math NEWS

Math Students are Killing MathSoc

It has come to the attention of this member of the Mathematics Society executive council and Council representative that their has been much criticism lately of the society and its methods of handling its business. Because of this, I feel compelled to delve deeper into the problem and bring to light some cold hard facts that Mathies just don't want to hear.

At the last meeting of the society, some 'radicals' decided to set up an organization known as the 'Commitee on dissolving MathSoc'. When I asked the founders of the commitee how they ever intended to put such a motion past the student body, they replied quite simply: "Who cares? I mean who really gives a damn?". After some disheartening thought, I realized that what he had said was true...Who does care?

Then I reread the article written by Joanne West a few issues back concerning the attitude of some of the members of Council. Upon second reading, I found that in some ways, they were not to blame for the problems mentioned in that article. Often, useless and insignificant motions are brought forth in meetings in an effort to put some 'life' into meetings that accomplish little BECAUSE THAT IS ALL THE STUDENTS EXPECT! It is my view that if we had one tenth of the spirit that the Engineering Society has (or any other society for that matter.) we would all be better off. By 'spirit' I do not mean that you must volunteer to participate in every Society undertaking (although I don't rule that out either). It is merely showing some enthusiasm for something that is uniquely Math. For example, every engineer has heard of the engSOC mascot: the Ridgid Tool...yet a very small percentage of mathies (none from first year) have ever heard of (let alone seen) the MathSoc mathscot: the Natural Log...Surprise! I'll bet you didn't even know we had one. This, I believe, is typical of the 'strength' of the bond between the Mathematics Society and the math student body.

To put down another fallacy, 'spirit' is NOT time consuming. In the short term, it can be argued that going to see a mathletics team play a game to cheer on our side, or to even vote in an election can take some minutes off the time that you might be spending hanging around elsewhere, but in the long term a clearing away of some of the needless apathy of the students reflects not only on the faculty as whole, but also on each student as an individual. A greater sense of unity and well being among math

students often means, believe it or not, that the work that used to drag on for ever seems to pass by more quickly. Those who say that they don't have enough time are (in nine cases out of ten) not MAKING enough time; just as those who say that there are not enough MathSoc events are not making any events...the Mathematics Society is what you make it and you get out what you put in.

Let us look at the recent MathSoc elections. This is nowhere near the first time that the Council has found itself with about half the seats unfilled. The time involved in being a member can be as little as attending meetings for half an hour weekly to a 28-hour job...the point is that it is up to you! Anyone who tells you different gains their experience from the same old past Councils where all the work has to be divided between the three or four members, two of which are active or really care.

You might be asking yourself (especially if you are first year): What is the importance of all this. Well it is simply this: University is NOT just an education; it is a way of life. Ask any third or fourth year student and they will tell you that your years spent at university can either be one big lecture or they can be a stage in one's life... it all depends on what YOU make of it.

If you have any comments against or in addition to this article, I challenge...DARE you to write in to mathnews and tell me about them. If you support the views given above and would like to help, drop me a line either through mathnews or in my MathSoc mailbox. It does not have to be great literature, just some evidence that we have some people on our side who support the cause.

Andrew P. Welch
Director of Internal Affairs
Math Society

DEAD RINGER REPORT

Well, the regular season has come and gone and the playoffs are almost done. Math's floor-hockey team entered semi-final action this Monday against an old rival, Co-op. Due to scheduling problems, several key regulars were absent from the line-up. The Ringers, therefore, played a cautious game and were soon down 1-0. The opposition then began to open the play into a less disciplined game style and the Dead Ringers came to life. Spurred by some excellent scoring chances which just missed becoming goals the team applied pressure through their forechecking and "take-the-body" style. Goals by Brent Mooney and Dave Pauli erased the disad-

vantage but the Ringers failed to capitalize on numerous other chances before the half ended.

In the second period, the Ringers were two men short and suffered a power-play goal. Brent Mooney and Mike McCleave then shot pucks into the net to finalize the score at 4-2.

Chosen as the stars of the game were Dave Pauli, for his hitting and fine passing plays; Brent Mooney for his pair of goals and Mike McCleave for his dekes and puck control.

