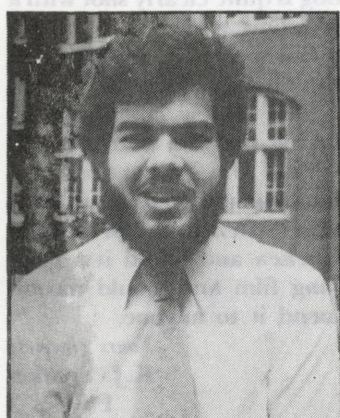




Founded in 1949

The Newspaper of Imperial College Union

## Exec New



Below, a picture that didn't appear last week because of uncertainty over the elections results, which was taken in the Union Building while the counting in the Presidential election was still going on. (Left to Right) Martin S. Taylor, FELIX Editor; Mary Freeman, Honorary Secretary; and, Phil Greenstreet, Deputy President.

Steve Goulder, whose fate remained in the balance throughout the last week, is pictured left. He has been ratified as next year's President.



## Bishop romps home

Next year's City and Guilds Union Executive were ratified at yesterday's Guilds Union General Meeting.

Five other posts were also taken by unopposed candidates while Mr John Vedy won the election for Honorary Junior Treasurer. Next year's officers are:

President: Steve Bishop  
Vice-President: Mike Bartlett  
Hon Sec: Jo Claydon  
HJT: John Vedy  
AAO: Brian Shindler

## Pilot Plant Takes Off

### Decision Today

**The Governing Body will today consider proposals to set up a biotechnology company jointly with industry, which will effectively make Imperial College's fermentation pilot plant a commercial unit.**

As far back as November 1981 it was revealed in *New Scientist* that the College were gathering information on possible links with industry in order to offset the £100,000 loss which the pilot plant currently runs at.

On February 5 a financial sub-committee of Governing Body instructed College Secretary Mr John Smith to negotiate the formation of a company called Imperial Biotechnology. Mr Smith will submit his information today, although he is unwilling to reveal which industrial company or companies are concerned.

In November's *New Scientist* article it was stated that Technical Development Capital, the venture capital arm of the investment house Finance for Industry, were discussing the venture. The plant would be used to produce enzymes commercially and hence far less time would be available for research. The extent of control which the College could retain is uncertain.

It is known that some of the 35 members of Governing Body are very concerned about the possible effects of the involvement of big business in British universities. A statement is expected by the end of the month.

## On the box again

### Beeb films at IC

**Imperial College Union will be featured on television once again this year when a programme on overseas students is broadcast during the Easter vacation.**

A television crew from the BBC's *Open Door* were filming at IC yesterday and interviewed a number of foreign students. The crew are filming at Silwood Park today.

Apart from highlighting the plight of overseas students studying at a British university and having to pay full fees, it is hoped to show that although current government policy on overseas students is saving money, it will not be beneficial in the long run.

During the next fortnight the programme will be edited by the three sabbatical members of the Executive, STOIC Chairman Mr Lawrence Windley and Mr Nick Lambrou, Vice Chairman of the Overseas Students Committee. It will be broadcast on BBC2 at 6:30pm on Saturday, April 17.





Dear Sir

I am pleased to see that you are increasing the entertainment value of FELIX by changing the usually boring Soapbox feature into a outlet for brilliant satire (FELIX, March 12). I couldn't stop myself laughing out loud in my Friday morning lecture on reading the superb take off of a "typical" IC student view of the arts. I might suggest as a sequel an article by Marco Ledwold on "How to conduct fair elections".

Yours much amused  
W.S. Plinge

Dear Sir

In reply to David Ashforth's recent letter to FELIX, on a "total boycott of South African products". Anti-Apartheid is not calling for an immediate total boycott; they realise that this is not realistic.

It has to be shown that in general the rest of the world is opposed to the Apartheid system. British companies are only going to improve working conditions and standard of living of black labourers if pressurised by people in Britain. They are very sensitive to public opinion.

The non-British Shell Rand colliery of Rietspruit which I personally visited, has already given equality to blacks and as a result has pioneering new attitudes to the Apartheid system. This was brought about by public opinion abroad.

The boycott of South African sport is a striking example of what can be done

by public opinion. The English-speaking South Africans show a strong following to improve the standard of living of blacks. My personal experience suggests that this is largely due to Anti-Apartheid demonstrations abroad. I witnessed South Africans waiting to see rugby matches "live" at 4:00am only to observe massive demonstrations in New Zealand. This gave the South African public drive to try to improve blacks' living conditions.

Finally I would like to point out that the blacks themselves called for an international boycott of South African goods. A boycott will include sport and entertainment where media coverage is greatest.

Ian Reid  
Geo 2

Dear Mark

I would like, through you, to address the Chaplain. (David Ashforth, for those not in the know). It seems, Mr Ashforth that we are to tolerate the unjust way in which the South African powers that be, treat the majority of people in the country, simply because it would be "unrealistic" to do otherwise. My mind shudders, boggles and is generally left in a state of complete and utter confusion at the thought of living in a country deprived of such essentials as wedding rings, masonry drills, printed circuits and the myriad other items that your informed mind has cited. My position as regards to your views Mr Ashforth, is not totally disapprobationary. It does have a certain twisted logic about it. Is it not the case that the English cricketers currently in South Africa needed all that lovely money the South Africans offered them? Given this, surely it was 'unrealistic' to expect them to turn down the offer to play in SA. Is your position any different, Mr Ashforth?

"We can in the meantime concentrate on improvements that are possible" states Mr Ashforth. You know the type of thing. Pressure on British companies, with ties in S.A., cultural boycotts, lectures to skilled tradesmen emigrating

to S.A.....I mean things of cataclysmic and cosmical consequence, the full works! Really, Mr Ashforth....this is realism? If so it is worse than complacency, it is outright and blatant support for the South African oppressors (assuming, of course, that not all sentient beings are afflicted by the type of logical thought that you very evidently suffer from). I urge you Mr Ashforth to generalise. If you were a black South African, and were living in the present degradation the white regime now subjects you to, and you had seen your parents and brothers and sisters and grandparents subjected to such degradation, and were conscious that for generations your family had been subjected to similar and worse degradation, would your definition, Mr Ashforth, of 'realistic' measures against South Africa remain unchanged?

E.M. Ungola  
Physics PG

Dear Sir

There is in our College an example of discrimination beside which the South African cricket tour pales into insignificance. I am referring to WIST (Women in Science and Technology), an organisation that has consistently refused admission to men. I demand that this organisation re-name itself "People In Science and Technology", otherwise we will stop playing rugby against them.

I remain, sir, your humble and obedient servant,

W.G. Grace

Dear Mark

I should like to comment on the anonymous FELIX review of *Mad Max 2*. First of all, could anyone actually understand the review? An example of the unintelligible style is given below:

"Max eventually ends up defending a type of city state which has sprung up around an oil well degenerating mechanisms being the most sort-after asset, and which provides, for Max, a mitigating circumstance, of sorts, for the ensuing slaughter as he decimates the hallucinogenic assortment of bikes, ranging, from the strangely punk-like, mohicans and bondage, to

stylised gladiators, who are laying siege."

It is an interesting review, seeming to possess the maximum amount of commas and minimum number of sentences possible in a given length.

We are told in the following half-paragraph that Max's dog appears to survive:

"All individual characters except Max and his faithful dog are ultimately dispensable in form, with Max's mad, violent vision, derived from pre-holocaust assumptions, requiring only the occurrence of character to construe action."

Yet during the film, Max's dog is quite clearly shot with a crossbow, and the two characters who survive are Max and the aborigine boy.

The review concluded by saying the film is trash.

*Mad Max 2* is not the sort of film I would go and see but I was invited to the premier in Chelsea and found it a gripping film and would recommend it to anyone.

Yours sincerely  
K.J. Sparkes  
Physics 3

Dear Mark

Marco Ledwold's decision to declare a UGM card vote "unconstitutional" confirms the long standing suspicion of IC students that their elected officers have become a self-congratulatory, self-perpetuating, incompetent clique who do not give a toss about the views of the average student.

Last week the UGM voted against their advice to ratify the election of the new sabbaticals, because according to the view of the student body the objections lodged were valid. And it is up to no-one to overturn their interpretation of the rules. I suppose the fact that all candidates signed a piece of paper that they would abide by election rules *other than those laid down by the Constitution* was not a valid objection! Indeed, the fact that the candidates and Marco acted "ultra vires" themselves during the election, was one of the winning arguments against ratification put forward during the UGM. It is inter-

*Continued on page 4*

## ULU for Sale

THE NEXT UNIVERSITY of London Union President will be Mr Chris Sale, currently President of Queen Elizabeth College Union. He narrowly defeated the other candidate Mr Paul Hattori at a four and a half hour General Union Council meeting at Malet St last Tuesday.

Miss Louise Barney (QEC) will be Vice-President (Finances and Administration) while Mr Jim Pryce, London School of Pharmacy, will be Vice-President (Services). These three posts are all sabbaticals. The GUC Chairperson will be Miss Gillian Morgan (Bedford) who is currently the Vice-President (Finances and Administration).

Elections for student senators, who vote on the University of London Senate were also held at the meeting. The results will be announced today and the candidates include Mr John Passmore, Mr Jon Stanley and Mr J. Martin Taylor, all from Imperial College.

## Rag Race On

At a Rag Meeting on Wednesday Mr Andrew Crawford of Chemistry I was elected Rag Mag Editor. His advertising manager will be Miss Leah Phelps.

Despite the poor turnout for the Rag Race last weekend a team of four managed to sell over 700 Rag Mags. The team travelled to Birmingham, Loughborough and Nottingham Universities and raised £210.

## Lewthwaite Resigns

As predicted last week Miss Sarah Laithwaite has resigned her position as Editor of *London Student*. Her last issue appeared yesterday.

