



# Felix



## NEWSPAPER OF IMPERIAL COLLEGE UNION

### Open at Last! Bad Guy Makes Good

The Bot/Zoo Common Room tea service reopened for business last Monday after ten months closure. Professor Wood, Head of the Biology Department, said that he is now able to redistribute departmental funds to allow two half-time appointments to be made.

This week the service has been open in the mornings only but, from next week there will be an afternoon service as well.

The tea room closed last March when the College freeze on recruitment left the department too short staffed to run the service. Last term there was a growing campaign to have it reopened led by Tim Wilson, Life Sciences Dep Rep and Ian French, Assistant Departmental Supervisor, with the support of FELIX. Professor Wood had been insisting that the service could only re-open if it were self-financing, but he has now dropped this condition. However, the cost of tea and coffee has been increased to 10p so the department is expected to

make a profit on the running costs of the tea room which will go some way towards covering the labour costs.

The future of the tea room is still in doubt, however. The extra appointments are only temporary and last until 31 July, when the provision of the tea service will again be reviewed in the light of next session's departmental budget. Professor Wood ends his term as head of department this summer so the new head, Prof R M Anderson, will have to decide if the service can continue into the next session. Prof Anderson is known to be sympathetic to the cause of the tea room, having signed a petition last term calling for it to be reopened.



At last the tea room is back in operation with tea, coffee and biscuits being served between 10:00-11:00am each day.

### FREMANTLE II

#### The Adventure Continues

A new warden has been appointed at the Fremantle Hotel without the post being advertised or interviews being held. The appointment of Nick James, previously one of the Fremantle subwardens, to replace Andrew Walker (who resigned last term) was approved by Union President Gaynor Lewis on the recommendation of Student Services Officer Michael Arthur.

Mr James' post of subwarden has been filled by Mark Green, who was also appointed without the post being advertised although he had been interviewed previously for a different post. The other subwarden post, originally occupied by Ruby Tan, Andrew Walker's live-in girlfriend, is to remain vacant. It seems the post was only created in the first place to prevent any official embarrassment over the fact that they weren't married.

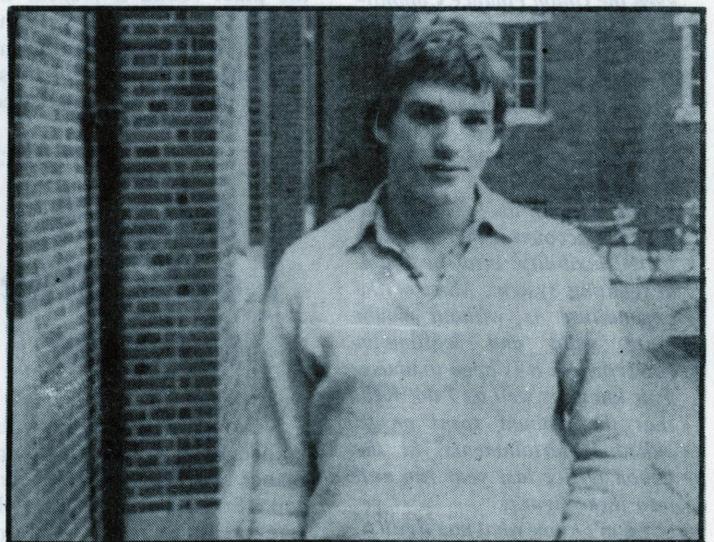
Meanwhile, Nigel Simmons, the Fremantle assistant subwarden, has resigned his post. This resignation appears to be unconnected with recent events at the Fremantle with Mr Simmons giving his reason for resignation as the low standard of

his accommodation, which made it difficult for him to do any academic work. However, it seems that his position will not be filled for the time being, which will mean that the number of wardens in the Fremantle has now dropped from four to two.

Miss Lewis claimed that the normal procedure for the appointment of wardens and subwardens was not followed because there was insufficient time (the same excuse used when Andrew Walker was appointed) and there had been interviews held for other posts earlier so anyone interested in applying would presumably have applied on a previous occasion and been turned down. However, the fact

*continued on page 3*

### Students get off lightly



Tony Collier looking relieved after he was let off with a conditional discharge after playing cops and robbers 'shooting people' with a toy cap pistol. Full story page 3.

## Union Slush Fund

Dear Sir

You state in the Editorial of the Christmas issue that 'Sundry Expenses' in the Union budget is "basically the President's slush fund...do with what she wants to." That is the kind of misrepresentation which the Union could do without.

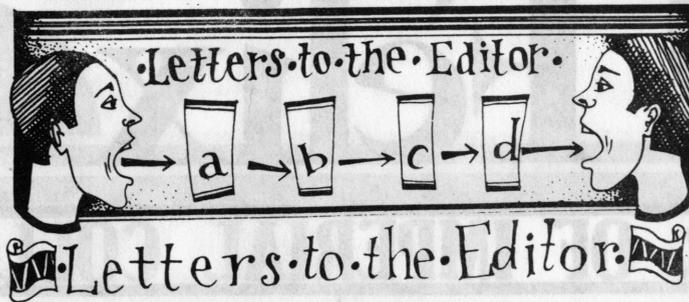
Among the larger sums debited to this item recently are: £300—subscription to *London Student*; £218—hire of tables for Freshers' Fair; and £88—transport for Silwood students to Freshers' Day. This term's Union officer elections will take at least £250; and the cost of sending you on a typing course at the start of the session was £96. The merits or otherwise of such items can be argued, but they are evidently not the waggons of some presidential gravy train. For its outlay on the FELIX editorship (well over £5,000pa) and the total cost of FELIX (around £30,000pa), the Union should receive fairer and more accurate comment, both on finance and other topics.

Yours faithfully  
Ken Weale  
Hon Treasurer  
IC Union

**Ed's Note:** Any one of the three sabbaticals can authorise expenditure from the sundries account without any student or student committee knowing about it: not even the Union Finance Committee which is the elected student body supposedly responsible for Union expenditure. All other club and CCU expenditure is scrupulously monitored, why on earth should the Union Office be an exception?

The official line is that the sundries account is there to add a little 'flexibility' into the Union accounting system. Most of the expenditure is without doubt quite valid and legitimate. Nevertheless it is open to abuse. You know as well as I do, Ken, that the amount spent on so called 'entertainments' in the Union Office last year ran well into three figures.

I don't know what you'd call it, but I'd call it a slush fund. That is the kind of misappropriation the Union could do without.



## Department Priorities

Dear Pallab

I feel that it is about time there was some debate in FELIX about the low priority some lecturers give to undergraduates. Many students have had tutorials cancelled or have been unable to find their laboratory supervisor because the member of staff is working on his research. This is encouraged by the promotion system that usually rewards good research and not good teaching ability. Maybe there should be some form of bonus for the good teachers. I am not saying that all our courses are not of a high standard, just that they could be improved.

Yours  
H Southey

## Boozing All Hours

Sir

It would appear that the opening hours of the Union Office are in something of a decline. For two afternoons, just after the end of last term, anyone trying to make use of the place found it locked. Of course, I am sure that the considerable quantities of wine consumed in there during these afternoons were not purchased at the Union's expense.

N Shackley

## FELIX Look-Alike Contest

Dear Pallab

I wonder if any of your readers have noticed the resemblance between C&G President Mike Stewart and actress Lilly Langtry. Is there any relationship. I think we should be told.

