



# FELIX

Founded 1949

The Newspaper of Imperial College Union

## GOOD LUCK, IC!



IMPERIAL COLLEGE qualified for the finals of University Challenge on Monday by beating Birmingham in the quarter finals and Edinburgh in the semi-finals. This followed their victories over Somerville College, Oxford and Queens, Belfast, before Easter. The team, comprising Dick Langstaff (captain), Tim Williams, Simon Errington and Duncan Swan, have been accompanied by enthusiastic supporters from College on each of the three nights that they have competed at the Granada TV Studios in Manchester. The final will be played on Tuesday 30 April.

There were some nail-biting moments for IC, but all the team members contributed equally, with very few wrong answers.

Regular watchers of University Challenge have observed less of a bias towards the arts this year, in the questions. In previous years, science questions have tended to be trivial, whereas a detailed knowledge of the arts has been required.

Question master Bamber Gascoigne seemed surprised by IC's micrometer 'Mike' which he described as 'much the heaviest mascot to appear on the programme'.

### How they reached the finals

In the first round IC beat Somerville College, Oxford by 485 to 225, then Queens, Belfast by 280 to 240. In the quarter-final they beat Birmingham 260 to 200 and in the semi-final beat Edinburgh 365 to 210. Jesus College beat Cains 545 to 440, followed by Birmingham 310 to 255. They beat Cardiff in the semi-final 285 to 250.

This is only the third time that a London College has reached the final, and if Imperial win, it will be a first for the University.

Fifty supporters will attend the final—Jen has a list.

## NUS take control

IC BAR PRICES may rise substantially after a National Student Services Organisation was founded during the second Student Services Conference at Birmingham University during the Easter Vacation.

The new NUS organised body will take over negotiation with national suppliers of, for example, beer, to obtain substantial discounts for the student unions involved. This replaces the Bars Working Party through whom Imperial obtains discounts on beer, spirits, wine and soft drinks, as well as other consortia involving paper

supplies, stationary, food, and so on. The new body will exclude unions not in NUS from benefiting from these discounts as from 1 January 1987.

Right from the start of the conference it was clear that petty student politics were more important to the majority of the delegates than commercial sense and benefits. Despite dogged attempts by the ULU, QMC, Chelsea UCL and IC delegates, the conference moved the exclusion amendment. This was passed by 33 votes to 32 (after two recounts).



## Stolen Pot

Dear Sir,

On the evening of Tuesday the 12/3/85, the night of the election result celebrations, the theft of a Union Pot occurred, in the Union Bar at 9.30pm. The Pot, RCSU No 12, the Motor Club Chairman's Pot, is valued at about £120. It has an RCS crest, a line drawing of Jezebel as well as 30 years of names engraved upon it. It looks slightly dented and mishapen and has the unusual feature that it has no lip at the rim.

Extensive inquiries have been made, the bar and Union building have been searched extensively but to no avail. It has therefore been decided to offer a substantial reward for the return of the pot, unless the returner was found to have stolen it. Any information should be given to either myself, 471C Mech Eng Dept, int 6289, or Pascal Carr, Physics 2, or to Dave Parry, IC Union. Pascal Carr, the current holder of the post has said that he would give anything for the return of the pot.

Yours,  
Gareth Fish

## 'Down with Israel'

Dear Sir,

I was reading your last issue of FELIX (20 March) on my trip back from IC from an interview when I came across two letters directly insulting to the intelligence of the ordinary man!

Both had criticised the large slogan 'Down with Israel' sprayed in red on College walls as childish and crude. Although I am no supporter of vile tactics myself, I believe that sometimes the most genuine and deeply felt pains find no other way of expression. What else can one do when even the UN resolution condemning the occupation of Israeli forces in Lebanon is vetoed? If Jewish Soc sincerely seeks some other means of communication, let them watch the news on TV concerning Israel's daily crimes in South Lebanon. More over they should not be offended by the 'red' colour letters of the slogan, since their brothers in the Israeli army don't mind shedding the red blood of defenseless civilians every day. In fact everything in that slogan is a reminder for those who reflect.

I hope that the Jews all over the world would return to the true teachings of Moses rather than cling blindly to the state of Israel, after all the shameless and unique atrocities she has committed in Lebanon.

A prospective IC student  
T Mohammad

# FELIX

The Jarratt report must be the cause of a few smug faces in Sheffield (see news pages). Many of its recommendations have already been put into operation at Imperial, particularly the establishment of a 'rolling academic and institutional plan'.