The reason for her resignation is that she must sit exams which she deferred last year at the London School of Economics. *London Student* will still appear next term, although due to financial restrictions there may be very few issues.

## Rent Scheme Shelved

The alternative method of rent payment for College Accommodation proposed last week by the Union President has been shelved.

The scheme would have involved paying rent over thirty-nine weeks, as opposed to thirty-one, and claiming the rent paid over the vacations from the Department of Health and Social Security.

Many residents in College Head Tenancies currently do this.

However the scheme has been rejected on moral grounds.

## Spanner 'Mislaid'

City and Guilds Union are still without Spanner and Bolt after the Royal College of Science Union mislaid the items before the expected handover yesterday. A new date for the handover has been decided as 12:30 on Wednesday in the Beit Quad.

This meant that the mascots could not be present at yesterday's Guilds Union Meeting.

## Elections Explained

### Why I over-ruled a UGM Decision

The Results UGM decision to re-run the sabbatical elections was ultra vires the constitution because the objections made were not on constitutional grounds. There are various reasons why an election can be re-run and the only one that could have been brought up at the Results UGM was that I, as Returning Officer, had run the elections unconstitutionally.

There were two main objections raised at the UGM. The first was that people had been misled into thinking that candidates had to pass quota before they were deemed to be elected. The only place from where students could have gained this misconception was in Mark Smith's editorial in the Manifesto Supplement in FELIX issue number 608. An editorial by definition is the personal opinion of the writer and people should treat it as such and not accept it unquestioningly. Mark Smith did not deliberately mislead people and did not bias his advice towards any one candidate. It is not even certain that his advice played any major role.

The second objection concerned a written undertaking which all the candidates signed immediately prior to the count. This stated that candidates had to pass quota before they could be deemed to be elected. On consultation with the Electoral Reforms Society (experts on proportional representation systems) and on closer examination of the Union Constitution this was not found to be so. Had I acted in accordance with this undertaking I would have been acting unconstitutionally.

Any suggestions that this undertaking influenced the outcome of the elections are ridiculous since it was not made until after votes had been cast.

Elections Committee are empowered to ratify the sabbatical elections and this was done before the results were announced at the UGM. A UGM can only object to that ratification on the grounds of unconstitutional election procedure. No objections were raised on these grounds. The fact that the only objections raised were against the ratification of the presidential election indicates that people were objecting to the *results* and not the procedure. Obviously there were people who voted for the other presidential candidates but Stephen Goulder was constitutionally elected and these people should accept the result.

**Marco Ledwold**  
Returning Officer

## A look at the figures

Not surprisingly, many students are still confused about the results of the sabbatical elections. The actual voting figures are shown in full below. Figures in brackets are percentages of total Union membership.

### President

	Stage 1	Stage 2	Stage 3	Stage 4
Goulder	364	446	519	728
Lyall	320	400	478	
Holding	335	376		
Taylor	288			

Total valid votes: 1307 (28.57%) Quota 654

Abstentions 156 (3.41%)

Spoilt papers: 25

Goulder is elected at stage 3 (rule 9.2(b) of the Voting Schedule), but would in any case have exceeded quota after Lyall's votes were re-allocated.

### Deputy President

	Stage 1
Greenstreet	838
White	172
Livett	116

Total valid votes: 1126 (24.62%) Quota 564

Abstentions 304 (6.65%)

Spoilt Papers: 49

Greenstreet passes quota at Stage 1 and is elected.

### Honorary Secretary

	Stage 1
Freeman	606
Morgan	273
Cryer	239

Total valid votes: 1,118 (24.4%) Quota 560

Abstentions: 317 (6.93%)

Spoilt papers: 36

Freeman passes quota at Stage 1 and is elected.

All quotas are calculated in accordance with rule 4 of the Voting Schedule (i.e. abstentions are *not* counted) and are not those originally given by the Returning Officer.

The interesting question is how the voting was affected by the misleading advice given by FELIX to abstain in order to have the election rerun. Clearly, if all the people who abstained had spoilt their ballot papers, the elections for both Deputy President and Hon Sec would have been inquorate (i.e. less than 25% of Union members having cast a valid vote or an abstention). The presidential election, however, would still be quorate with 28.57% voting.

**Jon Stanley**



## Letters

Continued from page 2.

esting to speculate how Marco Ledwold considers himself such an expert on the Constitution so as to declare (in true democratic spirit) UGM votes null and void, having acted unconstitutionally himself in the same week. But no, he's throwing the book at us, demonstrating what a parasitic body the Union Officers have become.

It is obvious to anyone present at the meeting that the issue at hand was the fact that Stephen Goulder was short of the quota required for his election. Clearly, since the antipathy towards Stephen Goulder is so big that the student body chose to dismiss the whole procedure, rather than ratify his election, he ought to resign himself and stand for re-election. If he chooses to abide by the wishes of IC students, then I'm sure next time he will not be short of a quota.

I do sincerely hope that a re-election will take place and that someone brings up a motion for a constitutional change that calls for a mandatory re-election if no candidate reaches quota. Anything else is a mockery of democratic practice. And I also hope that someone puts a censure motion on the table in the next UGM. Marco ought to be reminded who the *real* boss is in the Union.

John Malathronas

Dear Mark

I hope you will allow me the space to pass a few comments on Mr N. Willson's Soapbox "The Arts and Sciences and Technology" and his review of volume three of George Orwell's *Collected Essays* in last week's FELIX.

That Mr Willson knows little about what he loosely terms the arts is quite apparent from both pieces. In his Orwell review he suggests that "From the point of view of getting recognition from the literary establishment, being boring is probably an

advantage for a writer" and cites authors such as Dickens, Kafka and Solzhenitsyn as evidence for his contention. Leaving aside Mr Willson's allusion to the literary establishment, since he does not specify what he means by this, anybody who can find Solzhenitsyn's Russian writings boring (and remember they were written at great personal risk to himself) is lacking in literary appreciation.

Turning now to his Soapbox article. His first claim that polytechnics were founded as not to have too much science and technology in universities is quite simply wrong. The point of the polytechnics was (whether it is now, is open for discussion) to provide vocational education. That is to educate people specifically for the careers they would pursue in later life. Thus not only does technology figure prominently in the polytechnics, but also such vocational subjects as languages, law, architecture, social sciences, etc. Now the object of a university is to be strictly non-vocational in that it provides an education by which individuals may attain the widest possible career choice. In other words university education is there to educate the mind. Now this is the theory of tertiary education in this country and in order to understand why the system is as it is, it is necessary to appreciate what it was designed to achieve. Thus the disciplinary distinctions which Mr Willson draws are simply not valid. I would very much like him to name a university in this country which does not have a science faculty. Whereas there is at least one university (Brunel) which does not have any students majoring in arts subjects.

I shall ignore with due contempt Mr Willson's remarks on the amount of work that arts students do in comparison with science students (i.e. very little in his opinion) and pass on to what I think is the most serious aspect of Mr Willson's article. This is that he himself makes a crucial distinction between science and the arts. He assumes that arts are more

"pleasant" (his word) than science. That is in some way he is accepting the idea of the intellectual superiority of the artist over the scientist. This is nonsense. He assumes that serious artists concentrate on broad issues such as the "significance of the Russian revolution" while the scientists have to concentrate on the minutiae of the "thermostat". This is again nonsense as Mr Willson would realise if he took the trouble to discover what he is talking about. Most artists are also concerned with the minutiae of their subject such as the role of the railways during the Russian revolution in Central Asia. On the other hand scientists deal with broad issues such as the origin of the universe. The point is that the sort of generalisations that Mr Willson made are not only wrong they are also dangerous. They perpetuate the myths that each discipline has of the other so that destructive people like Mr Willson can endeavour to cast a slur on those people who are more interested in other things than they are in science or technology.

One reason why Mr Willson has a low opinion of the arts compared to the sciences is that he thinks that the latter are "useful" and have a "utilitarian" value, both of which qualities he thinks artists despise. I quote "Artists can only preserve their work *because* (his emphasis) someone else is learning about soil mechanics". What does Mr Willson mean by this? In what logical sense is the word *because* used? I would suspect that Mr Willson means, although it is not at all clear, that scientists and engineers and soil mechanicians, help provide the wealth of the country which he thinks goes to support artists. This is a simplistic argument since it ignores the fact that artists first of all produce things—books, paintings, etc.—and secondly they help consume the products of the economy; consumers are as important to the economy as producers, a fact which Mr Willson appears not to have grasped. So where are we left with the word *useful*. It is simply a word

which Mr Willson defines in such a way as to justify his bigotted attitudes. In other words he is attempting to deny the freedom of the individual to study what they wish to study; Orwell rules!

Mr Willson also has a very peculiar attitude towards science in that he thinks that the content of science is fixed in a way that art is not. He is right in the latter, but wrong in the former. He should know, but appears not to know, that the content of science changes and that this is the purpose of research. Even where the content of science is acknowledged it may be subject to different interpretations. For example in the recent discussion of Darwinian natural selection which was conducted in these pages I argued for a strictly materialistic interpretation of the nature of life while others, in my opinion mistakingly, argued for a diestic interpretation.

In conclusion I would suggest that Mr Willson does not know what he is talking about and should follow Wittenstein's dictum "whereof one cannot speak, thereof one should remain silent".

Yours sincerely  
Frank James

Dear Mark

In last week's Soapbox, N. Willson informs us that "....most people interested in the arts are pratts; they're usually pretentious, arrogant and self-important."

Now, passionately interested artist though he obviously is, he has totally failed to make use of the basis of arts, i.e. communication of ideas; his otherwise excellent article\* does not tell us anything we didn't know already. However, if he would let me know what he is trying to say, I (as a pretentious but literate scientist) would be delighted to put his thoughts in to an article for inclusion in next week's Small Ads column.