The Dead Ringers now meet the Old Timers in the non-engineering final. Game time will be posted on the mathletics board.

CC

Abortion
A Clarification of Views

The Monologue article of the October 31st issue of mathNEWS proved to be interesting, but I would like to clear up some of the points Brad Templeton made regarding abortion.

First, he mentioned that anti-abortionists like to be called pro-lifers. The reason for this is that the term is more inclusive of the objectives of pro-life groups.

Secondly, he stated that most people involved with the pro-life movement base their stand on religious grounds. This is simply not true. In a Campaign Life Fact Sheet, there is a section describing the basis of the views of pro-life groups. It is explained that abortion is a civil rights issue involving the unborn child's right to life. No one in our system of justice has ever before had the right to kill another human being without being answerable to law. (The illustration Mr. Templeton used for justifying murder in war or for defense is senseless here because we are not at war with our unborn children.)

Pro-life people also base their stand on the fact that abortion is still technically against the law in Canada. Section 251 of the Criminal Code, paragraphs I and II, provide that anyone who is intent to produce miscarriage of a female person or uses any means for the purpose of carrying out that intention is guilty of an indictable offence and is liable to imprisonment for life. Most of us are familiar with some provision added in 1969 which set up a Therapeutic Abortion Committee to authorize abortions if it was determined that continuation of the pregnancy would endanger a woman's health or life.

The Bill of Rights, however, provides for all individuals the right to life. According to Canadian law, the Bill of Rights has priority over legislation which conflicts with it, unless Parliament specifically states the contrary. Parliament did not ever state that the Bill of Rights shall not prevail in the 1969 legislation allowing abortions. Therefore, in the case of abortion, the principles of the Bill of Rights are still in force. A writ has been issued by individuals in Saskatchewan which may likely take this question to the Supreme Court of Canada.

Even if there were no Bill of Rights, the 1969 legislation allowed for abortions only for medical reasons. It is a well-known fact, however, that rarely, if ever, are abortions medically necessary. Dr. Alan Guttmacher (a pro-abortionist) wrote in his book

Abortion. Yesterday, Today, and Tomorrow: "Today, it is possible for almost any patient to be brought through any pregnancy alive, unless she suffers from a fatal illness such as cancer or leukemia and if so, abortion would be unlikely to prolong, much less save life." One must conclude then that most abortions presently performed in Canada are definitely not for medical reasons, and therefore are illegal even if the 1969 legislation is accepted and the Bill of Rights rejected.

Another basis pro-life people have for being anti-abortion is scientific evidence. Georgetown University has films of children moving around, jumping, and waving; all at twelve short weeks from conception. This is definite proof that there is life before birth. Just recently, in my Educational Psychology class, our instructor said that researchers have found that children as early as twelve weeks from conception respond to signal-learning techniques. Reference to the results of this research may be found by consulting personnel in the Psychology Department of the University.

Also, I found Mr. Templeton's theory of humanity and the mind lacking in some informative insight. I believe the issue about the mind is more complex than he would have it to be. May I suggest that along with the significance of the mind is the inherent ability to progress from one step of intelligence to another. This progression must start somewhere even if it begins with learning about one's environment in primitive ways. All of the wonderful things he mentioned about the mind cannot be if progression is stopped at any stage.

Another point is the idea he brought up regarding the right parents should have to kill their children after birth if they are found to be handicapped in some way. This is ludicrous. Mr. Templeton has obviously not talked to many handicapped individuals (it would be difficult for him to face them now). A well-documented investigation at Wayne State University in Detroit has shown that it is a false notion that handicapped people enjoy life less than "normal" ones. The report stated that there is no difference between malformed and normal persons in their degree of life satisfaction, outlook of what lies immediately ahead, and vulnerability to frustration.

If Mr. Templeton didn't see any reasons for not allowing abortions, he apparently was not looking very far. He does not have to be paranoid of

religious people pushing religion down his throat, for pro-life people clearly do not use religion as a basis for their views.

It is certainly short-sighted to say that an individual is not worth anything either before or just after birth because he does not know enough to contribute anything to society. After all, if Mr. Templeton's parents had chosen not to have him after he was conceived, we would never have had the opportunity to hear his enlightened views.