But there are still important lessons to be learnt from Jarratt. Among the 'performance indicators' that universities should look at are *teaching quality* and *success rate of higher degrees*. The UGC weren't very complimentary about either, when they visited College recently. But more important than a *low* indication of performance is a *falling* one. And there is no doubt that in some subjects, IC's market share of undergraduates applications is falling. The chief reason for this is not difficult to see. As long as Imperial fails to provide sufficient on-site accommodation it will fail to attract the best quality students. Thus begins the vicious circle of decline.

The Jarratt report should be compulsory reading for all Union Officers. Student Unions must be among the most inefficiently run bodies. At IC, anyway, there is no 'rolling plan', indeed no forward or strategic planning at all. This can partly be explained by the fact that the officers change every year. But this increases the importance of forward planning. Any sabbatical will tell you that it is difficult to achieve anything of great consequence in the Union in the space of one year. How much more could be achieved if a succession of Presidents had even the *opportunity* to work towards a long-term objective. As it stands at the moment, though, the President of one year rarely follows through the initiatives of the previous year. Perhaps the establishment of a small committee to monitor and record long-term plans would be a step in the right direction.

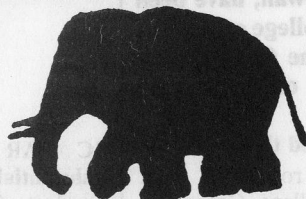
Finally, FELIX wishes good luck to the University Challenge team next Tuesday, when they compete against Jesus, Oxford in the final.

**Acknowledgements:** Many thanks to Richard, Grenville, Hugh, Martin, Jon, Debbie, Michael, Tinker, Don Adlington, Pete, John, Rosemary, Tony and all the collators.

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# Tory rampage toffs slam press

CONSOC LEADER GRAHAM Brown has dismissed press reports of the Federation of Conservative Students (FCS) Conference as 'wild exaggerations and grotesque distortions'.

The reports surrounded a party held at the Loughborough Conference on April 1, which 200 delegates attended. It was alleged that windows were broken, doors were smashed down, walls were daubed with paint and excrement and photographs of Mr Edward Heath were daubed with Hitler-style moustaches. The Federation deny this, while admitting that a fire-extinguisher was discharged, a door handle was removed, carpets were stained with beer and vomit, and a shower was used as a toilet.

It was also admitted by Graham Brown that pictures of Heath were turned to the wall, and T-shirts were worn displaying the legend 'Morning Cloud—Remember the Belgrano'.

The press were alerted to the damage by leading 'wet' Chris Davies (NUS Exec Member) who held a news conference the morning after the party. Journalists were denied access to the part of Loughborough University where the party was held, say FCS.

Party Chairman John Selwyn Gummer reacted strongly to the damage by launching an Inquiry and freezing FCS funds. Three Scottish delegates were expelled from the Conference.

The IC delegates at Loughborough were Graham Brown, Charles Tweed, J Martin Taylor and David Burbage.

## Travel award

THE OLD Centralians Trust will award a travel scholarship in the region of £200 to assist an undergraduate of the City and Guilds College to undertake a study project abroad during the summer vacation of 1985.

To compete for the award, the Holbein Travel Scholarship, applicants must submit detailed plans of their project—a scheme of investigation in the general field of science, technology or engineering. The subject of an applicant's project must be approved by their Professor or Tutor.

Each project must include an approximate time-table and a budget giving details of expenses including travel, accommodation and any special equipment.

Application forms and further details can be obtained from the Old Centralians Office, Room 303, Sherfield Building. The closing date for applications is 13 May 1985.

## AGM

THERE WILL ONLY be one UGM this term, the Annual General Meeting to be held on Tuesday 21 May at 1.00pm in Mech Eng 220. This meeting will receive the annual reports of the Sabbaticals and the Major Subcommittee Chairmen.

In addition, elections will be held for the following positions: Haldane library record buyer, four delegates to GUC, FELIX Business Manager, two ordinary members of Union House Committee, two ordinary members of Council and Publicity Officer.

Papers will be put up at 9.30am on Tuesday 7 May on the noticeboard in the Union central foyer, and will be taken down at 5.30pm on Thursdays 16 May. Nominations will require one proposer and two seconders.