Yours arrogantly  
Adrian James

\*Indicates sarcasm

NB: Not all pretentious politicians are artists—our most notorious one has a degree in biochemistry to her name. Carry on Steve Goulder, there is yet hope!



## Small Ads

●**Mitsuki 300mm f5.6**, Canon fit, £45. Also Canon AT-1 body £50. Contact Mike Richards, Geology 1.

●**Half a jar of smooth, easy-spread peanut butter**, 20p ono. Contact Julian Clarke, Civ Eng 1.

●**AR18s speakers**, 4mths old, black finish, perfect condition, £70ono. Contact Mark Johnson, Civ Eng letter-racks or flat 6, 53 Evelyn Gdns, tel 373-5367.

●**Honda PA50 moped**, '77, good runner, MoT till Jan, £70ono. Contact Alan Parkes, JCR Bar lunchtime or ME letter-racks.

●**Datsun 120Y**, 1978, 4dr saloon, MoT, tax, excellent condition, 37,000miles, £1,780. Phone 994-4097 (Chiswick).

●**Olympiette portable typewriter**, good condition, £25. Contact Chris Davison, int 2839 (day) or 995-0320 (eves).

●**Record: 'Mindless Drive' by Simon and the Mutations**, good condition, £3.09. Contact R. Collier, Civ Eng UG, 370-4870.

●**Wanted: classical guitar**. Anything accepted. Contact Brian Shindler, Chem Eng letter-racks or Falmouth 136.

●**Wanted: A Student Manager** for the Evelyn Gardens Summer Letting Scheme. All IC students eligible; no previous experience necessary; excellent wages and a very large bonus (if occupancy targets are met); rent free accommodation. Apply in writing to the Student Services Office by Wednesday, March 24.

●**Do you have any unwanted cardboard boxes**, especially large ones, which you no longer require. For fast free collection see Denbo-Babe, Tizard 627.

●**Girl needed** to share a double room in Lexham Gdns for last term. Please contact F. Judson, Zoo 3.

●**If you found an Ever-ready cycle lamp** (of the forward facing variety) in Physics last week (March 8-12) then please hand it in to the departmental office. Yours, the previous owner.

●**The 1982/3 committee** would like to thank the 1981/2 Methsoc committee for their guidance over the last year and wish them all the best for the future.

●**We cater for all tastes**: Come to the Community Action Group and get involved with handicapped children, deprived children, old people at St. Pancras Hospital, in a home on High St. Kensington, build an adventure playground, draughtproofing homes. The list is endless! (See our column.)

●**Badgesoc** are fed up with making bad-taste badges for all you plebs so if you want some join Badgesoc and make your own, probably be cheaper anyway. We meet Monday lunchtimes above Southside Bar. Here's some for free: "Save taxes—kill a student"; "Love is: sharing the wet patches", etc., etc.

●**"Ronda (Sarah?) the rubber wonder"**: Your secret is out!

●**"Ronda the rubber wonder"**: Is your real name Sarah?

●**Who made Hannah Innes?** The Caped Crusaders.

●**The F.U. Cup**: Physics Wanderers 2, Tizard 8. We were pissed (on). The lads are sick as parrots. PW rule NATO.

●**Bruce**: Shut up.

●**DES was impressed**. Thanks to all (esp Sandy) for 350 (estimate) boxes. D.A.H.

●**D. Potter one all?** See U Conrads.

●**24hr Durex service**. Need to get out of a sticky situation fast? Ring Sue (Tizard branch) anytime!

●**I promise** to let the bearer on demand tuck me into bed. Female applicants only! PS Please leave shoelaces alone. E.B.K.

●**Steve**: Bad luck on Sunday. Still it just goes to show that RR's roll better than Minis.

●**Angle of Linstead**. Thanks for letting me be the first.

●**Peter T.** Good luck on Monday and Wednesday. Hope room in 215 OK! C'Bean.

●**Simon Duncan** would in future like to be known as IC Radio. It is expected that reception problems will disappear, although interference may be a problem.

## The Great RCS Rag 1,000,001 Down Darts Race

### Chem 1 vs Chem 2

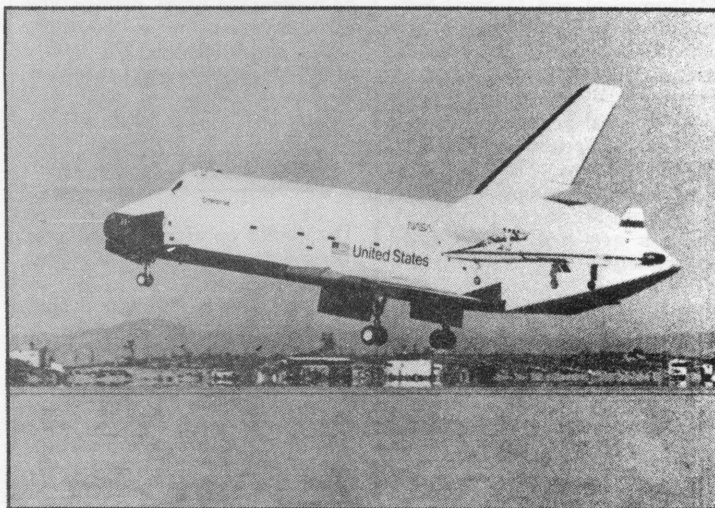
Start 6:00pm This Evening

Union Lower Lounge

For each 10p you sponsor us you have one entry to the competition to guess how many darts the winning team will throw

(Double Finish)

Cash Prize! 10% of all money raised.



### Aerosoc

## SPACE SHUTTLE LECTURE

by Wing Commander McBride  
at 7:30pm

Wednesday, March 24 in Aero 266.

LIVE IN SOUTHSIDE BAR

## Pookiesnackenburg



Tues March 23 6:30pm till late

Cheap Beer!

Entrance £1.



# CLUBS AND SOCIETIES

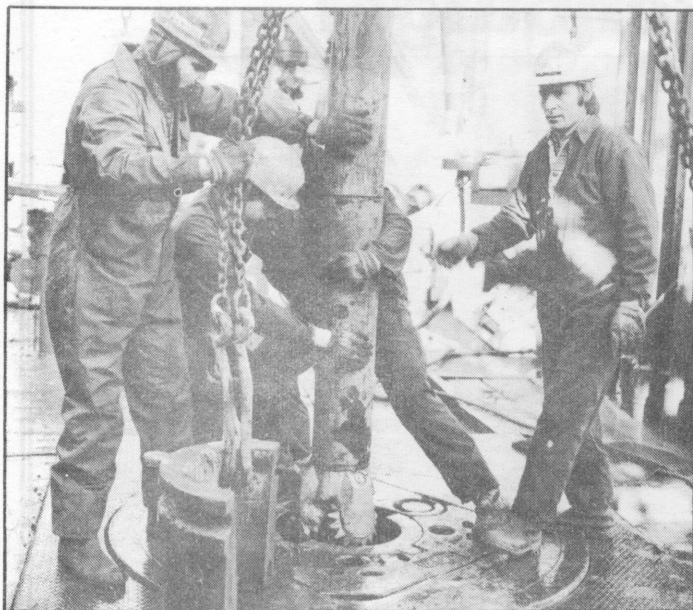
## Mopsoc

Our Annual General Meeting is to be held on Tuesday, March 23, in Physics Lecture Theatre 2. If enough people stand for committee posts, then next year should see the bookstalls running properly in both departments, sufficient posters will be made, more lectures can be held, more people will attend, more visits can be arranged, and we will have a Mathematical and Physical Society, instead of a Physics Society with a few members from the maths department. So, we need: President; VP (Maths); VP (Physics); Internal Secretary; External Secretary; Treasurer; Publicity Officer (Maths); Publicity (Physics); Bookstall Manager (Maths); Bookstall Manager (Physics). Papers are now up in both departments.

## Photosoc

Candidates are invited to stand for the following posts on next year's committee: Chairman, Secretary, Treasurer, Darkroom Officer, Colour Group Leader, Publicity Officer, Ordinary Member.

Candidates must have a proposer and two seconders, who should be members of the society. Election papers will be put up on the noticeboard in the Union Building Entrance Hall on Monday, March 22, and will be taken down on Friday, April 30. The AGM will be held on Monday, May 3.



The Search for Handbook Articles continues.....

The deadline for articles for the **IC UNION HANDBOOK** is Friday April 30. This is the first Friday of Summer Term. clubs and societies are advised to appoint someone to write their article now as any received after this date will **not** be included.

Articles printed (or typed) on one side of the paper to the **FELIX** Office as soon as possible please.

## UN Soc

This Tuesday we are lucky to have a representative of the Canadian High Commission giving a talk on "The Canadian Nuclear Policy". This should be very interesting due to Canada's recent change in attitude, banning nuclear weapons on their soil. Would an action such as this be practical in Britain? Why not come along and find out.

First week of next term we will be holding the AGM. Please come along if you are at all concerned about issues affecting the quality of life for any section of mankind.

## Industrial Soc

The dinner on Monday was great fun and good value—we all pigged ourselves.

Main news is Norman Tebbit, the Minister for Employment, is coming to College on April 29, i.e. first Thursday of next term. To entice him along, we decided to approach Consoc, who obviously hold more sway over a big Tory, with a view to a joint event. So watch out for that.....

Unfortunately the trip to Lotus Cars was called off at the last minute because the ICU minibus had to go into dock—some oaf had apparently "broken off the prop shaft". This event will be rescheduled for next year, i.e. October, so apologies to third years!

Next committee meeting, 12:30pm Friday, March 19, Chem Eng LT1.

Peter A Rodgers

## Scout & Guide

Well, we did it. Forty-two miles of pure masochism across the north York moors. Friday saw the start of a very special S&G weekend. Our aim was to complete an east to west crossing of the Lyke Wake Walk, starting from the radio mast at Ravenscar. We arrived at two in the morning and after an initial cup of coffee we set off into the night.