Yours sincerely  
Matt Smith

## NAT WEST BUNK

Dear Editor

Since arriving at Imperial I have been amazed at the low standard of service in what appears to be one of England's foremost banks, the National Westminster. This bank is allowed to occupy a privileged position on campus, and many students open accounts with the branch for this reason alone. Apart from student accounts, the NatWest also seems to get all the other College and Union banking business. In return for this, they give ordinary students a service which is inefficient, reluctant, forgetful, unenthusiastic and even indiscreet.

Let me quote my experiences at Edinburgh University for comparison. Edinburgh has twice as many students as Imperial, spread over two sites. There are four branches of the three major Scottish banks and three automatic cash machines. On these statistics, NatWest should have at least one on-site competitor, perhaps in the Union Building or Southside.

When I was at Edinburgh, I was fortunate enough to be a client of the Clydesdale Bank, where I found quick, friendly, efficient and enthusiastic service. In addition, the Clydesdale is one of the most modern banks in the country: the Autobank cash dispensing system allows customers to pay in cheques and transfer money inside the bank using their cashcard and without the need for the mess of form-filling which the NatWest seems to delight in.



Lillie Langtry

Naturally, as Alternative Prospectus Editor, I intend to provide information and advice on banking for prospective freshers. If anyone has any comments, views or experiences with the NatWest or any other bank, I will be pleased to hear them, messages can be left c/o the FELIX Office.

Yours faithfully  
Diane Love  
Physics PG

Alternative Prospectus Editor

## Arrogant IC

Dear Pallab

The question of sending visitors from Imperial College to the NUS conference raises wider issues than whether the expenditure of £200 of Union money is justified.

Whether we like it or not, NUS makes decisions which affect students at Imperial College. Although we may choose to remain unaffiliated to NUS, it surely makes sense to at least reopen the dialogue with them. Nothing is to be gained from an arrogant "they can't help us" type attitude. Delegates from many colleges with differing opinions and ideas attend the conference, and discussion of issues of far more immediate concern to students than national politics takes place. By deciding not to send visitors to the conference, IC Union has wasted a golden opportunity to learn from these discussions.

The cost of sending visitors to Blackpool amounts to less than 0.1% of the Union's subvention from College. Ironically, the money 'saved' is unlikely to be spent for the benefit of students. I suspect it will lie idle in the budgets set aside for campaigns and contingency funds, and remain unused.

By refusing to send visitors to the NUS conference, Imperial College Union has lost a great deal of potential good will. For how much longer will we let our hearts rule our heads to our detriment?

Yours sincerely  
Peter Burt



Mike Stuart

## Fremantle

*continued from front page*

remains that in the four terms the College has had the Fremantle Hotel a total of seven appointments have been made to the four posts that have existed at various times without any of the posts ever being advertised or interviews held. There is no regulation which states that any procedure must be followed, and in practice the appointments have all been made by the Union President on the recommendation of Michael Arthur.

## CCUs Slated

The Constituent College Unions (CCUs) were described as 'ineffective organisations' by the Rag Committee Chairman, James Benbow, this week.

Reaction was quick to come from the CCUs, with all three Vice-Presidents claiming that while they had arranged all last term's Rag events, Mr Benbow had taken all the money for ICU Rag.

## College Falling Down

The College is unable to afford basic maintenance on its buildings as a result of spending cuts according to the governors. As a result replacement of ageing lifts, heating systems, etc is being phased over several years, whilst general maintenance such as painting has virtually stopped.

The problems at Imperial were a major part of a front cover story in the *Times* Higher Education Supplement recently, where increasing concern over 'crumbling universities' was highlighted. IC's governors are quoted as saying that 'insufficient resources can be devoted generally to maintain premises to a proper standard'.

The College is finding it increasingly difficult to find money for the replacement of worn out equipment and structures. Recent examples are

the long delay in replacing the telephone system and the difficulty in financing the repairs to the Electrical Engineering building. And because of financial constraints the Southside heating system has had to be replaced gradually over four years, ending this summer, whilst the cycle of periodic repainting of all buildings has been abandoned.

The College is concentrating only on repairs necessary for health and safety reasons, but the result of this will be increasing unreliability of building plant and general deterioration of structures. Mr John Lauwerys, Senior Assistant Secretary, expressed concern that lack of maintenance would cause a danger of more expenditure in the future as buildings deteriorated more rapidly.

## B is for Bull!



Gorgeous Gaynor Lewis is making slow progress in her bid to "get through Council alphabetically". Here we are in January and she's only got to B for Bull!

Reports that Council member D Hugh Southey is having his name changed by deed poll to Zebula Z. Zed cannot be confirmed or denied.

## Bang, Bang You're Dead

Three IC students appeared at the Crown Court in Preston last week, charged with assault. They were arrested while motoring to the Lake District last February after an incident involving a toy cap pistol, as reported in FELIX no 637.

When a lorry pulled out in front of them on the M6, one of the students wound down the car window and 'shot' the lorry driver. He reported a shooting incident to the police who later intercepted the car as it left the motorway.

Carl Fairhurst, Tony Collier and Julian Barber, together with Martin White from Cambridge, were initially charged with a

breach of the peace. They subsequently appeared at Blackpool Magistrate's Court where they pleaded not guilty, and were committed for trial at the Crown Court.

Charges against White, who was asleep when the incident occurred, were later dropped and the charge against the other three was changed to assault.

The three IC students appeared at Preston Crown Court on 3 January when the case against Barber and Fairhurst was dismissed. Collier, who changed his plea to guilty, was given a 12 month conditional discharge. He receives no criminal record.

## Paid in Blood

On Wednesday 11 January, Mary, the wooden leopard mascot of QMC Students' Union was returned to its rightful owners after 22 months of tense and sometimes bitter negotiation between them and RCSU who purloined the model in March 1982.

The swap took place outside Senate House in Bloomsbury, RCSU exchanging the leopard in return for a receipt showing that QMC students had donated over 80pts of blood in a special session last term and cheque for £40.

## April Showers?

The College has agreed to spend £4000 installing showers for the volleyball court in the old chemistry building. Two mens and two ladies showers will be installed in the existing changing rooms.

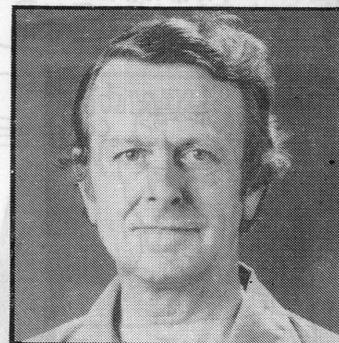
The room, a former lab, was converted into a gym two years ago, but until now only basic changing facilities have been available. The job is expected to be started this term but, due to the lack of a hot water supply to the changing rooms, it is expected to take longer than would normally be the case for such an installation. No firm date for completion has been set.

## Buttering Them Up

Professor Ian Butterworth FRS was made a Commander of the British Empire in the recent New Year's Honours list. The citation noted Butterworth's contribution to Physics at IC; he has been Professor of Physics here since 1971.

His work at IC has involved research into Hadron Spectroscopy and the application of the bubble chamber to strong and weak interaction physics. Prof Butterworth, who was Head of the Physics Department until 1983, is presently working at CERN (the European centre for nuclear research) in Geneva.

Also honoured was Prof Richard Southwood, Linacre Professor of Zoology at Oxford,



and a Fellow of Merton College, who receives a knighthood. Sir Richard was Director of Silwood from 1967 to 1979 and Dean of RCS in 1971-2. He has published numerous books and papers on entomological and ecological subjects.