Provision exists in the Bye-Laws for there to be more than one UGM this term, if there is sufficient demand. Anyone who feels that there should be another UGM should contact one of the Sabbaticals.

Eddie and Pat welcome you to

## the HOOP and TOY

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# Take a Walk Down

Another museum bites the dust as this week FELIX takes a walk down Exhibition Road to investigate the Victoria and Albert Museum. In particular we look at the Boilerhouse Project, a good idea which seems to have become temporarily submerged in sociology. All you budding industrial designers out there don't miss this one.

**EXHIBITION  
ROAD SW7**

**CITY OF WESTMINSTER**

## NATIONAL CHARACTERISTICS IN DESIGN

The Victoria and Albert Museum exudes conventionality from every pore. Looking at it, with the high roof, marble steps and a little sign telling you where the gift shop is is enough to turn the stomach of many. If you go inside, and pass the gift shop, a short wander will take you to Primary Victorian Gallery Number One, which appears to be full of bits of stone and pieces of cloth. So does Primary Victorian Gallery Number Two, and a few minutes is enough to convince you that the V&A is a place for storing bits of stone and pieces of cloth, which in fact it is. Ignore the fact that most of the stuff here has been chiselled off the walls of capital cities on the other side of the world against the occupant's wishes. Here we are, right in the middle of Britain's Cultural Heritage, and it all seems so, well, historical. Is there nothing in this great temple of fine art to interest

the sort of hip student we all like to think we are?

Well, the answer is 'Yes'. There is the Boilerhouse Project, which is aiming to show how industrial design can be examined and studied in a similar way to the rest of the objects in the V&A.

It is linked with Habitat, the High Street temple of smooth design which has young trendies all over the UK filling their flats with pine and plastic. As you would expect the Boilerhouse itself is a rather small hot room, and it is heralded by a nice neon sign outside. This sign is neatly hidden round a corner in a corridor, so as not to upset the various stone gods and goddesses in the next gallery along. The Boilerhouse changes it's displays quite regularly, and in the short time since it opened has achieved some startling success.

The current exhibition is *National Characteristics in Design*

and it attempts to show how industrial design, particularly of mass market consumer goods, shows national characteristics which reflect and are reflected by deep rooted traits in a particular nation's collective consciousness.

Unfortunately this interpretation ends up looking like pure twaddle. This may seem a sweeping generalisation but if you think that's bad then just listen to these two gems, taken more or less at random from the catalogue

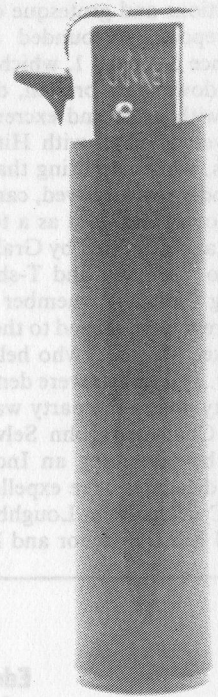
*Like Germany, the USA is a middle class country.*

*Sweden is a democratic yet paternalistic country.*

Either of these two beauties would form the basis for a PhD in sociology, yet here they are popping up as facts that barely need to be stated, yet alone justified.

The exhibition takes a selection of eight developed countries and a representative collection of things that are 'designed'. We get, therefore, a table full of American food, another with Italian, English, French etc., with the whole thing being repeated with motorcycles, clothes, and even toiletries. After looking at a powerful vacuum action Swedish lavatory basin we learn that this shows 'the evidence.. of a worthiness of intent discussed elsewhere in the world but unlike in Sweden never carried out'. Although the derivation of real truths about the French from a disposable lighter may seem funny enough, we must wait until we learn of the relationship between a Sony Walkman and a Bonsai tree, as well as what can be read into a packet of French *protections féminines* before finally concluding that what once seemed a good idea has been turned into Pseud City. The choice of exhibits has been done to confirm trivial stereotyping.