By the time we reached the first checkpoint, the blisters had begun to take their toll, Austin needing the biggest repair job. As we walked on, the dawn broke over the impressive Fylingdales "golfballs" and the light helped us pick our way through the heather to the next booty stop.

Then came the bogs. Bog techniques vary, from skipping (Vicky) to swimming (Jenny) but everyone made it to the breakfast stop, although the party had now split up somewhat. Eight miles of "graunch" along a disused railway line followed, dropping down onto the last booty stop.

Andy dropped out, but then had his mind changed by our hero back-up support team, Malcolm. The last stage gave everyone an opportunity for a good "wing" as we staggered the last ten miles back to Osmotherley.

Having arrived at the hut, we discovered to our dismay that there were steps up to the sleeping room! The next day was spent falling asleep in the pub and, due to our various aches and pains, doing the "Lyke Wake Silly Walk".

## SF Soc

Not a happy bulletin this week I'm afraid. It is with regret that I inform you of the death of two science fiction writers. You may have heard that Edmund Cooper died because he used to review books for *The Times* and they therefore acknowledge his existence. What you may not know is that Philip K. Dick died earlier this month. Anyone with any knowledge of the SF field must admit that he was one of the "greats" with a list of books of high quality as long as your arm. Fortunately, his command of English was better than mine. Alas, you'll be lucky if you see any obituaries anywhere except in the specialist publications. Space does not permit me to give him his due.

Complete change of subject. On Tuesday we show *Night of the Lepus* in Mech Eng 220, 6:30pm, etc., etc. This is a special Easter presentation as this film involves a stampede of giant killer rabbits. Paragraphs contrasting more than these are hard to find.

## ICCAG

We have now moved to the Rag Committee Room which is opposite the lift on the top floor of the Union. Meetings as usual, Monday 12:30.

Last week we had David Hunter from Task Force to talk to us. He described the projects they are involved in with old people. They can arrange for a young person to visit a pensioner on a regular basis. They also arrange trips for the pensioners which require energetic young helpers. Interested? If so, get in touch.

We have our own links with old people: visiting them at St. Pancras Hospital or at a home on High Street Kensington.

Soup Runs as usual on Tuesdays and Fridays.

We need helpers to build an adventure playground on Wednesday afternoons in Acton for the handicapped children we help with on Saturday afternoons. Come forward all you budding engineers and put it in practice! See you soon!

## Astrosoc

This Tuesday, March 23, at 6:30pm in Physics LT2, Astrosoc is proud to welcome Dr Chris Isham from the Theoretical Physics Group. The subject of his lecture will be "Quantum Gravity", discussing the problems involved in reconciling classical and relativistic gravitational theories with the modern quantum mechanical view of the other physical forces, especially as we delve deeper into the heart of the atom and distances as small as  $10^{-33}$ cm have to be considered. This promises to be a very interesting and intriguing lecture to which everyone is welcome. There will

even be coffee and biscuits afterwards for those with the strength of will to resist the call of *Dr Who*.

Not to be outdone by any other club or society, on the following Thursday, at 1:00pm in Physics LT2, we will be holding our AGM, with all the usual annual reports and elections for next year's committee. The papers will be up until Wednesday, so if you want to stand for any post (and you are an Astrosoc member!), drag yourself, a proposer and two seconders over to the Union Entrance Hall and sign your life away. *And don't forget to come to the AGM on Thursday!*



# SCARAMOUCHE

There is a very large branch of puzzles which up to now has been totally ignored in this column, which is a great pity since it includes many of my favourites. I am referring to manipulative puzzles, the type where you have to remove a string from a wire shape, or slide a wooden bead along a cord, or dismantle and reassemble a set of wooden blocks. For obvious reasons it is quite difficult for me to set a puzzle of this type as a prize puzzle, but a few weeks ago someone showed me an idea which enables me to set a manipulative puzzle using nothing more than a rectangular sheet of paper.

1. Obtain from somewhere an ordinary sheet of paper. The size and quality are unimportant, but it must be rectangular. If you are reading this at 9:30 on Friday morning, you could while away a boring lecture (and annoy the lecturer) by using a sheet from your notepad. Or you could try the puzzle in any other situation where there is a plentiful supply of rectangular sheets of paper. Anyhow, take the sheet, fold it in half, score the crease heavily, and unfold again.

2. Fold it in half the other way, then in half again. Once more score the creases heavily, and open the sheet out flat. Four creases should now divide the paper into eight congruent rectangles.

3. Number the rectangles as shown in the figure.

1	2	3	4
5	6	7	8

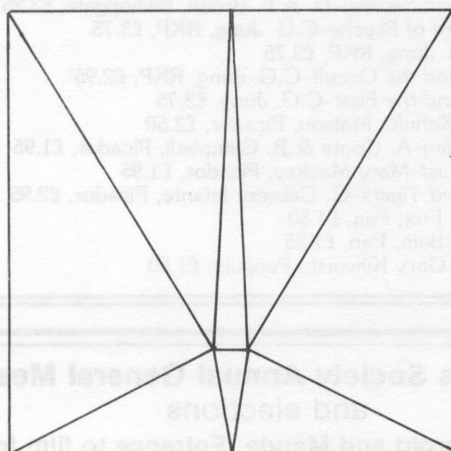
4. Turn the paper over, and number the reverse of the rectangles so that each has the same number on both sides.

5. Without tearing the paper, fold it along the creases so that the rectangles lie on top of each other in the order 1 5 6 4 8 7 3 2.

6. Send the thing to me at the FELIX Office, together with comments and criticisms.

£5 (donated by Mend-a-Bike) for the correct solution randomly selected at 1:00pm next Wednesday.

## Last Week's Solution



Eight is the smallest number of triangles (see diagram). Andrew Powell, Physics 2, was the only person to find this.

## Previous Week's Solution

The problem, you will recall, was to find which of twelve coins was of different weight from the others using three weighings to be determined

before the results of any of the weighings are known. I am grateful to Andy Strangeways for the following mnemonic for the solution. Letter the coins with the letters of the phrase F AM NOT LICKED. Then the phrase MA DO LIKE ME TO FIND FAKE COIN tells you to weigh MADO against LIKE, METO against FIND and FAKE against COIN. These weighings will always determine the fake.

## ...And The Week Before...

This caused so much confusion that I shall give both the right way and the wrong way to do it.

First, the wrong way. From Amble's last statement, we get  $B - A - 2C - D$  is greater than or equal to zero. We know A.B.C.D equals 270 (=2.3.3.3.5) and since A is the smallest of the four, A is 2 or 3. The case A=3 is easily eliminated, leaving A=2, C=D=3 and B=15.

The right way takes into account the fact that 1 is also a factor of 270. Amble told the Captain that everyone who attended the display visited just one of the four stalls, from which the Captain could deduce that  $A+B+C+D=K$  for some value K which he knows (but we don't). And this was not enough for the Captain to work out the values of A, B, C, and D. So K has a value which makes the simultaneous equations

$$A+B+C+D=K$$

$$A.B.C.D = 270$$

have more than one solution. There are four such values:

$$1+1+15+18 = 35 = 1+2+5+27$$

$$1+2+9+15 = 27 = 1+3+5+18$$

$$1+3+9+10 = 23 = 2+3+3+15$$

$$2+3+5+9 = 19 = 3+3+3+10$$

Amble's additional information enables the Captain to work out the correct numbers as 2, 3, 3, and 15.

## ...And Ages Ago

Finally, there were several misprints in Zar Amrolia's solution to the piano moving puzzle in the Christmas FELIX. The correct solution goes: UU, left timp U, other timp R, DLL, timp U one unit, RDR (UL) UL (LD) DRRUULLD (DR) RRDLLUURDRULU (RU) LDDRDL (UL) UUR (RD) D (DR) RULD, D one unit, L, music stands U, music stands U, R, lower timp D, grand piano R, DLLLLURDD RU (LU) ULLDRRU (UL) L.

# Easter Benefits

A reminder of the benefits which some students may be entitled to apply for this Easter vacation, especially those paying rent. For a more detailed description call in at Student Services, 15 Princes Gardens for our handout sheet and individual advice if required.

## Unemployment Benefit

This can be claimed if you are available for work during the vacation and have earned at least £1,350 between April 1980 to April 1981, or £975 between April 1979 to April 1980. Anyone who qualifies will receive £25pw provided they 'sign on' the first week day of the vacation and when required thereafter.

## Supplementary Benefit

Any student who pays rent over the vacation and can 'sign on' at the DHSS office in the area

where the accommodation is, should be able to claim part or all of their rent back since this expenditure is not allowed for in the vacation element of the grant and effectively reduces a student's income to below subsistence level during this period. It is important to go to the Job Centre early on the first day of the vacation in order to get the full entitlement.

## Rent Allowances and Rate Rebates

If you are paying rent and will be going home for the whole of the Easter vacation this may be the only benefit available to you. It can be applied for at any time from the Town Hall for the area where you are paying rent. Normally they will assess you on the basis of your termtime income (£54pw) and it will be up to you to contact them after the vacation to reassess it on your income for that period (£21.50).

When claiming SB and R&R rebates the following information will normally be needed: proof of rent payable (letters can be obtained from Student Services for those in the Head Tenancies), copy of grant allocation, recent bank statement, plus any documents relating to other income or investments. If heating and hot water is included in your rent this reduces the amount eligible for a refund by about £6pw, unless you can get some form of documentary evidence that it is less (we can provide this for claimants living in Halls and Houses).