# BINGO

- Yes folks! FELIX is starting its very own sensational Bingo Competition. And there's a fabulous weekend for two in Amsterdam to be won. It's got to be the Biggest Bingo Bonanza in South Kensington!
- Amorous Amsterdam has something for everyone. All you culture fans will be able to tour the world famous Rijksmuseum or visit the theatres.
- For the gourmets among you the enormous Heineken brewery with terrific tours and the Indonesian restaurants with a staggering twenty courses will be more appealing.
- If you find the stunning range of colours in the delightful Dutch bulbfields attractive then why not use Amsterdam as a base for a tour of Holland.
- and you'll find a staggering variety of street life attractions from top-people's boutiques to the world-famous raunchy red-light district.
- The lucky winner will travel to Amsterdam by ferry and stay at the conveniently situated Cok Hotel all courtesy of ULU Travel/STA.
- Find your ULU Card today and you will be ready to start next week.

# WIN A FABULOUS PRIZE



Prizes donated by  
ULU Travel / STA

# SUCKER

# GODSQUAD

**COURT IN THE ACT...**

**CASE DEMITTED!**

YES, YERRONER, PLAINTIFF MADE SOME REMARK ABOUT IT BEING 1984 AND A GERGE CRNALLY AND IMMEDIATELY ASSAULTED MY KNEECAP WITH HIS TESTICLES...

AS USUAL, NOTHING WORTH DRAWING IS HAPPENING AT I.C.

**SEX (too little) MINES (too long) RES (too fable) BELLS (man, what's USED GOT)**

**RELIGION**

**BUT IF YOU DO...**

THERE'S NOT A LOT LEFT!

**FOR A SCIENTIFIC COLLEGE**

WE SEEM TO HAVE LARGE NUMBERS OF PEOPLE WHO DO BELIEVE IN ONE OF THE VERSIONS OF THE OLD GUY IN THE WHITE BEARD

THAT IS THEIR OWN BUSINESS AS LONG AS THEY DON'T INFLECT IT ON ME...

IT'S NICE TO SEE PEOPLE WITH ENOUGH CONVIC-TION TO BREAK OUT OF THE APATHY

**BUT**

SOME SOCIETIES ALSO HAVE A POLITICAL AXE TO GRIND

**HISTORICALLY THIS MAKES FOR THE VERY WORST KIND OF POLITICS!**

GOD IS ON MY SIDE

WE DON'T WANT THAT AT IMPERIAL.

PRETENTIOUS GIT! GET OUT OF MY AFTERLIFE!

# 1. THE SAD STORY OF THE STUDENT GRANT

On 17 November Sir Keith Joseph, Secretary of State for Education and Science, announced that £90m is going to be cut from the education budget over the next three years. Student grants will be increased by 4% next year. This is more than the public sector pay figure of 3%, however taking inflation into account it means that students will once again face a cut in their grants in real terms. Sir Keith also announced that the parental contribution scale is to be adjusted to increase contributions from those parents with residual incomes in the middle and upper reaches of the scale, and that the minimum grant is to be halved.

'Revised arrangements' for repayment of travelling costs are to be announced later.

The effect of removing the travel allowance will be (or so the Government hopes) to induce students to live in their parents' home and attend Colleges within reasonable distance to this.

## Why should I care?

Future cuts in education spending are going to hurt you! They're going to reduce your grant, place your job at risk, eat away at your facilities and equipment. Young people (your brothers and sisters) hoping to go to college will find the door being slammed in their faces. Your parents will have to pay more for your education. And, in the long run, the economy will only suffer if people cannot cope with new technology. Unemployment and slower growth will mean a lower standard of living for you in the future.

**What does this mean to students?** If you receive full grant, you will only receive an extra £80 in next year's grant. This works out at less than 30p more per day.

Those students whose parents have a residual income of more than about £12,000pa (about 50% of students at IC) will have to sponge even more money from them than at present.

Perhaps the most alarming aspect of Sir Keith's statement is his plan to change the method of meeting our additional travel costs. It is widely expected that the present method of full repayment will be replaced by a flat rate travel allowance.

This would mean that if, for instance, you lived in one of the

**Sir Keith Joseph is committed to axing £90m from the Education budget over the next three years, a questionnaire has been sent out to all universities to consider possible cuts in resources of 1-2% per student a year. In the first of a series of articles, Peter Burt examines the long term implications of these cuts and the effect they will have on you now.**

more remote parts of the country or travelled daily by tube into College, you would be expected to heavily subsidize the fares from your own pocket.

## What of the future?

The Government is committed to maintaining a constant level of public expenditure until 1987, and this will probably mean that education spending will suffer in this period.

current contraction of the polytechnics. A major questionnaire from the University Grants Committee (the body which, among other things, supervises the distribution of funds to the universities) recently asked the universities to consider the effects of possible future cuts in resources per student of 1-2%pa, although Sir Keith Joseph has stated that there is no *present* intention

students in further education colleges receive no grant at all, and that mature students who may have to leave a job to take their course will have additional needs.

Ideally the system of student financial support would eventually be reformed to encompass all these needs. However, there is obviously a major catch. All this would cost a lot of money.

Given the general contempt with which students are held, neither the Government or electorate are likely to advocate spending money to increase student grants. All that we can do at present about this is to point out the importance of education and the crucial need for highly trained graduates for the long



Mr Peter Brooke, the Minister responsible for Higher Education has told students that 'the hatches are battened down' and it would be 'wholly incorrect' for students to expect significant improvements in living standards in the future. Mr Brooke 'recognises the illegality and unfairness of the parental contribution system' but, as we have seen, has no plans for phasing it out. Furthermore, the Department of Education and Science has not yet considered possible transfer of funds from other Government departments and administrative savings to offset the cost of any improvements.

All this must be seen in the light of possible cutbacks for the universities themselves following

to implement such a policy.

Such politics would hardly increase educational opportunities or the quality of education received by students. They may also force universities to increase hall and refectory charges to a greater degree than otherwise, and introduce library fees and suchlike, thus hitting students' pockets even harder.

## The alternative

Few students would object if their grants were to be increased to a realistic level and maintained at this level. In the eyes of the law, students over the age of 18 are independent adults, and it would seem reasonable to reflect this by gradually abolishing the parental contribution. We must also remember that a great many

term economic well-being of the country.

## What can I do?

This term, Imperial College Union will be running a campaign directed towards putting our case about grants and education policy over. We hope to organise a letter-writing campaign to MPs, possibly supported by other events to demonstrate our concern.

You can participate by writing to your MP (details from ICU Office), telling your parents and other interested parties what it means to them, and finding out more by participating in any events organised.

# Draughts

This term there will be a weekly draughts problem, based on the weekly column in the Edinburgh Evening News by J. Love. To get you started this week, there is a sample problem and solution. This problem was composed by Joe Charles of Wrexham. The problem for you to solve on your own is also by Joe Charles and the solution will appear with next week's problem. Good luck!

## It's not as easy as you think!

I expect most people already know the rules of draughts, but in case you never learned to play, or need to be reminded, here they are.

Draughts is played on the dark squares of the board, but for clarity the problems are shown with the pieces on the white squares. The playing squares are numbered from 1 to 32 as shown in fig. 1. At the start, black occupies squares 1 to 8 with single pieces and white has squares 25 to 32. Singles are only allowed to move forward in diagonal steps of one (like a pawn's capturing move in chess). However, singles capture a piece by jumping over it (not landing on it) providing that there is a clear square to land on. If, after capture, there is another piece which can be captured, that is taken too. In fact, the player *must* capture any piece which he can take. (In the event of a player having two pieces which can both capture opposing pieces, he is allowed to choose which one to move.) When a single reaches the far side of the board (squares 1 to 4 for white-this is known as black's crownhead) the single is crowned with another single, and becomes a king. The king can move forwards or backwards in diagonal one-steps.