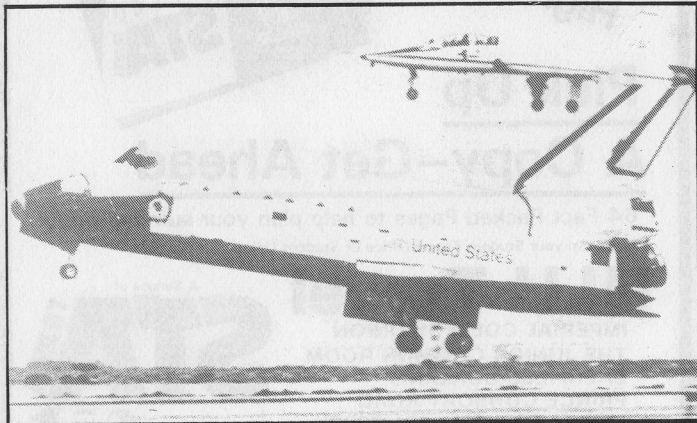
It is a real pity that the idea just does not work. The designs themselves show many fascinating trends, but nationalism does not appear to be one of them. The



*Obviously French disposable lighter...*

*Robots* exhibition a few months ago recieved praise from all quarters, and surely design really is interesting. Within the environs of the V&A the contrast with the bits of stone and pieces of cloth shows how a facelift for a museum can mean a lot more than a new roof and cleaning the stonework outside.

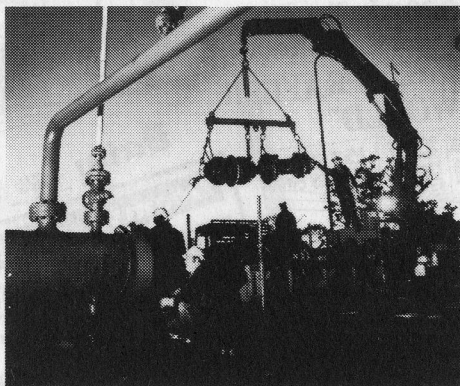
The Boilerhouse is planning a move to the Docklands soon, which is a shame from the point of view of students at IC. Even when it is no longer a short walk down Exhibition Road, and becomes a long ride down the District Line, it will be worth a visit. For aspiring designers at IC even a flawed exhibition such as this should be mandatory, and if all you do is buy the final product it can be intriguing seeing how much effort goes into designing a coffee pot. Just don't attempt to learn much about the Italians from it.



*Typically American Space Shuttle...  
You can learn so much about the USA by just looking at it can't you...*

# IN THIS ALIEN ENVIRONMENT, SPACE TECHNOLOGY IS OUT OF ITS DEPTH

Inspecting underground gas pipelines for faults may not sound like the ultimate high-tech challenge. But, in fact, the task proved to be beyond the 'state-of-the-art' technologies previously available – even in military and aerospace applications.



existence. Making extensive use of sub-miniature hybrid microelectronics, new types of recording heads and ultra-precision mechanical engineering, this little marvel can store up to 500 million readings on a single reel of standard one-inch tape, with an accuracy of better than one-thousandth of one percent!

## PROBLEM:

Design a vehicle which can travel inside the pipe, carrying equipment capable of identifying any significant defect, and pinpointing its position to within a metre in a run of up to a hundred kilometres or more.

## SOLUTION: THE INTELLIGENT PIG

The Intelligent Pig, developed by the gas people, is a vehicle carrying highly advanced sensing, data processing and recording equipment. Driven through the pipe by the gas pressure within it, the Pig can be used without taking the pipe out of service.

What is more, it can not only pinpoint any defect on the inside or outside of a steel pipe, but even describe its nature.

## HOW?

Using strong magnetic fields or elastic waves propagated at ultrasonic frequencies, different types of sensors can detect corrosion, cracks, impact damage or distortion of the pipe. But the real challenge lay in processing the hundreds of millions of signals produced by the sensors in an average run.

## THERE WASN'T A COMPUTER SMALL ENOUGH AND TOUGH ENOUGH

Many of the pipes to be inspected are less than 305mm in diameter. To fit sufficiently powerful data processing equipment into the tiny space available, hybrid microcircuits incorporating custom-designed silicon chips had to be developed. And since the space restrictions also limit battery size and therefore power, many of these highly advanced electronic components have to operate at the very limits of their specifications. What's more, the environment inside the pipe isn't exactly friendly. All the highly sophisticated equipment carried by the Pig has had to be designed to tolerate or be protected from extreme vibration, mechanical shock, dirt, and gas pressure of up to 70 atmospheres.

## A 'TOMORROW'S WORLD' TAPE RECORDER

The sheer volume of data to be stored inspired the development of what is probably the most advanced ultra-miniaturised tape recorder currently in

## FROM REEL TO REELS

Once the Pig has finished its run, the next job is to prepare the data for analysis by powerful, advanced computers such as the VAX 11/780. There's so much information in the Pig's tiny recorder that many reels of computer tape are needed to receive it, and many hours of computer time to analyse it.