Dental charges go up again on April 1, so it might be worth getting an appointment in before that date if you are over 19. However, during the vacation it should be possible for most students to get a refund, while those on Supplementary Benefit are automatically exempt (ask for the exemption certificate while you're at the DHSS office). If you have a rent commitment of around £25pw it may also be possible to claim back charges during termtime. DHSS leaflets on NHS dental treatment, medical treatment during visits abroad, and benefits in general can be obtained from the Student Services Office.



## Ents

Next Tuesday (March 23) we are proud to present a fun evening in the Southside Bar (Stan's). Ace buskers "Pookiesnackenburg" (who recently supported Madness) will be there, as will an extremely large video-screen showing several hours worth of videos featuring such heroes as: Bow Wow Wow, Grace Jones, David Bowie, and New Order, to name but a few.

We almost forgot to mention the cheap beer.....yes! *Cheap Beer!* Admission is only £1.

Next week's film is *The Great Rock'n'Roll Swindle* starring several infamous people.

## WIST

WIST is the IC women's group, and is the only active representation of women here. As you will read further on; we are holding a WIST evening on Wednesday, March 24, and hope that as many people as possible will come, since members interested in learning more about the position of women at IC and the outside world are badly needed. Our activities this year have included a questionnaire sent out to all women in College to find out why more women seem to follow scientific rather than engineering courses. We have also invited a number of speakers from organizations such as WAVAW (Women Against Violence Against Women), a Polish women's group, biological theories on women, women in the media. We are also hoping to organize and host a national conference on Women in Science and Technology at IC next autumn.

So, please come along and find out more about WIST, which meets regularly on Tuesday lunchtimes in the Union Upper Lounge.

We also have some leaflets and books (to borrow) at the Socialist Bookstall during this Friday lunchtime.

## Bookshop News

### Silly Sale - Silly Sale

Books at silly prices. Ballpens at stupid prices. 1982 Diaries at ridiculous prices. Starts Monday, March 22, 1982.

"I was staggered when Toni brought the manuscript for this book to us at the National ZX80 and ZX81 Users' Club. We'd talked about it, and Toni had given us a broad outline of the contents of the book. But until I had the chance to read it, I did not realise just what a comprehensive and easy to understand work it would be."

So sayeth Tim Hartnell of the National ZX80 and ZX81 Users' Club. When shown this book by Toni Baker, a third year at Imperial College.

"Mastering Machine Code on Your ZX81—Toni Baker—Interface—£5.95."

### Bags

We have two new designs in shoulder bags, both made out of strong canvas. Small £1.10; large £3.30.

### New Titles

*Restoring Antique Furniture*—R. Gethin, Bishopgate £2.95

*Cane and Rush Seating*—D. & F. Broan, Bishopgate, £3.25

*On the Nature of Psyche*—C.G. Jung, RKP, £3.75

*Dreams*—C.G. Jung, RKP, £3.75

*Psychology and the Occult*—C.G. Jung, RKP, £2.95

*Psychology and the East*—C.G. Jung, £3.75

*Short Lives*—Katinka Matson, Picador, £2.50

*Sweet Freedom*—A. Coote & B. Campbell, Picador, £1.95

*McCarthy's List*—Mary Mackey, Picador, £1.95

*Three Trapped Tigers*—G. Cabrera Infante, Picador, £2.95

*Mantis*—Peter Fox, Pan, £1.50

*Ghost*—Ed McBain, Pan, £1.25

*Split Second*—Gary Kilworth, Penguin, £1.50

## H.G. Wells Society Annual General Meeting and elections

**Plus film: Harold and Maude** (Entrance to film free by attendance at meeting.)

Mines Sutton Lecture Theatre  
Monday, March 22, at 7:30pm

## WIST (women's group)

Film: *The Power of Men is the Patience of Women*  
Followed by discussion.

Pary: food, wine and music.

**Wednesday, March 24, 7:15 (film), party til 12**

**Entrance 75p (everything included)**

**Everybody welcome!**

**A play by J-P Sartre**  
**Translated by Frank Hauser.**

**Union Concert Hall**  
**Fri 19 & Sat 20 March**  
**(Last two nights!)**

**Tickets £1 on the door.**

**A Dramsoc production.**



Thanks goodness we've got rid of those two lumps of metal at last. I was beginning to think they would never go. Thanks to all those who bought annual dinner tickets, it's a pity more of you didn't.

The main events remaining are a Rag Mag trip to Guildford on Wednesday (12 people only) and the Paris trip at the very end. So far about 25 people are going, but ask Simon Moore, LS2, if any places remain (post-dated cheques welcome).

Next term is the Silwood Ball, a gentle evening at a country house, with buffet, dancing and entertainment. The date set is May 7, and ticket reservations are already coming in, so make sure you are not disappointed.



Congratulations to the PG team for winning the Rugby Sevens on Saturday, but thanks to everyone for turning out.

Elections are next Thursday; so, if you're thinking of standing for something sign up quickly.

Tomorrow (Saturday, March 20) is the Deaf Kiddies Party in SCR Southside (2:00-5:00pm). Please come along and help during the afternoon. Anyone wishing to help with the food, see me today.

Gaynor

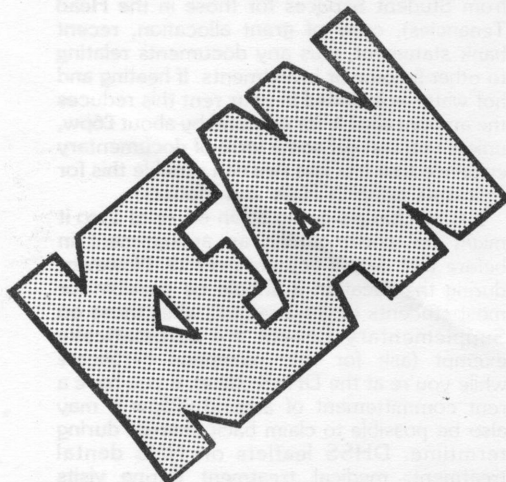
## Snooker

In the frantic rush to complete the league, matches have been played all over the place. The B, at very short notice, beat Bedford 4-1, but then slipped up against the A team, losing 4-1, with Hurford saving the whitewash. Things are now looking pretty good for the A team.

This Sunday saw Mr C. Tripp claim his place at the top of the league rankings by winning the ULU Championship. It was a good day for IC all round, with Simpkin finishing runner-up and Gaskill turning in a fine performance.

The Club AGM will be held on Thursday, March 25, at 5:30pm in the Snooker Lounge. All members are entitled to attend and vote for next year's executive. This will be followed by the club annual dinner, details of which can be found in the Snooker Room.

Another forthcoming attraction is the final of the IC Open between Tripp and Calvert. This promises to be a classic match, so look out for the time and place on the noticeboard.





## Theatre

***The Portage to San Cristobel of A.H.*  
Directed by John Dexter. Mermaid Theatre.**

Is it possible that Hitler may still be alive? Some people have their fears. His last reported movements left behind a trail of puzzling imprints and there appears to be no incontrovertible truth that he died in that bunker. This nagging fear is exploited in George Steiner's fictional work *The Portage to San Cristobel of A.H.*, adapted for the stage by Christopher Hampton.

The ninety-year-old Hitler, played by Alec McCowen, is found in the Brazilian jungle by a commando of Israeli agents. They secretly attempt to convey him to the airstrip at San Cristobal, but the sensational news of his capture is leaked out. Governments throughout the world start flapping their wings and in no time at all vultures are preparing to swoop down for the kill. As the Jewish commandos hack their way through the jungle they are tormented by the hostility of their surroundings and by the presence of their horrifying prey. What possible sentence could befit the enormity of his crime? Would hanging him not create the illusion that the whole affair could be concluded by this one act? Could he even be a Jew, the Second Messiah foretold in Jewish mystical scripts?

Most of the time Hitler stumbles along in silence, but towards the end he delivers an electric self-justification, an attempted vindication of his policy of racial extermination, pent up but unforgiving after thirty-five years of seclusion. McCowen (famous for his two hour long solo renditions of St. Mark's Gospel) plays a grizzly, stooping nonagenarian who from his wasted body manages to hurl words with gruff but piercing eloquence. A



Alec McCowen as Hitler in *The Portage to San Cristobel of A.H.*

thrilling piece of drama, his twenty-five minute monologue delivers a sharp blow to one's senses. His arguments are that the Third Reich was no more than a grotesque parody on the racism of the Jews; their obsession as being the chosen people. That the utopia erected by the Jews throughout their long history, and notably, in the last two thousand years those erected by Rabbi Jesus and Rabbi Marx, are impossible to achieve, would leave man permanently guilty, and bring about the destruction of civilisation. And that the crimes of Stalin are infinitely greater than his own.

Hitler's speech enters a region of moral argument very plausible but very dangerous. It is not a vindication of Naziism but provokes a

debate about good and evil, and in particular that most ancient of dilemmas, does the good end justify the evil means? The speech exposes our own hypocrisy such as our alliance with Stalin in the war, a man who before had slaughtered thirty million of his own people in the Russian Revolution.

Despite the foregoing the play is not 'heavy'. However, it is a little lop-sided in that the great final speech makes the first part of the play seem, on reflection, a little tame. And superb use is made of 'surround-sound'.

The theatre is close to Blackfriars tube station on the district/circle line and student standbys are available.