One last point - pro-life people do not favour illegal killing of animals; however, they do have priorities of values and on the top of the list is the value of human life. After all, most classes of the lower animals have the same set of values respecting their kind, and would protect their young at all cost. We who are superior in intelligence should certainly do as much.

Dennis Bonnici
Mathematics, Year 1A
Computer Science

SOCIAL DIRECTOR'S REPORT

Just a note to remind all you forgetful people that there is to be a "Come In Your Favourite Jeans" Liquidation Pub in the Math Faculty Lounge on Thursday, November 27th. I would like to say that I did not mean for that title to be taken in the way that many people seem to have taken it. It sounded better than "Wear Your Favourite Jeans" but that would have been a safer choice obviously. Mind you - SOME people could make something even out of that!!! (Oh well - just wait until next term and the thigh-high wine&cheese.)

I still need volunteers at the door from 10 P.M. to 1 A.M. and I need people to help with setting and cleaning up. Also - there are only 1 1/2 more weeks in which to submit your design for the "U of W Mathie Winter '81 T-shirt"!!! That's all for now, folks!

Marnie

CSC Flash!

A week ago yesterday saw a rather energetic CSC meeting. The mission: to discuss the future of computing facilities at UW. The main participants: Professors M. Gentleman (University Computing Officer), P. Dirksen (Director of the DCS), and J. W. Graham (Computer Systems Group and force behind much of the developments in computing at UW). Accomplices: approximately seventy students, staff members, and professors. Supplies: a modicum of hot water, tea bags, and sixty doughnauts.

What follows is *not* a detailed description of the meeting; rather, highlights are presented. We are in the process of preparing a more detailed report based on recordings made of the meeting. The pressures of this time of term make that an unfortunately slow process.

The meeting started with brief presentations by the panelists. Paul Dirksen started out with a retrospective look at the Computer Centre - DCS in terms of the computing power available. He projected the equivalent of 4 or 5 4341's together with a lot of micro's for 1985. Next, Wesley Graham discussed developments he forsees in support of courses in the coming years. He concentrated on methods of teaching CS250. It appears that the scheme of using PET microcomputers to teach the course, as reported in last week's mathNEWS, has been supplanted by the use of small, custom-built 6809 microcomputers. Each microcomputer would occupy approximately three small cards and be attached, via serial lines, to a standard terminal and to a central file server. The cards would be placed in racks, which would be situated in the current WIDJET rooms. This promises to be less costly, and closer to the state-of-the-art, than using PETs. Again, however, money must be approved before large scale implementation of the scheme may proceed.

Professor Gentleman spoke last and gave a broad overview of the problems facing the UW computing community. He indicated that there will be much less emphasis on "traditional" computing such as number crunching and program development and greater emphasis on text handling and communications, particularly electronic mail. A brief analysis does not do justice to the depth of his talk; however, his view of the future may be summarized as "a network of powerful personal computers". He stated that such computers will start appearing in the next few months, particularly for use in fourth year CS courses.

After the presentations, many questions were asked, ranging from "What can we expect in the near future?" (Answer: it depends on how much money is available) to "Should we be selling software?" (Different panelists answered differently). The meeting broke for tea and doughnauts at about 10 p.m. and conversations with the panelists lasted for a while longer.

Yesterday saw the presentation of a talk by John Sutherland of Control Data Corporation on the CDC Cyber 205, a *very* fast computer. We'll have a report on the meeting in next week's mN.

peter rowley(plrowley)

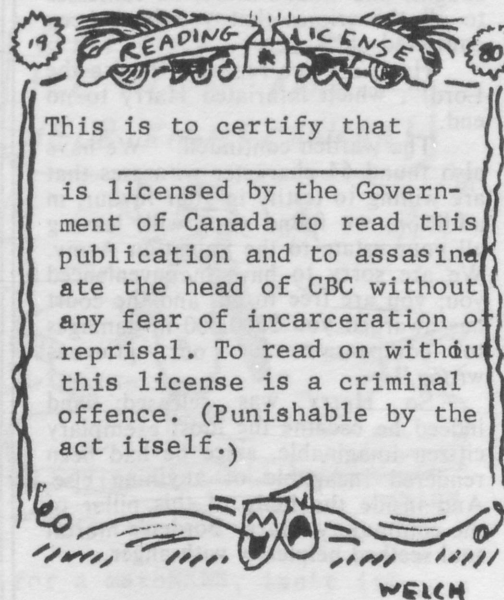announcing...