## THE RESULT

Britain's underground gas transmission network is a multi-billion pound asset. And the technical pyrotechnics we've just described have a thoroughly down-to-earth end result – they help the gas people to maintain this asset more efficiently and cost effectively.

## WHY THE GAS PEOPLE LIVE IN THE FUTURE

The fact that gas is Britain's most popular domestic fuel – and a powerful and growing force in industry, too – is the result of many years' foresight, planning and massive investment by British Gas scientists and engineers. And they're still working for the future – to meet Britain's energy needs in the next century.

# THE GAS PEOPLE - WORKING FOR TOMORROW'S WORLD TODAY

**Gas**



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You're probably approaching your finals - with more than a passing thought to your career. Look around you.

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Investing heavily in new product design as well as enhancement, we urgently need more specialist 'muscle'. We could write more here, but we can better demonstrate the attractions of our product and our company face to face.

### Meet our team at INFORMAL INTERVIEWS

#### CAMBRIDGE

The Royal Cambridge Hotel, Trumpington Street, Cambridge, on Monday 29 April 1985 (between 12 noon-9pm) and Tuesday 30 April 1985 (between 12 noon-6.30pm)

#### KENSINGTON

The Kensington Close Hotel, Wrights Lane (off Kensington High Street), on Thursday 2 May 1985 and Friday 3 May 1985 (between 12 noon-9pm)

#### READING

The Ramada Hotel, Oxford Road, Reading, on Tuesday 7 May 1985 and Wednesday 8 May 1985 (between 12 noon-9pm)

#### COLCHESTER

The George Hotel, 116 High Street, Colchester, on Thursday 9 May 1985 and Friday 10 May 1985 (between 12 noon-9pm)

#### HEMEL HEMPSTEAD

Northern Telecom Data Systems Limited, Maylands Avenue, Hemel Hempstead, on Monday 13 May 1985 and Tuesday 14 May 1985 (between 12 noon-9pm)

If you can't make it on the day, but would like to know more, please write for an information pack to Linda Cooper, Personnel Officer, Northern Telecom Data Systems Limited, FREEPOST, Maylands Avenue, Hemel Hempstead, Herts HP1 1BR (no stamp required). Telephone Hemel Hempstead (0442) 41141.

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## ANOTHER SHOCK HORROR PROBE

# "Arthur was SS Officer"

IT WAS ALLEGED this week that Michael Arthur was a senior officer in the notorious 'Imperial SS'. Indeed some extreme sources suggest that he *still holds office* in the SS.

'Prince' Michael was quick to refute these allegations, citing his extreme youthful appearance as evidence that he could not possibly have held more than 'honorary rank' during the last war.

The following press release was issued from Imperial SS headquarters in 'Princes' Gardens.

### SUMMER VACATION WORK

#### Introduction

During the Summer vacation, many of the College's residences are let to visitors from outside the College. The income from these schemes is essential if reasonable rents in the residences are to be maintained. The various Summer Letting Schemes offer a number of jobs for the vacation period. These vary from challenging full-time managerial posts to part-time cleaning work. In general the work is well paid and interesting and free accommodation is provided.

The schemes fall into two distinct categories. The SAC scheme operates in Linstead Hall and part of Southside and provides a standard hotel bed and breakfast service catering for conferences and other short stay visitors. This is run under the auspices of the Conference Office. The other category includes Evelyn Gardens, Hamlet Gardens and Beit Hall and provides a more basic and less expensive form of accommodation where the clients tends to be students from other colleges staying for fairly long periods. These schemes are run by Student Services. For all the schemes, marketing is carried out centrally but during the actual period most of the work of running and maintaining the schemes is carried out by students.

#### The Schemes

##### SAC

This is the most prestigious of the four schemes and requires a large work force necessary to maintain high standards. The office and reception desk is based in the foyer of Linstead Hall and is run by a member of the Conference Office staff together with Assistant Managers, Night Managers, Cashiers and Receptionists. The reception desk is manned day and night throughout the Summer vacation. Guests are welcomed registered and billed on arrival by the reception team and shown to their rooms by a porter.