Nick Bedding

## Book

***The Book of Lech Walesa, various authors, Penguin £2.50.***

This book (according to the blurb) was a bestseller in Poland until December last year, when Solidarity was suppressed during the military takeover. The first six chapters are essays and recollections about Walesa by journalists and professors and the like. None of them are very interesting to read and several of the authors write like windbags. The best of the first seven chapters is one by Jerzy Kolodziejski who was Governor of Gdansk Province (according to the "Notes on Contributors" on page 11) from 1979 until his dismissal by the military government early this year. He was the negotiator on the Government side during the strikes in Gdansk shipyard in August 1980, which gives him an unusual point of view for describing Walesa. His chapter called "He is Most Certainly a Tribune of the People", is very sympathetic to Solidarity and it's better written than the other essays. Although Kolodziejski is a professor at a technical university he isn't afraid to say that "People are a bit fed up with all those professors, clever men who take the country from one crisis to another". It's a good sign that someone like him could reach high office in Poland. There's also a good sign in another

of the accounts: "...Walesa's wife Danuta went....to have her hair done. While she was there she heard from one of the two customers present that 'a fellow (Walesa) has moved in (nearby) who visited the Primate-Radio Free Europe broadcast in....they have given him a whole floor....luxuriously appointed.'" This passage is more revealing than entire chapters elsewhere in the book because it shows that (a) Polish housewives are prosperous enough to be able to have their hair done and (b) they're unafraid to say in the presence of strangers that they listen to Western radio stations (at least they were before the military takeover). (And it also reveals that Walesa accepted the authorities' offer of a large new flat after he became Solidarity's leader.)

The eighth chapter is a compilation of letters sent to Walesa by people from all over Poland, they're mostly fan mail. Chapter 9 consists of extracts from recollections sent in by people in response to an appeal from the Polish Sociological Association. Their tone is much the same as the letters and they're repetitive. Chapter 10 is an interview with another windbag, Andrzej Wajda, director of the boring films *Man of Marble* and *Man of Iron*.

The last chapter is the transcription of an interview with Lech Walesa, and it's by a long way the best part of the book. The interviewers (Marzena and Tadeusz Wozniak) asked deliberately provoking questions and the replies from Walesa are fascinating. For example: "...you see yourself as sincere, honest and frank, do you?" "That's right."

"Would you say that those were desirable qualities in the field of politics?" "What I meant was....look, obviously you can't say everything there is to say. And even though I can and do answer every question put to me, I can't be expected to reveal every single detail." "So you are a tactician....."

The contrast between Walesa's straightforwardness and the oiliness of politicians (such as student union leaders) is marvellous, and this chapter makes the pages and pages of praise for Walesa elsewhere in the book almost superfluous. He makes some interesting suggestions too: "Before we go ahead (with a strike), we (should) have talks with pensioners and orphanages and find out how many cars they need. And then, all the cars that are manufactured during the strike are handed over to people free of charge....we don't give the government anything." Again: "Things can't go on the way they are at present with railwaymen getting free travel and me not getting it because I don't work on the railways. Miners dig the coal, so they'll get an extra ton of coal each—what's socialist about that?" (Imagine how Mrs Thatcher would react to the first suggestion, or Arthur Scargill to the second.)

In spite of the boring passages this is a good book and it would be well worth buying if it wasn't for the high price. The book is advertised as a "special rush publication" and it does seem that Penguin are cynically trying to cash in on the Polish crisis.

N. Willson



## Film



**Death is My Trade, Cert A, German film, English subtitles. Directed by Theodor Totulla. Opened Paris Pullman yesterday.**  
A sombre, humourless tale that reflects its subject matter; the life story of the Comman-

dant of Auschwitz concentration camp. The central character is called Franz Lang, the pseudonym adopted by the real life character, Rudolf Höss, while on the run before his trial and execution in 1947.

The film follows Lang's life from the age of sixteen in the First World War and shows the formation of his strong respect and fanatical desire to obey an abstract entity: Deutschland.

The SS are shown in a most harrowing manner, dealing with Jews as "units" and *Death is My Trade* is played in a very low key, it steers clear of shocking news reel footage, working on the principle that everyone already knows of the atrocities of the SS. It is not a film about the victims but a film about the murderers, men who were not born to decimate a race but to whom it came with relative ease when commanded by authority.

More hideous crimes have been committed in the name of obedience than have ever been committed in the name of rebellion. An enthralling, well-acted, very serious film.

Duncan R. Stoop

## Book

**Alternative London. Edited by Georganne Downes, Kathy Holme and Max Handley. Price £3.50 from all (in)decent bookshops.**

At last! The long awaited (since 1977) new edition of *Alternative London* was officially published yesterday.

*Alternative London* has always been a controversial book but this latest edition certainly knocks spots off its predecessors. This is not the book to tell you about the history of the Tower of London, but rather the route of Magnox Flask traffic to Windscale.

Subjects covered are sometimes general in nature and bear no real relation to London itself, so the text is peppered with useful addresses to put it back on the right track again. Topics covered included squatting, sex, strange religions, tax, dole, drugs (very comprehensive!), etc., etc. Nothing seems out of place in *Alternative London*, it tries to be comprehensive and I think it actually succeeds.

Probably the only worthwhile book on living (as opposed to holidaying) in the Big City.

The book has information that will appeal to all sorts of people, though naturally the enthusiasts who produced it assume only left-wingers are really interested. This is my only criticism (although now and again I found myself doubting the validity of some of the information). Strange interesting facts abound: did you know that the sex attractant advertised in gentlemen's magazines is the same as "Boarmate" used by farmers at a fifth of the price to speed up pig mating? Do you know the "best" magistrate (by name) to be done by for possession of grass/hash? Or that Hitler owned 8,960 acres of Colorado. Not a lot of people know that.

While the book has something for everyone and I wholeheartedly recommend every single one of you to go out and buy a copy, it will no doubt appeal most to those few interested in 'Alternative IC'. Perhaps we could get together some day to publish it: heating tunnels, Arthur, Wally and the Freemasons, naughty blueprints, confidential documents, the reflectory flat voyeur, corruption in high places, the lot! Could be fun!

Prisoner 1132566

**The Annual Wellsoc Dinner**  
Speaker: Prof. Eric Laithwaite  
plus magic from Martin S. Taylor  
& interruptions from Pallab Ghosh  
at the London Penta Hotel, 97 Cromwell Rd,  
on Thursday, March 25, at 7:00pm  
Price £9.00 (Postdated cheques, payable to  
P. Ghosh are acceptable.)

## SPORT

### Rifle & Pistol

Sunday saw a club expedition to Bisley, a practice for next week's inter-CCU full-bore competition. While the Mines team travelled in luxury (Kev's car!), RCS and the nominal Guilds contingent travelled by BR, allowing the Mines team some psychological advantage on the range. Having completed the formalities of hiring the guns, etc., the group adjourned to the 900yd range for a spot of shooting.

Once shooting commenced, everybody immediately hit the targets with the exception of the esteemed Guilds team, who suffered wind problems. In the afternoon good scores were registered by everybody with the exception of Gary Smith, with notable achievements by Steve, Neill and Tony, who notched up 47 apiece. A late attraction was an impromptu kneeling competition between Gary and Steve, in which Steve achieved a notable victory by one point, thus adding to Gary's growing complex. Fashion on the range showed a good deal of imagination and dress sense with stunning outfits being modelled by Steve and Kev, with Neill's hat showing promise for the future.

### Yacht

In the beginning there were fourteen pseudo-queasy quasi-sailors and two OOD 34 yachts. Then God (or someone who sounded remarkably like Him) spaketh unto us:

"Hey you guys, verily thou shalt saileth upon the Solent."

So naturally, we went there last weekend. And lo! It blew. Twas really brillig. Behold, we had a gale to amuse ourselves with; which we did. OK, so it's not far from Lymington to Gosport and back again, but 'twas a wizard caper in that wind. And lo! We were amused.

So if you are turned on by the idea of walking around wearing a rather soggy halo, come to a meeting in the Botany Common Room, Beit Arch, 12:30pm Thursdays. There is another trip in a weekend's time, also a week's sailing in the Easter vacation, probably across to France (and back?).



### Tennis

In the first match of the season, a weakened IC team, lacking match practice, were beaten by Reading University first team.

Star performances by Ralph Daud and Rob Easton saved the day for IC, by winning all their matches. Christian also played well.

Many thanks to Steve for getting out of bed and turning up as a last minute replacement. (I hope she kept the bed warm for you when you got back!)

Team: R. Easton, R. Daud, Christian, D. Gladman. M. See, Steve.



# Cross Country

The penultimate race of the season, the Old Boys' Race, was held on Saturday in Richmond Park in bright sunshine. A small contingent of about half a dozen present IC runners braved the competition all to no avail, as a large majority of the first ten finishers were old boys. A notable exception was Hugh Dixon, our guest runner from QEC, who won the five mile race. As is traditional, after slight numerical manipulation the result was deemed a draw.

The dinner that followed the run later in the evening was a tremendous success with copious quantities of high quality cold buffet edibles. Towards the end of the evening our Captain, Pete Holdsworth, provided a little light entertainment with his speech including comments on the team and individual successes and failures during the season together with a few amusing anecdotes.

## Hockey

### Firsts

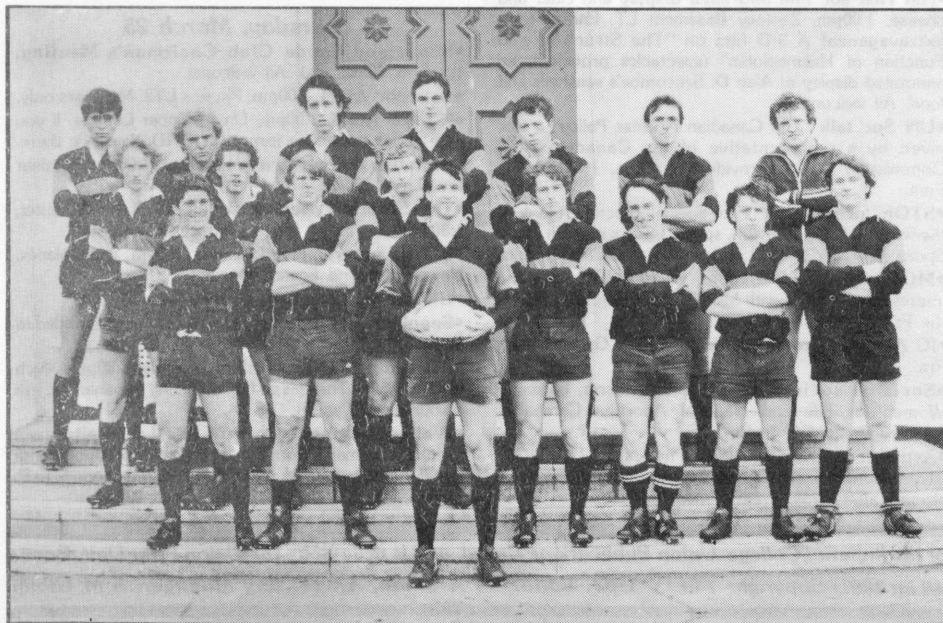
This game was played on the astroturf at Crystal Palace against St. Johns touring side (full of drunken bums!). IC dominated the first half and were 3-0 up at half-time.