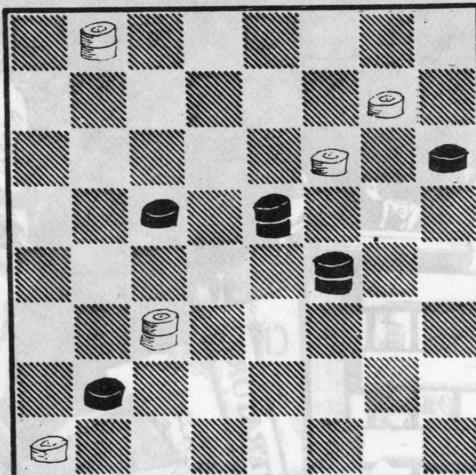
The object, of course, is to capture all your opponents' pieces.

In the solutions, each move is written with the starting and finishing positions joined by a dash, eg 1-5. However, this may involve

zigzagging round the board, capturing lots of pieces in one move. Problems with solutions which involve lots of capturing are called strokes. There are also problems which end in forced stalemates.

Finally, do not despair if you have no draughts pieces; use chess pawns as singles and other chess pieces as kings. Have fun!

## This week's problem



Black: 12, 14, 25; Kings: 15, 19.  
White: 8, 11, 29; Kings: 1, 22.  
White to move and win.

Solutions and all correspondence to FELIX Office by Wednesday 1pm.

## Fabulous Prize

Randomly selected winner gets a free cocktail in the Southside Bar!

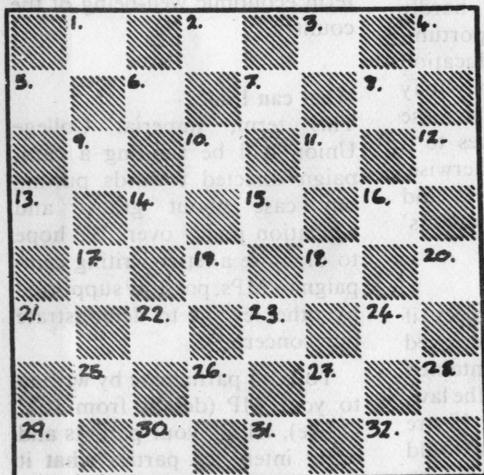
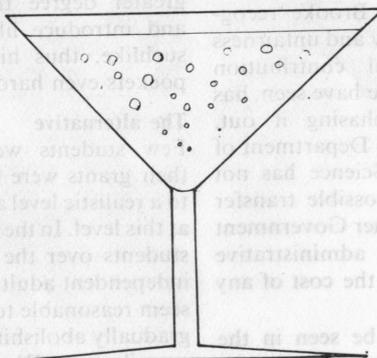


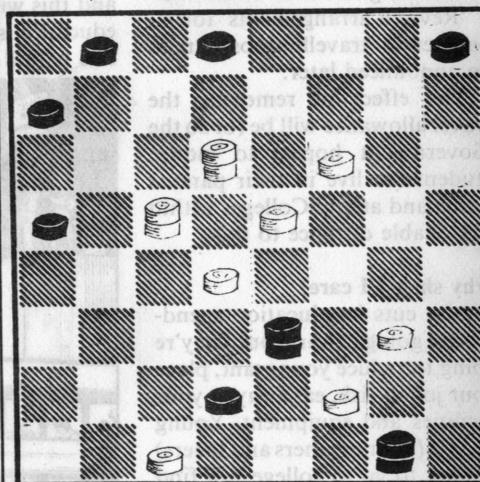
Fig 1 — draughts board numbering

## The game of draughts

Draughts (also known as checkers in the US) is a game often thought to be trivially easy by people who have played it, but know little about it. The fact that it is much simpler than chess does not detract from the fact that it is a challenging and subtle game when played at top level. Reports of computer programs that have draughts completely analysed have been disproved by draughts experts.

Interest in draughts is worldwide and activity is equally divided between tournaments and the invention and solution of problems. As with chess, problems can involve starting positions which are unlikely to arise in play, but the solutions are ingenious and entertaining.

## Sample problem



Black: 1, 2, 4, 5, 13, 26; Ks 23, 32.  
White: 11, 15, 18, 24, 27, 30; Ks 10, 14.

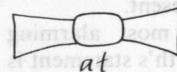
White to move and win.

### Solution

11-7, 2-11, 15-8, 4-11, 18-15, 11-18, 14-17, 13-22, 24-19, 23-16, 30-14, 32-23, 14-9, 5-14, 10-12, (round the board), white wins.

## The Annual Engineer's

## Dinner and Dance



at The Hyde Park Hotel

Fri. 27<sup>th</sup> Jan.

£10-Double Ticket

Includes: 1 bottle wine & free corkage



Go on, make a pig of yourself at the Fellows Dinner (2 Feb). More food and drink than you can possibly manage at a cost to students of £8 per head (£3 subsidy). Get tickets while they last from the Union Office (closing date Wed 25 Jan).

# THE PHOENIX



wants

**SHORT STORIES POEMS ARTICLES**

## £30 PRIZE

for the best contribution  
(as judged by the Phoenix Editor)

Copy Deadline: Not later than Friday 27 January 1984 to Phoenix c/o the Felix Office

## S M A L L A D S

### FOR SALE

- **Piano £60.** Buyer to collect. Contact J Dix 223 4258.
- **Music Centre** cost £90 new, will sell for £50.00. H Roz, Elec Eng pigeon-holes or Rayleigh House.
- **Mini-Component Hi-Fi** Sanyo C-3, National J500 (with turntable), price negotiable. Tang, Mines.
- **Ski Meribel over the New Year.** Due to someone pulling out I have one cheap place to sell quickly. Chalet accommodation, large mixed group and as much wine as you can drink). Interested? Phone Philip Smith on 994 2121.

### WANTED

- **Talented guitarists** interested in playing rock music. Jon Clipsham, Chem Eng 1.
- **If you want back issues of New Scientist** (26 Nov 1981—19 May 1983) please contact S Jain, Maths PG.

### ACCOMMODATION

- **Flatshare:** 2 people wanted to share a double room in a flat in Hamlet Gdns (Ravenscourt Park), rent £20.50pw plus bills. Contact Mark Hudson, Mech Eng letter-racks or 748 3655.
- **Person wanted to share flat** apply flat 209, 748 3655.
- **Double room in flat 210 Hamlet Gdns** available beginning next term, £20.50pw each and bills. Contact M Hudson (BB) Mech Eng 3.
- **Wanted: 1 girl** for flatshare with 2 lads, 1 girl. Shared room £24pw. Next to West Brompton tube, Fulham, S King, EE letter-racks, S Fyles, Met & Mat Sci.
- **Shared College accommodation** 81 Lexham Gdns. £23pw excluding bills. Female applicant only. Please contact Miranda Bellchambers, Mech Eng 2 or 373 1968.