Behind the scenes, the cleaners prepare up to 400 rooms which involves changing and making beds, cleaning wash basins and bathrooms and vacuuming carpets. All this has to be done in the morning in four hours. Cleaners work in pairs, under the supervision of the Housekeeper and a co-

ordinator, servicing 24 rooms and three sets of bathroom facilities on a staircase.

##### Evelyn Gardens

This is the largest of the three schemes operated by Student Services, with up to 400 guests at any one time. All three schemes are run by assistant managers under the supervision of a co-ordinator. The Evelyn Gardens scheme is staffed by four assistant managers and eight cleaners. The assistant managers run an office, act as receptionists, maintain booking charts, collect rent, operate the accounting system and supervise the cleaners. The cleaners clean rooms, change sheets and act as porters.

##### Hamlet Gardens

At Hamlet Gardens, three assistant managers run 39 flats which provide accommodation for around 250 guests.

Traditionally, the three managers have done the cleaning themselves in order to increase their earnings. Whether or not we have cleaners this year will be decided in consultation with the new managers. The managers duties are similar to those of the Evelyn Gardens managers. Many of the flats are organised so as to provide fairly basic accommodation but a number of the best flats are let fully equipped to families at a higher rent.

##### Beit Hall

Beit Hall is somewhat different from the other schemes in a number of ways. In the first place it is much smaller with only 110 rooms. Also, the housekeeper of Beit Hall is heavily involved with the Vacation Lettings and the SAC office provides the reception facilities for the Beit Scheme. As a result of these factors we only need one assistant manager and two cleaners for Beit. The assistant manager is responsible for raising all invoices, making sure that guests pay on time and also acts as an assistant to the housekeeper.

All students who work in the Summer letting schemes are offered free accommodation and a competitive wage. Those who work for the whole Summer, are eligible for a bonus. Wages, hours and bonus rates are as follows:

Position	Hours/week	Wages	Bonus
Assistant Managers	39	£85pw	£100-£300
Night Managers	33 (average)	£70pw	£100-£300
Receptionists	35	£65pw	£70-£200
Cashiers	28	£52pw	£50-£150
Cleaners and Co-ordinators	24	£1.80/hr	£30-£100
Porters	14	£1.80/hr	£30-£100

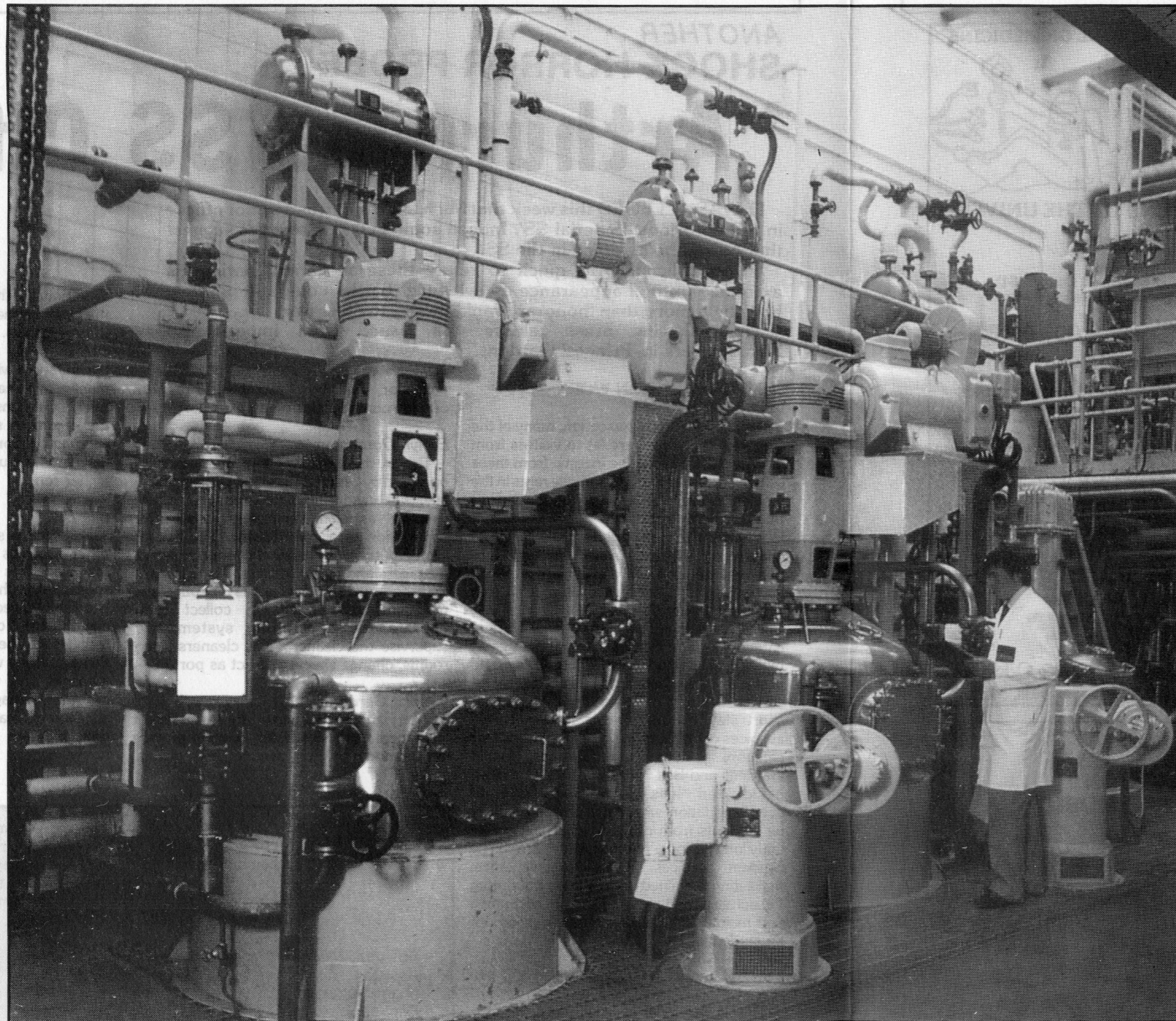
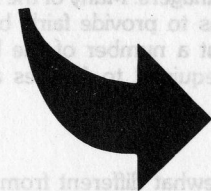
Co-ordinators receive a £10 per week responsibility payment in addition to the above rate. The hours given for co-ordinators, cleaners and porters represent a guaranteed minimum it is anticipated that additional hours will be available for those who require them. The hours given for other staff represent normal hours but there will be times when extra hours are required. Although overtime is not paid for these, extra hours will be taken into account when assessing bonuses.