The change of umpires at half-time allowed St. Johns to score three times in the second half, but IC matched this with another three.

Notable performances were from Ayers (four goals) and Franklin on the pitch; and from St. Johns, and Ayers, Bell, Franklin and Coathanger (IC) in the bar afterwards.

St. Johns lost the boat races in the bar at the Guilds Bar Night and were shown how to drink by IC on Monday morning.

## Rugby



No rugby reports this week, folks—so here's a photo of your Gutteridge Cup heroes instead. (Photo: Jim Edwards.)

## RESULTS

Wednesday, March 10

### Rugby (Sparkes Cup)

Mines I vs RCS I 8-0  
RSM II vs RCS II 4-6

Saturday, March 13

### Football

IC II vs QMC II 7-3(A)

Sunday, March 14

### Hockey

IC I vs St. Johns Cambridge 6-3(H)

## Sailing

Sailors don't set sail on the 13th—except for IC sailors that is, who travelled to Oxford last weekend to sail Oxford University. The boats were Laser IIs which are light, fast and wet. The wind was strong, which made it difficult for the IC dirty tricks brigade to use their usual 'techniques' and the first race consisted of two IC boats hotly pursuing Oxford around the course whilst practising capsize drill several times, just to show how it's done.

The second race showed some improvement with Bennett and Dalton fighting each other for fifth place, whilst Kennedy and his recovered crew showed how it's really done and finished first.

After lunch, Oxford's ladies provided the challenge. Kennedy and Bennett battled it out with the opposition whilst Dalton and Younghusband realising that they were now the only dry crew, had encounters with the starters launch and an Oxford boat before illustrating the technique of falling overboard at speed.

Winning this race on penalty points proved too close for Oxford, who reacted by winning the second race decisively and thus took the match.

Team: Bennett, Dalton, Fawcett, Kennedy, Tostevin, Younghusband.

## Sports Editorial

Just a reminder that entries for Sports Day must be in today. This event is very important so make a special effort. The next ACC Meeting is on March 23 at 6:30pm in the Union Lower Refectory.



## Football

### Fifths

With one game still outstanding the Fifths stand proudly top of Division 2R, a massive ten points ahead of their nearest rivals Kings Thirds.

The Fifths, newly promoted to 2R, having the previous season won 3R (and also the reserve cup), have completely decimated their opponents. Only RHC II who the Fifths beat 3-2 and 3-1 have avoided the Fifths scoring ten past them in two matches. Goals scored against other teams have been Goldsmiths 18(3); Barts Hosp 18(2); QMC III 13(3); Guys Hosp 11(2); IC IV 11(3); RHC III 10(3). London Hospital II were thrashed 4-1 away despite numerous first team imports but were unable to raise a team for the home match. Kings III who have still to play the Fifths in their final game on March 24 (spectators welcome) have already been beaten by the Fifths 8-1 away.

The fifths record to date reads:

P	W	D	L	F	A	Pts
17	16	1	0	99	22	33

These results being achieved largely on a squad of twelve players. Congratulations therefore to the following players Nick Lowton/N. Hampton (goalkeeper), S. Kler, N. Audin, M. Haberin, D. Rogers (defence), B. Dhillon, K. Chamberlain, N. Gaskill (midfield), D. Stephenson, J. Healy, S. Coussens (forwards). Simon Lister must also be mentioned for playing in several games for the Fifths and also being their sub throughout their giant-killing cup run.

PS: Good luck to Dave Rogers who will take over as Captain of IC Fifths.

### Sixths

The Sixths finished their season as unbeaten league champions with a final playing record of:

P	W	D	L	F	A	Pts
14	12	2	0	63	16	26

The average of over four goals a game would have kept a crowd entertained. Goal scoring honours were shared by a mixture of age and experience: the flying wingers Ken Baldwin and Steve Cox. Paul's deadly finishing produced another eleven, and even Mark managed two. Highlights of the season included: Ken's unselfish attitude towards opposing keepers; Gary's subtle touches and thoughtful distribution; Rob's ability to find the noticeboard once every three weeks; the only loss of the season—the supporters club to BR; Mark's gentle words of encouragement on the field; George's flying headers; Anton's haircut and Steve's inability to count past two, so avoiding a strained wallet. It was also encouraging to see the number of young keepers that have been blooded towards the end of the season. Finally, tune in next year to find out if Trevor ever scores.





## Elections

Those who haven't just fell into a gibbering heap at the mention of the word may be interested in a few comments on the sabbatical elections.

Firstly, any suggestion that the Presidential election should be re-run is nonsense. Steve Goulder was constitutionally elected. I feel that if the advice given in FELIX affected any of the elections adversely, then it was the DP and Hon Sec elections where twice as many people abstained as in the Presidential election. Thus if any elections should be re-run for this reason then it is these two. However, I don't think that my advice made that much difference, although I admit that I made a mistake by saying that an election could be re-run if nobody passes quota due to abstentions. This is wrong for several reasons, primarily because it would severely disadvantage any election where three or more good candidates stood.

But the real reason that the Presidential election was messed up is easier to find. Bob Holding succeeded in making the whole thing a farce. He carried out a rabid anti-Goulder campaign which culminated in a weighted UGM which decided not to ratify Steve Goulder purely because he won, rather than for any other reason. The irony is that if Bob Holding had not stood at all, then the result



## Photo Competition

No, this isn't a comment on the sabbatical elections. Nor is it a still from next week's Ents film *The Great Rock'n'Roll Swindle* (sorry about the mistake on the FELIX calendar!).

If someone can tell me the name of the actress, the film, its director, and who the actress' father is, then they'll get a voucher for a free hair cut and blow dry at Jingles, Gloucester Road. Address entries to Photo Competition, FELIX Office. Entries close 1:30pm Monday.

would have been much clearer. I expect that either Steve Goulder or Andrew Lyall would have been a clear winner (ignoring that wimp J. Martin Taylor who has turned out to be the worst loser in the history of Imperial College). But this, like so much else about these elections, is only speculation and you can't re-run an election on that.

Finally, now that Mr Goulder has been ratified I urge you to forget all the bitching and give him your support. I hope that he will be an able President who will do his best to protect and improve IC Union.

## N. Willson strikes again

I received a flood of letters about last week's Soapbox article. Unfortunately I cannot print all of them and chose one (the longest) from Frank James. Whilst this letter is abnormally long I think that it sums up the arguments in

most of the other letters on the subject and avoids needless repetition of the same points.

## Rag Mag Editor

Andy Crawford of Chemistry 1 has been elected as this year's Rag Mag Editor.

If you have any material for inclusion in this year's edition then send it to Andy Crawford c/o FELIX Office. This is your chance to contribute, so don't gripe later if you can't be bothered to help now!

## Scaramouche

.....is on page 7 this week.

## Credits

Thanks to Peter, Lesley, Pallab, David R., Martin S., Steve, Nick T., Nick W., Nick B., Caroline, Soheel, Ramzi, Jez and all the collators (especially Izy), Maz and Ian.

# What's On

## Friday, March 19

- Anti-Apartheid Picket of IC Board of Governors meeting, 10:15, outside 170 Queensgate.
- IC Angling Club, 12:30pm, Southside Upper Lounge.
- BUNAC meeting, 12:30pm, Green Committee Rm.
- Socialist Society Bookstall, 12:30-2:30pm, JCR. Books and Campaign Coffee for sale.
- Soup Run, 10:30pm, Falmouth Kitchen.

## Saturday, March 20

- West London Chaplaincy Planning Conference, all day, Westfield College. Contact Chaplaincy Office for details or meet at South Ken tube station at 8:45am.

## Sunday, March 21

- West London Chaplaincy Communion Service, 10:00am, Consort Gallery. Preacher Bob Brooke, his last before he leaves.
- Anti-Apartheid Movement National Demonstration, 12:00noon, Reformer's Tree, Hyde Park. Assemble in Beit Arch at 11:45am. We will march to Hyde Park then to Trafalgar Square for rally.

## Monday, March 22

- Hang Gliding club meeting, 12:30pm, above Southside Bar.
- Badgesoc lunch meeting, 12:40pm, Southside Bar.
- Wargames club meeting, 1:00pm, Union SCR.
- TM soc meeting, 5:30pm, Huxley 411. All meditators welcome.
- Dancing club advanced class, 7:30pm, JCR.