### PERSONAL

- **The Brazilian Fair** will *not* now take place on 14 Jan.
- **Has Simon Banton** gone off Dai Head.
- **Rich confirmed bachelor**, 62, with TV tendencies and own microwave. seeks submissive partner (21+). 8mm film essential.
- **Has Dai Head** gone off sheep and started on chickens now?
- **Q:** What is feminine, has 22 legs, kicks and lives in Southside?  
**A:** Falmouth Keogh Ladies Football team challenge the world. Dare you oppose us? Contact Jo Anderson, Chem 2.
- **Anyone knowing the difference** between a wagon and a wagoon (or vice-versa) please contact Simon Nield.
- **Retired microwave engineer** offers technical translations from German and French into English. Phone 907 7136.
- **Dissertations, Theses, CVs etc** typed and presented in a professional manner. Further enquiries 567 0972.
- **Grey jumper** with rainbow stripes awaiting collection from Union Office.
- **Dr Malcom Pike**, Imperial Cancer Research, Radcliffe Infirmary on 'Risk of Breast Cancer and The Pill' in the Maths LT213 at 1:30pm on Tues 17 January 1984.
- **Dave Hopkins**, who is now in Ward F, West 7 of the new Charing Cross Hospital, Hammersmith, would like to say hello to all his friends in Chem Eng.
- **Stamps for the College Day Nursery:** Please save any foreign stamps from your Christmas mail from overseas and send them to Sue Thornett in the College Day Nursery. By selling foreign stamps the Day Nursery raises money to buy toys for the children. Thank you to all those who regularly save stamps for us.

## The British Red Cross Society FIRST AID COURSE

commences

Monday 16 January

6pm

in the Holland Club

Open to all staff and students.

## Lazy Eye? Dyslexic? Colour Blind?

The Vision Research Group is carrying out research into dyslexia, amblyopia and defective colour vision. If you suspect you have any of the above we would like to see you. Maybe you could help us with a few interesting and PAID experiments contact Isobel Blythe or Jane Bromley, Room 714, Biophysics Section, Blackett Lab (Physics). Internal 2995.

## WEST LONDON

### NIGHTLINE 01-581 2468

#### Sex, Drugs and VD

And other attention-grabbing headlines. I hope everybody out there had a marvelous Christmas and New Year and that you're going to have a wonderful rest of term. If you think you are, do you think that you could spare one night every three or four weeks to help other people? Nightline training sessions for prospective volunteers begin during the second week of term, and if you think you would like to help, please phone in any evening on 581 2468 or internal 2468 (add an 0 first if phoning from a staircase phone).

#### Will it make you go blind?

Contrary to popular belief, Nightline volunteers do not spend their nights talking to people standing on 10th floor window ledges with a rope around their neck and a bottle of cyanide tablets in their hand. Most of our calls are simple information calls—what time is the last tube to Russell Square? Can you tell me if there's a Chinese restaurant in Bayswater? What's the phone number of Garden Hall? Although there is about one 'serious' call each night, on average.

#### A load of old cobbles

Far too many people assume Nightline is only for depressed people. It isn't! We have extensive information files and although, obviously some volunteers are more adept at using them than others, we can still usually at least attempt to answer any query you can throw at us (although we do get a bit tired of the midnight call, with giggling in the background and a false voice asking for the address of secondhand contraceptive salesmen).

#### In conclusion

Please use our service more—it makes us feel wanted! If you want to help, phone or drop in soon—we're in the basement of 9 Princes Gardens (Northside), 6pm-8am.

Chris Brannick  
Nightline Director

## Dramsoc

The major production this term is 'The Life and Time of Gallileo' by Bertholt Brecht translated by Howard Brenton (of 'Romans in Britain' fame). Auditions will be on Sunday (meet at 2:30pm in the Dramsoc Store, up the stairs past the Union Office). Parts are open to anyone so if you acted last term or want to this term then please attend; the play has a large cast of both males and females.

Concerning other matters, the Wednesday afternoon workshops will continue this term under the guidance of Dave Simmons—all are welcome. There will be some more theatre trips during the term too. Finally, the lighting of ENTS events and parties continues apace and if this interests you at all—experienced or not—then pop up to the Storeroom and have a chat.

## Debsoc

Firstly, there is an important meeting on Monday at 1:00pm in Union SCR. We intend to finalise the term's programme of events so if anyone is interested in speaking then they must attend. Also, the society is to enter a team into the Observer Mace competition; if anyone—preferably with some experience is interested then come along on Monday. If anyone is interested in helping with the organisation of the society or arranging speakers then they would be most welcome. By Easter we start writing to potential speakers and we need ideas for motions and the speakers. So if you have any ideas, are interested in meeting the personalities the society gets to debate then come along and have a chat on Monday.

Just as an appetiser to events coming up, I'll mention the debate on trade and cultural links with South Africa. Supporting South Africa will be John Carlisle MP with a former IC Union and NUS President Trevor Phillips opposing. Trevor Phillips currently produces Channel 4's *Black On Black* programme. This event is in a couple of weeks time. There will be full details in the preceding week's FELIX.



Glad to see you make it back for this term. Several things are in the offing, not least the Annual Dinner on 3 Feb at the International Hotel. This is bound to make Mooney dinners look like British Rail on a particularly poor day. Tickets for this cost £12.50 and are available from the office or officers.

Some time next week there will be an Ents theatre trip so keep your ears and eyes peeled.

On tomorrow evening there is to be the great, traditional, 3-legged RCSU Rag pub-crawl, where we go round (in pairs—shock!) and collect in the pubs and then attempt to count the money afterwards. (*What happens if one of a mixed pair wants to go to the loo?—Ed.*)

On Tuesday 17 we have a joint Rag/Ents Committee at 1pm above Southside Bar to discuss this term's events. Anyone is welcome but it is imperative that *all* Soc Reps attend.

Start training for the 22nd when the beer bursts forth from the New Year Barnight. 7:30—God knows when. (Union Bar.)

Some things which ought to be present somewhere in your mind are the RCSU elections of President, Vice President, Honorary Secretary, Honorary Junior Treasurer and Assistant Honorary Secretary which take place in the latter half of February; also the famed Ents trip to Amsterdam after the end of term. See Dave Watson for more details.

Finally, Mr Gareth Fish tells me that if the weather is clement then Jez will be going pumping on the 15th. Meet round the garage or find him first in the office; and also Simon Banton our Broadsheet editor would adore help in the office on the 18th to prepare the next issue.

DP the VP

## AstroSoc

Next Tuesday is our second lecture this term and as usual free entry to members (30p to non-members). All are welcome to attend at 6:30pm in Physics LT2 (please arrive before this!). Dr I Wilson will talk on 'The interaction of OB stars with the interstellar medium' (phew). Any suggestions are welcome (polite ones preferable) for future events.

P Moore

## Liberal Club

Does Imperial College need NUS? Do students need representation by a national body? Does NUS fulfill this representational role? If it doesn't, what can we do to make it? (*Does anyone care?—Ed.*)

Confused? You will be if you come to the Lounge above Southside Bar, this Tuesday at 7:30pm where these and other questions will be discussed.

## Singapore

Happy New Year to all. We have lined up an ice-skating trip on Wednesday 18 January at the Queen's in Bayswater. All those interested please meet outside the FELIX Office at 1:00pm on that day.

If you have not received our newsletter, please be informed that we have 20 places (on 1st come 1st served basis) for our Chinese New Year Dinner on Friday 3 February. All cheques (£4) asap to Peter Gwee (Physics 2).

We require players for the coming six-a-side football competition on 4 February against other universities. All levels of skills welcomed, names to Peter Gwee (Physics 2).

There will also be a Chinese New Year Party at the JCR on 4 February. Food, disco and a chance to meet Singapore students in UK. £1 cheque only asap to Ming Tan (Met/Mat 2).



Twas brillig & the slithy toves  
Did gyre & gimble in the wabe  
All mimsy were the borogroves  
& the mome raths outgrabe.

Beware the jabberwock, my son  
The jaws that snatch, the claws that catch  
Beware the jubjub bird & shun  
The furious bandersnatch.

