MCCGong, being a rep of the Teaching Option people; MBoyle (thanx for your submission) <sorry, but somebody ripped off the artwork for the heading of your article>; JLLong the politician for his sundry works; the White Knight -off to Ottawa for a while- see you in January; and the various presidents, and deans and stuff that got their copy to me finally, after soooo llooonngg.... Anyway the next season starts with the organizational meeting on Monday Sept 20 in MC3011, and the next evening we'll put together an issue. please come down sometimes. I am your editor *hugh*