"Come in Your Favourite Jeans" Liquidation Pub

Thursday, November 27, 1980.
8:00 p.m. - 1 a.m.

MATH FACULTY LOUNGE

Mathies $1.00
Others $2.00

DJ - DANCING

Beer $0.50
Liquor $1.00

Monologue

-with Brad Templeton

A few weeks ago, a certain policy of the federal government came into public view, and disappeared shortly thereafter. It involves an attempt by the federal government to remove from citizens one of the more basic privileges of a democracy, namely the right to freely receive information. I am referring to the recent ban on satellite receivers for pay tv.

I am surprised at the small amount of outcry that has been heard on this topic. The government is actually trying to stop citizens from tapping the airwaves when this is done at no harm to other people. The ban itself may not be all that serious, but the principles involved are fairly nasty. Consider yourself in a not so democratic country. If the government tried to ban the ownership of receiving equipment that could pick up foreign short wave transmissions, would this not strike you as a pretty severe act? In principle, the same thing is happening here.

Naturally, the government does have a reason behind their actions. They claim that public ownership of these receivers defeats principles regarding payment for broadcasting and levels of Canadian content. They argue that the owner of the reception disk is stealing the intellectual property of the broadcasters. Of these, only the last reason has any real validity. Although the CRTC and friends may feel they can regulate the Canadian content level of domestic broadcasters, it is quite another step to tell Canadians that they can't watch broadcasts coming from the United States.

Although I feel that laws concerning intellectual property are necessary, (In fact, I make my living due to these laws) I doubt that they apply to openly broadcasted transmissions. If somebody wants to cast their signals or property openly into other people's houses, then they have little claim to protection from other people wanting to pick them up and look at them. As long as the receivers don't make money off what they receive, the broadcaster has very few grounds for complaint. Clearly the answer is for the broadcaster to scramble his transmissions in a way that the average antenna owner can not decipher them. That would be perfectly valid in my mind, and would not violate anybody's rights to the airwaves.

Despite this, the government has taken to telling us what we can and cannot look at, despite the fact that official secrets and obscenity are not involved. I wonder when we'll have to have a liscence to read a newspaper?

A little light reading for a Friday afternoon...

Fair Deal

No one in his or her right mind would have considered Harry Borden a model citizen.

It seems that some people are just born bad - this was certainly true in Harry's case. At the tender age of two, Harry's favourite activity was to stomp on all the other children's playthings; the look of fiendish delight on Harry's little face was almost frightening to see in such a small child. As Harry grew older, his mother found herself constantly slapping him for some misdemeanour or other, whether it was for pulling the wings off flies, setting fire to bugs, trying to injure other children, or just making a general nuisance of himself. This continued until the age of ten; at which point, Harry Borden slapped back.

The judge stated that Harry didn't really mean to kill his mother, yet was disturbed by the bereaved one's seeming lack of repentance. Nonetheless, the judge did not send him to an institution; instead, the Children's Aid Society found a new home, with loving foster parents who would care for and nurture young Harry.

Harry responded to this love and affection in typical fashion - he set fire to his new parents' house. This time, the judge locked him up.

The next fifteen years saw Harry's behaviour improve not one bit. First there were the fights, the beatings and the slashings; then the escape; then the robbery spree, followed by a multiple rape and murder charge. Then the verdict of twelve men good and true, and Harry Borden was sentenced to death.

They put Harry in a special cell, designed to prevent dangerous inmates from escaping. He spent the first five days trying to break the bars - they wouldn't break. Next, he tried to dig a tunnel; but concrete doesn't give way very easily - Harry's efforts resulted in nothing but bleeding fingers. Eventually Harry gave up. Vowing murderous revenge, should he ever get an opportunity, Harry sat down on his concrete bed and stared at the wall.