J Wocky

# EDITORIAL

I'm trying to turn the Sports Page into something more like the sports page of a newspaper, as I have received overwhelming evidence that people only read articles from their own clubs! So, here are a few guidelines:

1. The result and brief summary of the match should be in the first paragraph.
2. Full names and positions should be included when referring to a person. (No team lists though!)
3. There are to be no 'in' references or accounts of after match piss-ups.
4. Read a paper's sports pages (eg the *Daily Mirror*) to see how reports should be written. Read *The Sun* to see how they shouldn't be written.

Any reports not in the above form will be thrown away! (Unless I've written them!) Outright silliness is still very welcome, provided it's funny.

There is a new weight training facility in Southside consisting of 'free weights'. Any student wishing to make use of this please go and see Ian Bull this lunchtime, or on Monday lunchtime, in the Union Office, so that some instruction can be arranged.

Now for this week's rubbish.

## Volleyball

### UAU SE Regional Volleyball Championships

The day began at an unearthly 7:00am at S Ken tube station where the conscientious members of Imperial Mens and Ladies Volleyball teams assembled. Certain members of the teams who decided this was far too early (or more likely slept in) met up at Liverpool Street at 8:20 and still managed to arrive at Univ of Essex (Colchester) before the majority of the early birds.

The newly formed Ladies Team, present at their first major competition and playing against more experienced and skillful opposition started nervously losing their first two games quite easily. However, in their final game of a tournament reclined in length by withdrawals the team put up stiff resistance (aided by vociferous support from the men) before going down to eventual winners: the Univ of Kent, 15-6, 15-10.

The men on the other hand had a much more successful day. Playing in a group of only 3 teams Imperial qualified for the semi-finals (to be held the following day) by beating Essex 15-6/16-4 and Sussex 15-8/15-2.

Awards for 'best performances' during the day go to:

1. Andy for the undivided attention he gave to the No 2 of the Kent Ladies team (more of her next week).
  2. Christos for his impression of a ballet dancer ie splits and dying swan impersonation.
  3. The mens team for their impersonation of Hot Gossip.
- Day two of this exciting saga (with piccies of No 2) will appear next week!

## Badminton



Mens 1 vs UC won 9-0

Mixed 1 vs Kings won 5-4

KO Cup vs RHC won 11-0

The men's match was ridiculously easy. Even Ian and John won all three games comfortably. This was quite an achievement as they spent the whole time insulting each other, which is exactly what they do off court in there other roles as ACC Chairman and Vice Chairman.

Dominic Demento, the Club nutter, terrorised the opposition with his on-court war dance routine, and this, I feel, played a major part in their downfall.

Mixed 1 can't seem to win convincingly, probably because I haven't played for them yet. A heroic performance from Miranda won the day, apparently that's what she tells me anyway.

IC v Kings won 5-4

An excellent game of badders at Elephant and Castle, what old chap? Negotiated the tube—one change somewhere on the blue coloured line and under the silver Tardis box to the red coloured amenities centre. Jane equipped with silver baubles in her hair, Miranda not drunk from wine tasting for a change, and Janet, as ever, in full battle combat of purple legwarmers and blue eyeshadow. The three guys also came. So we met our opposition from Kings College—Hengis the Horrible (the one who was 6ft lin, built like a Weetabix kid and 10 tons of fuzzy hair) was there with her partner Ivan the Terrible, a nondescript pair plus their number one pair who weren't bad—they play at ULU and County level sometimes. Both Janet and Nigel and Jane and Lee lost against the latter—but Miranda admirably partnered by Stephen, although losing the first game, managed to claw their way to 13 all in the second, where they played to 5 and won 18-14. Unfortunately they lost the third and final game, but we won't mention that! So, in allgemeinen, ein sehr gutes Spiel, viel Spaß, und hoffentlich können wir, daß heißt IC, alles gewinnen, nicht wahr? Wunderbar, Ja! Viel Dank an Janet, Jane, Miranda, Stephen, Nigel und Lee! Sehen wir uns noch ein mal.

Tchüss

*(This is the first badminton article not written by me in a long time. Thanks Miranda! The rest of you are all lazy gets!—Sports Ed)*

We've had a pretty dodgy first term really, with things not looking as good as last season. Still, we're in the knockout cup semi-finals, and should win four or five of the six leagues that we're in. There's still not much enthusiasm for playing in matches, though, and those who have been enthusiastic have been rewarded by getting injured, or bored with playing too much.

Now for the good news: the badminton tour to Dublin is on for the weekend of 11 February. Names to one of the committee as soon as possible if you're vaguely interested. It doesn't matter what standard you are as it should be possible for them to raise teams of matching standards.

## Football



Several friendly matches, some against UC will be played tomorrow (14th). Any players who have not yet ticked off please do so asap.

### 3rd XI

First the good news: IC3 are third in Top Division 1R.

Now the bad news: Training for all players interested restarts next Tuesday (17th). Any of the thirds squad who wish to possess a league or cup winners medal (including me) will increase this possibility by turning up to as many 'sessions' as possible. Several post Christmas pots have been sighted already amongst former sporting gentlemen of the thirds. This can not continue—you have been war

Finally I would like to thank all the many people who played for (and supported) the thirds last season especially John Barden, Torsten Behling and Dave Griffiths whose collective organisational assistance was invaluable.

The season's remaining league fixtures are as follows:

Wed 18 Jan A Bed 2

Sat 21 Jan A RFH

Wed 1 Feb H Golds 3

Sat 4 Feb A QMC IV

Wed 8 Feb H RFH

Wed 15 Feb A Guys

Sat 25 H Bed 2

### Cup Fixtures

Sat 11 Feb N Kings 2 or UC IV (Semi)

Sat 10 March N ? (Final)

## Rugby

LSE 20 IC 16

Imperial maintained their abysmal away record on Wednesday by losing to another strong but ????? side.

The afternoon started surprisingly well with Biggles the Navigator successfully tracking down the elusive LSE ground. The LSE's tactic of wearing the same colour as the opposition was also thwarted as Imperial were recognisable partly because of their expensive new socks and partly because they were the team consistently receiving bad lineout ball and being pushed off their own ball in the scrum. Despite the setbacks Imperial scored the first try but in the second half LSE gained a strong lead (being naturally strong on their left wing) and it was only sheer grit, determination and fluke which enabled Imperial to get back into the game when Mark Hassel kicked two penalties in succession and Jan Wiur scored under the posts after a well timed interception by John Gillees. Thus motivated, Imperial four up a strong show in the last ten minutes but time was not on their side and the disappointing performance ended with an unnecessary defeat.

**IC 1 XV 9 Esher U21 15**

Despite the apparent shortage of players on the coach a full team was eventually fielded against a very large U21 side. The game anthemed the return of M Windsor in a new role as stand-off. Despite the lack of familiarity with the position Windsor produced a competent performance the highlight of which was a well worked drop goal which brought Jason close to tears. Other fine performances stemmed from Pete Hagger and Simon (I want an early shower) Downing.

Overall the team produced a fine performance especially the forwards who performed excellently in the scrums and would have rucked effectively had the referee allowed them. Despite the fact that some players, including some senior players, decided to return to Hammersmith.

**IC1st XV vs Esher**

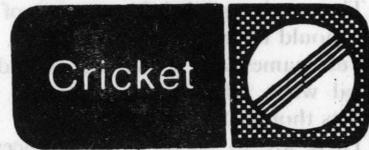
Having been warned that it may well turn out to be the hardest match of the season, it was quite a relief to discover that Esher weren't quite as good as expected. This made for a fairly even match, with IC having the better of the first half. At orange-time we were 9-3 up.

The highlight of the first half was Chris Carter getting poked in the eye by one of his own players, resulting in D C McGee yet again moving into his favourite position in the front row. However, Dave was consoled by the fact that the rest of the team agreed that his lightning speed merited a position in the front row.