## Tuesday, March 23

- Pimlico Connection meeting to find out more about tutoring in schools, 12:30pm, Elec Eng 606. Further details from G. Marcheselli, Aero 2.
- Boardsailing club meeting, 12:30 and 6:15pm, Southside Upper Lounge.
- Catholic mass and lunch, 12:30pm, Chem 231. Nominal charge for lunch.
- Riding club meeting, 1:00pm, Rm 1009, Elec Eng.
- Slideshow on America by IC North-American Club (BUNAC), 1:00pm, Huxley 340. Free.
- Consoc speaker meeting with William Waldegrave MP, Undersecretary of State for Higher Education, 1:00pm, Mech Eng 220.
- Michael Meacher MP, former lecturer at LSE speaking on "The Alternative Economic Strategy". All welcome, 1:00pm, Huxley 140.
- Nat Hist soc film and shell display and cider and cheese, 1:00pm, Zoology Basement LT. End of term extravaganza! A 3-D film on "The Structure and Function of Haemoglobin" (spectacles provided), an annotated display of Alan D. Seccombe's seashells and food. All welcome.
- UN Soc talk "The Canadian Nuclear Policy" a talk given by a representative of the Canadian High Commission (coffee provided), 1:00pm, Huxley 340. Free.
- STOIC programme "Film Special Effects". A look at the work of Brian Johnson, special effects man on *Alien*, *Space 1999*, and *2001*, 1:00 and 6:00pm, JCR and Halls.
- MOPSOC AGM, 1:10pm, Physics LT2. Anyone interested in helping with MOPSOC or simply voting for the President should attend.
- IC Amnesty group meeting, 5:30pm, Green Comm Rm.
- Socialist society debate on abortion, between Women for Life and National Abortion Campaign, 6:30pm, Green Comm Rm.
- Astrosoc lecture, 6:30pm, Physics LT2. Dr C.J. Isham lecturing on "Quantum Gravity". Coffee and biscuits afterwards. Free to members.

- Dancing club beginners class, 7:30pm, JCR.
- ICCAG 'Soup Run', meet 10:30pm Falmouth Kitchens.

## Wednesday, March 24

- Anti-Apartheid Meeting, 1:00pm, Union Upper Lounge. Hugh Lugg will be speaking on "Working in S. African Mines".
- TM soc meeting, 1:00pm, Huxley 411. Video and check. All meditators welcome.
- Wargames club meeting, 1:00pm, Union SCR.
- IC Trampoline society meeting, 5:30pm, Courtauld Hall, QEC, Campden Hill Rd.
- WIST Evening, film: "The Power of Men is the Patience of Women"; discussion; and, party, 7:15pm (film), Union Upper Lounge, 75p. Open to everybody.
- Dancing club intermediate class, 7:30pm, JCR.

## Thursday, March 25

- Scout and Guide Club Chairman's Meeting, 12:30pm, Mines 303. All welcome.
- Astrosoc AGM, 1:00pm, Physics LT2. Members only.
- ICCND AGM, 1:00pm, Union Upper Lounge. If you care about the future form of ICCND please be there.
- Christian Science group meeting, 1:00pm, Seminar Rm, Level 2S, Botany.
- The Scientia Ensemble Schubert's 'Trout' Quintet, 1:30-2:20pm, Music Rm, 53 Princes Gate.
- STOIC programme, 1:00 and 6:00pm, usual places. News-Break and Easter Special.
- Gliding club meeting, 5:30pm, Aero 254.
- Snooker Club AGM, 5:30pm. All members entitled to attend.
- Ents film: *Great Rock'n'Roll Swindle*, 6:30pm, Mech Eng 220, 50p. The classic film depicting the anarchic era of our distant youth.
- Wellsoc Dinner with Prof Eric Laithwaite main speaker and magic from Martin S. Taylor, 7:00pm, Penta Hotel, Cromwell Rd. A mere £9 postdated cheques to P. Ghosh, Physics 2 by Monday, March 22.



# U.R.O.P. Newsletter

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Undergraduate Research Opportunities Programme  
.....now in its second fabulous year!

.....'This show will run and run'. — Learned Bevin

How to join:  
First ask yourself if UROP is for you

- it's for enthusiasts
- it's a lot of hard work
- it makes demands on your intellectual energy and time
- it's immensely rewarding.

Use the UROP directory to locate a field of interest — the new one, due out at the end of term, will contain nearly 200 offers. Talk with the member of staff concerned. If it is what you want to do, arrange details of your participation. Tell him what time you have available — this includes your evenings and weekends — and get going. In a lot of cases this can lead on to vacation work (paid!). UROP may be able to help with costs. In any case give in your name and that of your supervisor to the UROP office, Professor J.C. Anderson, Room 714, Electrical Engineering.

## The Moving Finger

In the revolutionary field of Office Information Systems, UROP summer student Mike Kleyn brought together his own FischerTeknic kit and some bought-in components to construct 'Fingerpoint' — a device that helps the office user to select the information he or she needs. The work was sponsored by Barr and Stroud Ltd.

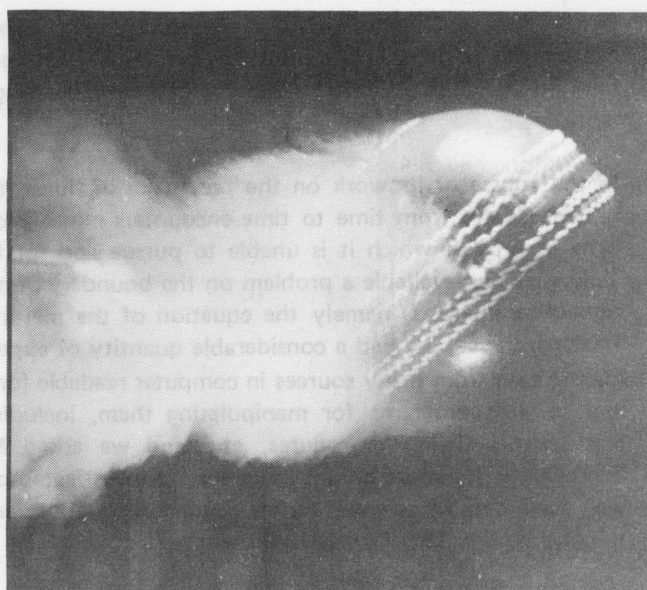
Dr R. Spence

## Cad

Jerry Yan, by carrying out a critical examination of existing Computer-Aided Design software and testing possible improvements, was able to contribute significantly to the development of a package that will be used in industry for simulation and design of electronic circuits.

Dr R. Spence

## This Definitely is Cricket



Phil Varty and Kate Bentley spent the summer vacation playing cricket in a wind tunnel! Dr Rabi Mehta of Aero Engineering followed up his earlier analysis of the aerodynamics of cricket balls by getting his UROP students to do a detailed wind-tunnel study. The particular objective was to study the lateral swing of the ball in flight by carrying out flow visualisation (see photograph) and pressure distribution experiments on a static ball in a wind tunnel, where wind speed and seam angle were varied. They went on to do more quantitative and realistic rolling tests on a wide variety of balls in various configurations. They found that the prominent seam is the major cause of swing and that humid conditions neither affect the physical state of the ball nor the swing — so it's all right if it rains!

This Newsletter highlights just a few of the 50-plus UROP projects that have been running in the past year. Editorial apologies are offered to the large number of students who have not been mentioned.



# Concrete Results

Following IC's impressive performance in the concrete canoe races Mike Rowley followed up, under the UROP programme, by using a concrete laminate to make a radio-controlled model speedboat. Powered by a 3.5cc engine its performance drew an appreciative audience at the Round Pond. Mike's real work was a thorough going investigation of new cement laminates using different textiles as the reinforcing material, including mosquito net and an IC hand towel (Domestic Section please note!). The results suggested that textile-reinforced concrete laminates could well replace asbestos tiles in the future. Incidentally the work was sponsored by Marathon Oil and Mike is probably going to work for them after graduating.



'Oh that this too,  
too solid state  
would melt'

Dr S. Angus, Director of the Thermodynamic Tables Project Centre in the Chemical Engineering Department, took on geologist G. Tsikos as a UROP student. Dr Angus writes:

In the course of its work on the properties of fluids, the Project Centre from time to time encounters minor problems of interest which it is unable to pursue and for Mr Tsikos we had available a problem on the boundary of our respective interests, namely the equation of the melting/freezing curve. We had a considerable quantity of experimental data from many sources in computer readable form and suitable programs for manipulating them, including least-squares fitting procedures, etc. and we asked Mr Tsikos to write short linking programs to investigate how well these data represented various suggested equations and to consider possible extensions of them.

We warned Mr Tsikos that only negative results were to be expected and this proved to be the case, but the exercise was useful to us in closing several blind alleys, and Mr Tsikos was pleased to be working on a topic where the answer was not to be found in a textbook, but depended on his own efforts.

## Cancer Research

Mark Exley, now in third year Biochemistry, joined Dr Lane in the Cancer Research Campaign group in the department. Dr Lane is working on the tumour-producing virus SU40. This is a small circular DNA molecule coding for 5 or 6 proteins, one of which, large T antigen (T), is necessary and sufficient for the transformation of mammalian tissue culture cells (akin to tumour producing in the animal).

His laboratory uses an immunolochemical approach to study Tantigen and its effect on host protein and DNA using monoclonal antibodies. Mark was engaged in the use of these reagents from initial purification to their use in radioimmunoassays, radioimmunoprecipitation and *in situ* characterisation of their antigens by cell staining with immunological sandwiches. We became particularly interested in 68K — a host protein which had provisionally been shown also to bind an anti-T antigen monoclonal.

His work also involved mammalian tissue culturing, running polyacrylamide gels of cell extracts, autoradiography, centrifugation, column 'bead' chromatography (including affinity chromatography) and other purification techniques. He was able to work with the members of his laboratory, particularly whilst learning the techniques.

Subsequently Dr Lane has obtained semi-pure preparations of 68K and much further information on its role in the cell is being obtained and will probably be published soon.

## A word for our sponsors

To show their enthusiasm for, and faith in, UROP the following firms provided funds to support UROP students continuing their research during the Summer vacation.

W.S. Atkins & Partners  
Barr and Stroud Ltd.  
Marathon Oil

National Maritime Institute  
I.P. Sharp Associates Ltd.

We thank them most sincerely for their help and hope that they will be able to repeat it this year!