Suddenly - *a flash of light!* and a voice behind him. Harry whirled about - what he saw startled him. In front of him stood a man-like form clad in garments so white that it hurt Harry's eyes to look at them. An innocent, cherubic face gazed at Harry.

"What the hell do you want?" growled Harry.

"You are Harold Borden, aren't you?" replied the man-like being in a deep, melodic voice.

"So what if I am?"

"You are to be executed tomorrow, are you not?"

Harry's only reply was an unprintable string of oaths.

"Please, sir! None of that! I have a deal to offer you," the man-like form replied.

Harry's voice mirrored skepticism. "Oh yeah?"

"Just leave yourself open to the ways of good, and I will set you free."

Harry chuckled to himself - there's one born every minute. "Sure."

The white-robed visitor then vanished.

Harry remained where he was - confused, but elated. "I sure put one over on him," he thought. "Leave myself open to the ways of good - hah! But how is he going to get me out of here?"

Just then, the warden came to the door of Harry's cell. He unlocked it and stepped inside. "Good afternoon, Borden."

Harry opened his mouth to curse at the warden, but found that he could not; instead, he heard himself saying, "Good afternoon, sir."

The warden spoke again. "It appears that we were mistaken about you, Borden."

Harry had dreamed for months of having a chance to punch the warden's fat face in; but now, he found himself unable to rise or to double his fist. He thought: "I've lost control of my body, but at least I can tell him what I think of him." But this didn't work either - his voice box didn't respond to his commands either. Instead, Harry heard himself say, "Is that so, sir?"

The warden beamed at him. "If the police had known earlier about the man who looks just like you, they would have been much more thorough in their investigation. But he is now caught; and what's more, he confesses to all the crimes that you have been convicted of."

Harry's voice replied, "Praise the Lord!", which infuriated Harry to no end.

The warden continued: "We have also found 64 character witnesses that are willing to testify in your favour; in addition, we found your will, leaving all your estate to the Salvation Army. We are sorry to have inconvenienced you; you are free to go, and the court has awarded you $500,000 in damages to compensate for our grievous wrong."

So Harry was released; and indeed he became the most exemplary citizen imaginable, since he had been rendered incapable of anything else. And inside the body of this pillar of the community, Harry Borden's mortal soul seethed helplessly with anger.

Perhaps if he had known, he would have been a little more content. For these things have a way of evening out; and while the reformed Harry Borden was giving generously with both hands on Earth, a certain Something was giving the Powers-That-Be an awful lot of trouble up in Heaven.

FIN

David Till

Small C Compiler

At last! (almost) we've got the small C compiler cross compiling on unix and working on another computer! Huh, What you say! What's small C? And who are WE? Well 'We' are: Ashok Patel, Andrew Forber, Bernie Roehl and Mike Gore.

Small C iS a compiler written by Ron Cain that appeared in *Dr. Dobb's Journal of Computer Calisthenics & Orthodontia (Running Light Without Overbyte)*. The compiler was written in the C programming language and can compile itself. This makes it great to work with since the compiler can be maintained in its own language. What's new is that we've got small C running on a TRS80 which is a Z80 based system. The code that the compiler produces is Z80 assembly code which is compiled with a Z80 compiler writen by Microsoft.

The compiler is easly changed to generate code for a new type of processor -- Ashok is working on a 6800 version at this time. Bernie and I are working on the Z80 version, while Andrew is working on a code optimizer that runs under FRED on Honeywell.

This article will hopefully spread the word around so that people who have micros or are interested in C will know some of what's going on in the world of small C. I should mention that there are other people involved with small C at this time. They are: Blake Pylypiw, Dave Brown, Dick McMurray and Drew Sullivan. Last term, Mike Sargent started most of the interest that has caused our group to come to life. Mike was able to get the compiler running on a TRS80 that he had.

Our implimentation has been largely independent of Mike's efforts on small C, but it's fair to say we wouldn't be where we are now if it hadn't been for his interest.

So -- all you people out there with micros -- if you're interested further in the events of small C, you can send mail to me - magore, Ashok (acpatel), Bernie (bjroehl) or Andrew (aefober).