The second half saw Esher coming back into the game, and they were leading by 10-9 (or 14-9, depending on who was counting) when the match was stopped due to the unfortunate injury of one of their props. 'Daddy' Davies tried to steal the limelight by announcing that he, too, was injured. However, this had all been heard before, so no attention was paid.

Esher did offer to finish the game (the last 12 minutes?) under floodlight at their grounds some time next term— we all look forward to that.

Talk in the bar afterwards revolved around Mark Hipsey's beautiful new hairstyle/black eye combination and about how the enthusiasm of the more hardy members of the club appears to have petered out. At this thought, everyone sighed with resignation.



us from repeating previous night's runner. By the way, lost to Britannia Naval College.

Captain's Log. Star date 27.6.83  
Eastland scored 100 not out versus Plymstock in a match which IC contrived to lose by 8 wickets. Much beers consumed in the evening, exemplified by the various odours percolating around the breakfast table the following morning.

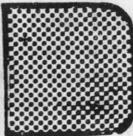
Idiot of the day went to Shaw who walking out of the hotel entrance trod on the next day's breakfast. Scrambled eggs again, boys!

Captain's Log. Star Date 28.6.83  
Piss-up match versus Babbacombe, lots of beers followed by silly games followed by lots of beers followed by altercation with blue uniformed gentlemen.

Garrod and 5 wickets and birthday equals pissed person.

Bell and first fifty of season and bottle of whiskey equals very pissed person.

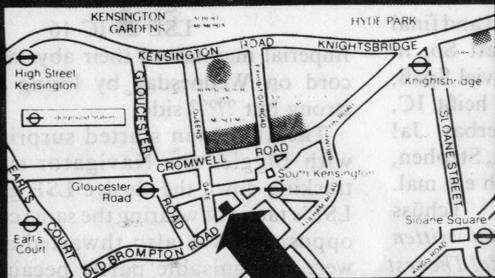
**Sailing**



**IC vs Brunel 1-0**

On arrival at Datchet Water we found the lake covered in fog and absolutely no wind. Whereas the fog did finally clear (with help from a low fly past by Concord) all attempts to get the wind to appear failed. As Caroline refused to do her wind dance around the Christmas tree the team set off for a calm, gentle and very slow drift on the lake. Under these conditions strange forces start to work, while Andy and Caroline found they couldn't slow down, Phil and Alison's boat decided to go backwards around the wrong side of the

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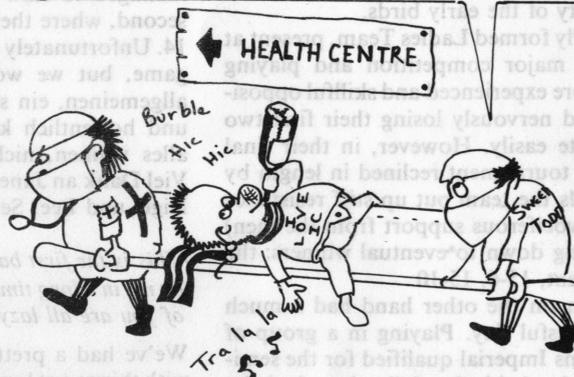
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CARLSBERG	2p down	4p down
COURAGE DIRECTORS		3p down

GUEST ALE FEBRUARY-RUDDLES.

## friday

**1230h JCR Socialist Soc bookstall.** Books, info and Campaign Coffee.

**1255h Concert Hall, Union Islamic Soc** Friday prayers.

## saturday

**1230h Log Cabin** (next door to Northfields tube station) **Acton Venture Club** for physically or mentally handicapped and deprived children. Travelling expenses paid by ICCAG.

**1800h** **RCS Union Office**  
**3-legged pub crawl** to collect money for Rag. Find a partner and a tie and come along.

**2000h** **Union Building**  
**Lounge Lizards New Year's Party** til 2am, with band: Upside the Head on stage at 9pm. Prices 75p and £1.25.

## sunday

**0930h** meet Beit Arch **Cycling Club fun run.** Pace suitable for beginners. If your bike is in good condition come along with some money for lunch.

**1000h** Consort Gallery, Sheffield **WLC Communion Service.** Coffee will be served.

**1300h** SCR **Wargames Club** Hack & Slag meeting.  
*Nothing to do with Gaynor Lewis!*

**1430h** **Meet Dramsoc Store**  
**Auditions** for this term's major show *Life and Time of Gallileo* by Brecht are open to anyone—both those who acted last term and newcomers. The play has a large cast.

**2100-2300h** IC Radio **Russell Hickman** 'A unique blend of noise'.

## monday

**1230h** above Southside Bar **Hang Gliding Club** meeting.

**1245h** meet Beit Arch **Vegsoc lunch** at RCA.

**1245h** **Bot/Zoo Common Room**  
**Yacht Club** meeting.

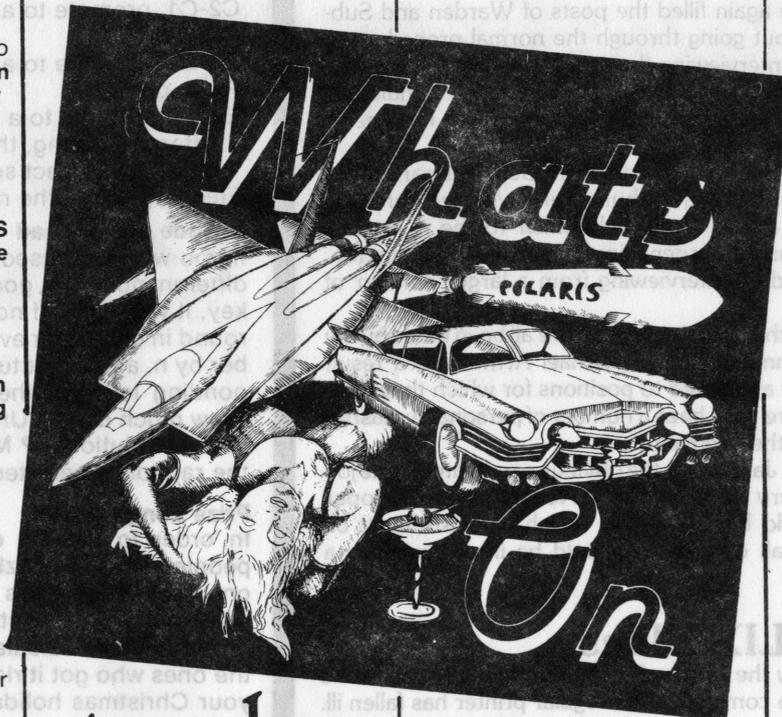
**1300h** **Union SCR**  
**Debating Society** meeting. Anyone interested in speaking this term or in the *Observer* Mace Competition should attend. Also anyone with ideas for future speakers would be welcome too.

**1930h** JCR **Intermediate Dance Class.** 50p.

**1330h** **Pippard Theatre Sheffield**  
**America Elects a President: 1** How Does the System Work with Dr Kathleen Buck.

**1730h** Brown Committee Room (top floor Union Building) **Amnesty International** meeting.

**1800h** **SCR Beit Bldg**  
**Tasting of Cabernet Sauvignon** wines by Dolamores with Wine Tasting Society.



## tuesday

**1230h** Room 231 Chemistry **Catholic mass and lunch.** All welcome.

**1230h** Union Upper Lounge **Audio Soc** Record Club.

**T1230h** m 606 Elec Eng **Pimlico Connection** 'Pay As You Eat' lunch.

**1300h** Upper Lounge Southside **Riding Club** meeting.

**1300h** Southside Upper Lounge **Boardsailing Club** meeting.

**1300h** **Green Committee Room**  
**SCC** Exec meeting.

**1300h** **Above Southside Bar**  
**RCSU Ents/Rag Committee.** All members of Ents Comm and all Soc Reps must attend to discuss future events.

**1800h** **Brown Committee Room**  
**Vegsoc Meal.** Bring something to eat and drink and share. (No babies please.)

**1830h** **Mech Eng 220**  
**SF Soc** Film *Jabberwocky.* Non-members 60p, members 30p.

**1825h** **Physics LT2**  
**Astro Soc** talk on 'The interaction of OB stars with the inter-stellar medium' by Dr I Wilson. Members free. Non-members 30p.

**1830h** Union Gym **Judo Practice.** Membership £2.25; Practice fee 50p. Good punch-up for anyone from beginner to black belt.

**1930h** JCR **Beginners Dance** class.

**1930h** **Lounge above Southside Bar**  
**Liberal Club** meeting. NUS: The Students Voice?

## wednesday

**1235h** ICCAG Office (top of Union Building) **Jobbersquad.** Use your talent for others.

**1330h** meet Beit Arch **Cycling Club** training run (30-40 miles).

**1400h** Rm 401 RSM **Micro-computer club.** Membership £2.

**1430h** Dramsoc Storeroom **Dramsoc Workshop.**

**1930h** JCR **Beginners Dance** Class  
**2000h-2200h** IC Radio **Shiree Baker**

## thursday

**1230h** Union Upper Lounge **Audio Soc** record club.

**1230h** **Mines 303**  
**S&G** weekly meeting and talk.

**1245h** **Union Upper Lounge**  
**Refugees—education and development—a** speaker meeting by Third World First.

**1300h** Southside Upper Lounge **Balloon Club.**

**1300h** Green Committee Room **SF Soc** library meeting.

**1330h** **Read Theatre Sheffield**  
**Racialism and Totalitarianism: 2** Nazism on Trial—The Nuremberg Tribunal 1945-6 with Professor Michael Biddiss.

**1330h** **Great Hall**  
**Life on Earth: 11** Hunters and Hunted.

**1330h** **Music Room 53 Prince's Gate**  
**The Salomon Quartet**  
**Th1730h** Aero 254 **Gliding Club** meeting.

**1800h** **Union SCR**  
**SCC** Full meeting.  
**1830h** Union Gym **Judo Practice.**

**1900h** Union Gym **Judo Practice.** Practice fee 50p.

**2200-2400h** IC Radio **Alphabet Soup** with Ajay. Lunacy to destroy those sane Thursday evenings.



## Presidential Patronage

The Union President has once again filled the posts of Warden and Subwarden at the Fremantle without going through the normal procedure of advertising the vacancies and interviewing the applicants. Her reasons for not going through the normal procedure was that 'No suitable candidates were found from previous residence interviews and there was no time to advertise and carry out interviews.'

I don't know whether this is laziness or stupidity on Gaynor's part. More likely a case of meglomania on Michael Arthur's part, who recommends such appointments. Gaynor's action is not only unfair to the numerous people who want wardenships or subwardenships but bad management too. Better candidates will be found by interviewing from a larger number of applicants.

What has been happening is that appointments have all been made by the Union President on the recommendation of Michael Arthur. As a result there have been several people appointed to positions for which they have been clearly unsuitable and there have been a number of personality clashes resulting in unpleasantness at the Fremantle.

As it is, the new warden Nick James was the obvious candidate for the job and will probably make a very good warden. Nevertheless a proper appointments procedure should be followed in which all posts must be automatically advertised and all candidates should be interviewed by a proper interview panel.

## FELIX Blues

This is my 13th issue on Friday the 13th and at the time of writing I have no idea when this issue is going to come out. The regular printer has fallen ill. Apologies then if this issue is not out on time. I really do think I've picked the wrong sabbatical at times. As FELIX Editor I am constantly plagued with production problems, mechanical difficulties and have to endure sixty hour weeks and all I get are complaints and gripes. I should have gone for a nice cushy number in the Union Office sipping sherry and eating paté all day.

## Features

At Imperial we can boast some of the best clubs and societies in the country. I feel it is a shame that they do not receive the coverage they deserve, an article on the clubs page is hardly sufficient. I would therefore like to do a series of features on the clubs at IC each week. I would therefore like to see any club captains or society chairmen who are interested in having their club featured.

I would also like to do a series of features on topics which are not directly related to College but are nevertheless of interest to students. Peter Burt has started a series on education cuts. Next week there will be something on the January sales, the week after there will be a feature on underwater photography. If you have any ideas for features (that you could write even?) then please come and see me. Monday or Tuesday afternoons are the best times.

## Calendar

All submissions for the FELIX calendar should be handed in to the FELIX Office by 5:30pm Monday.

## Credits

J Martin Taylor, David Rowe, Jon Jones, Diane Love, Hugh Southey, John Scott, Ulysses, Adam Rose, Carolyn Gammon, Dave Parry, Adam Rose, Matt Fawcett, Maz and Tony the Temp.

**Pallab Ghosh**



# ULYSSES

No puzzle this week, just the solutions to those in the last issue of last term.

## Chess Puzzle

Pawn on B2

B2-B1, promote to a knight

Pawn on C2

C2-C1, promote to a rook

Pawn on D2

D2-D1, promote to a queen

Pawn on E2

E2-E1, promote to a bishop.

After promoting, the rest follows quite easily.

Of seven correct solutions, Michael Dillamore of Elec Eng 3 was the randomly selected winner.

## A Code in the Head

If you were confused by the fact that there were 26 different numbers, good! If you happened to spot the key, it was easy. If not, you could have been going round in circles for ever. Simply divide the nth number by n, and substitute each number for its corresponding letter in the alphabet and the answer is 'How much does a Union freebie cost?' Of the eight correct solutions, P M Fisher, a Mech Eng PG was the randomly selected winner.

## Prize Long Division

In order to get my eternal admiration, and £10, people took this puzzle incredibly seriously. Someone took eight days to do it, another stayed up all one night to do it, another took two days and programmable calculator to do it, and those are just the ones who got it right. Apologies if you spent all your Christmas holiday doing it. As a result of by building it up so much, it became the most entered puzzle, and of the nine correct entries, Vernon Gaskell of Civ Eng 2 can collect his £10 after Monday afternoon.

The solution is too long to print, but the answer is to divide 667334 into 7752341.

## Square-wheeled bicycle

If the length of the side of a wheel is 2a, the largest difference in potential energy that the bicycle can have is the difference between a wheel standing corner over corner and lying flat, and equals  $(\sqrt{2}-1)mga$ . This is equal to the change in vertical KE. Since the vertical KE is zero at the top, then when the wheel is on the ground, it must be  $(\sqrt{2}-1)mga$ .

$$\text{So } V_y = \sqrt{2a(\sqrt{2}-1)g}$$

Since the wheel axle is moving in a direction at 45 degrees to the horizontal,  $V_x = V_y$

Therefore the maximum speed before its wheels start to leave the ground is  $\sqrt{2a(\sqrt{2}-1)g}$ . Only two correction solutions, and Phillip Milne of Physics 2 was the randomly selected winner.

## Crossword Clues

1. Scrambled eggs
2. Water (H to C)
3. Talcum powder
4. Hasn't got a clue
5. Backward boy

Well done to anyone who got any of the puzzles right, particularly Philip Milne of Physics 2 and Michael Dillamore of Elec Eng who got all four prize puzzles right.