Mike Gore

The Adventures Of Captain Zilog

(dedicated to the memory of Steve Hull)

Faster than two megahertz!
More powerful than the LSI-11 instruction set!
Able to leap 2 micrometre high AND gates in a single clock cycle!

Look! Up in the sky! It's a data path! It's a DMAREQ request! It's a 64 bit arith/logic unit with 1 microsecond floating point divides! NO! It's Captain Zilog!

[We begin our story in a small lab in Silicon Gulch, where our heroes, disguised as millionaire Steve Jayell and his sidekick Dave Breakpoint, are hovering over a new microprocessor design.]

"Yes Dave, this new chip should enable us to do triple integrals in twelve microseconds. We'll have to have one sent to the Calculus Kid, who helped us out against our enemy, de Power."

"Well Steve, that was a sticky one..." said Dave, as he was interrupted by a melodic voice of their automatic crime monitoring Z206894-3D.

"The Network reports a break in at National Semiconductor. Please investigate."

"We're on our way," said Dave, "but we won't be there for a few microseconds yet!"

[Captain Zilog and Robust, dressed to kill, encounter their arch enemy, Serge de Power escaping from the N.S. plant with a small printed circuit board and a tiny chip.]

"Stop, de Power! One wrong move and we'll use segmentation on you!"

"Fools!" he cried, "You do not yet realize the advantages of parallel processing! My memory is spread out between fifty or so processors, and more than a few of them will not be confused by your unwanted memory management! Not only that, but I have the capability to imprison anyone into this board! So take that, you Static-Duo! Ha ha ha ha ha!"

[Suddenly the room grew to gargantuan proportions to our heroes. They were indeed trapped in the evil dynamic memory of de Power. You could say they were in de Power's powers.]

"Holy Non Maskable Interrupts Captain Zilog! That refresh signal had better come quick or we could end up as a parity error!"

"Yes, Robust. But luckily I brought my data transfer jumper wires! Now if I can just swing this end over to the GROUND pin...There! And this one to the NMI...Oh no! I touched the RESET pin! If I'm not mistaken, the operating system zeroes all of memory after a RESET request! Oh my. We have about 17 milliseconds!"

[Will our heroes byte the semiconductoral dust? Or will they escape to once again battle their arch enemy, Serge de Power? For the answers to these and other questions, stay tuned next week...]

Pre-Froshe

GET OFF YOUR ICE FLOW AND HELP FIGHT CANCER!

WELCH

...nice day for a mathNEWS, isn't it?

FASSinating Developments

Welcome to the latest in a continuing series of Fass articles. As you may remember from last time, our intrepid reporter was telling you about the upcoming Fass show. You may also recall that Fass was running a contest to determine the name for the show. Well, a winner has been found!

Louise Sorbara, a bright and effervescent Mathie, was the only entrant to submit the title "Fassablanca" in any of the ways described in our previous article. Although the title had been suggested before, no one seems to be quite sure who was the first to mention it. In any case, Louise was the only one to submit it to us as a formal contest entry, and so she wins. Simple, eh?

Now, on to other things. The script for the show is progressing, and with a bit of luck it'll be one of best shows ever. As I think I mentioned last time, the show will be on during the first week in February, and will run for four nights. Tickets should be available before the term is out, and those of you who will be work-terming in T.O. or environs should give some thought to getting your tickets before you depart.

A lot of people have been asking about auditions for Fass, when and where they are. The auditions will be held during the first week of classes in January, and will be in the Theatre of the Arts in the Modern Languages Building (same place that the show is held). There'll be lots and lots of posters up, and the auditions will be announced in the "this week on campus" type columns in Imprint and Gazette.

For those who are already part of the fold, there will likely be a hay ride (or possibly a sleigh ride) later this term, if we can find a time that's suitable for most people. The outing to the Rocky Horror live stage show went well, and enthusiasm is running high.

This weeks's column will be a short one (schoolwork beckons), but if there are more mathnewses later this term you can bet we'll be in them (with some juicy plot details, no doubt!) so keep yours eyes and ears open.

Farewell for now, or as Patrick McGoohan would say, "be seeing you".

Bernie Roehl
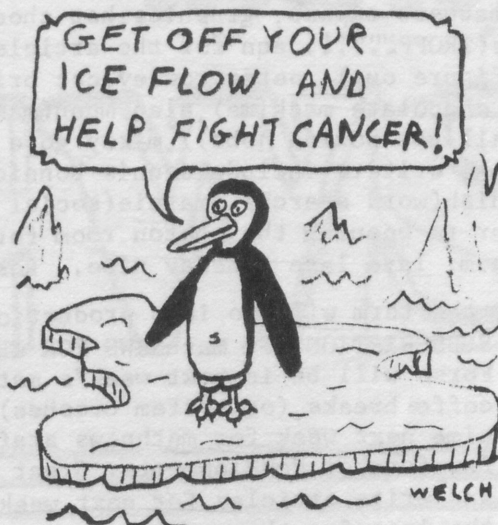
LOGIC Word Search

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M M I G H G U O R H T E
T U O B A L G L A S S L
O T D S S A L O G I C O
E E D E L D E E W T T H
S R E W L T N I A H H T
E R U O Y D R A I G D G
S A N B E A E N S I N
T N I U R D K E A M N I
A O T T L I Y S W O N K
H H N U N F S E H T L O
T O O G Y E R N A L A O
C W C W E E D Y T A S L
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Find 'all' the words in the following quote. All words are distinct (not contained within another). Ignore duplicate words and punctuation.

QUOTE:

"I know what you're thinking about", said Tweedledum, "but it isn't so nohow."

"Contrariwise", continued Tweedledee, "if it was so, it might be; and if it were so, it would be; but as it isn't, it ain't. That's logic".

(from *Through the Looking Glass*)

rwmelhuish

Typo's

Re: B FUNCTIONS Word Search.

All search words beginning with a '.' seem to have been removed from the search list when it was photoned.

The following should have been included in the list: (without them, the correct leftover solution cannot be found).

.abbrv
.abort
.bset
.read
.tabs
.write

-randall

and now for what you've all been waiting faxx(at least we've been waitung)tadummmmm....
?...masthead!! ahhhh...i think everyone in this room must be mad, absolutely raving mad. R
And on page 5 we have an exploding penguin...not to mention the prison escapee. Late news:
the mathsocists lost their broomball game 0-5!! They felt so disgusted, no one else would
write this. You must have a license to read any farther...see p 3 for appl.forms.Note; the
editor can spell...one of the few correct spellings of t'e wordlicense.Enough of this rambling,
Tonights helpers were (are? still) james puttick((photon, general muddling, typing, errand run-
nigh)), andrew p welch(layout,mathsoc exposé, graphics,hot chocolate), david till(layout,fair
deal,neat captions),tracy timms(TROFF!''!''!!!!!! eqn for the article toæ come (next week)full of
special stuff no one else can figure out), peter rowley(csc bright lights, verifying, other
helpfull stuff)(change for hot chocolate machime),alan munn(master verifyer -proof-reader-
photoneer-rewritingx etc etc (all the boting jobs)),mikey gore (late, but at least a smallc),
jan gray (sweet too!!, zilog???), writers include dennis bonnici***(best article in this issue),
,brad templeton (mono), rwmelhuish(word search), marnie(social stuff), cc (dead ringer report),
bernie roehl(fass), tcargill(for re-opening the photon room for us at 2in the moring...by the
way it is presently≥ 3:46:27 a.m. late late tuesday nite. Ross, where DID you get to???????

Next week the last mathNEWS for the term will go into production!! DON'T FORGET TO GET YOUR
SUBSCRIPTION FOR MathNEWS FOR THE WINTER TERM IF YOU'RE ON COOP.
Forms will be in next week"s mathNEWS. (great reading during
coffee breaks,(or system crashes)).Best of all....PARTY...some-
time next week for mathnews staff and/or writers!!!!! Stay tuned
foo further developments. Great reason to help out with mathnews
and write articles for next week's (yes it really is going to be
the last for the trem) issue spectaculat. (?)(of course!!!!!!!!
) . Sleeppppp....(filler,gasp,more filler) bye, joanne......'''