The Summer Lettings schemes offer an interesting and generally rewarding kind of

vacation work. At times the work is very hard, particularly at the beginning and end of the schemes. Those working in the management type jobs need a lot of stamina and patience to deal with large numbers of guests while working under considerable pressure. At the same time, most people who work on the schemes tend to enjoy themselves as well as gaining useful work experience.

Application forms and the answers to any questions you may have are available from student Services, 15 Princes Gardens.

Closing date Friday 10 May.



● **Designing new plants, making cheese mature more quickly, and cleaving DNA. All this and much more has been achieved in the fascinating field of BIOTECHNOLOGY.**

● **Our Science Correspondent reports on this fast-developing subject which has already brought together researchers from disciplines as far apart as Chemistry and Electrical Engineering.**

Only in recent years has biotechnology received a great deal of attention—but people have been successfully using the principles involved for thousands of years for the preparation of such things as bread, wine and cheese. However for biotechnology to reach its full potential in the future close collaboration is needed between scientists with many different areas of expertise, such as biologists, chemists, physicists and engineers. It was with this in mind that Professor Brian Hartley initiated the setting up of the Centre for Biotechnology at Imperial College. The Centre was established in 1982 in parts of existing College buildings which were refurbished. In late 1984 the new seven floor building was completed and is attached to the Chemistry and Biochemistry Departments and adjacent to the Fermentation and Extraction Pilot Plant of Imperial Biotechnology Ltd.

### Pilot Plant

The Pilot Plant was built in 1965 and is unique in that there is no other plant like it attached to an academic institution in this country. In 1982 Imperial Biotechnology Ltd came into existence, and has an exclusive ten year lease on the Pilot Plant, with the Centre still having access to its facilities. The company undertakes contracts from industry, and academic and government institutions from all over the world, and is also hoping to market its own products which will mainly be enzymes. For example, in the production of cheeses such as cheddar, the ripening process takes six to nine months, and an enzyme is being developed which will reduce this period to two to three months, without affecting the quality of the cheese.

Mr G Banks is the Director of Operations at the Pilot Plant and also a lecturer at the Centre. He has been involved in the development of a wide range of new fermentation processes both for the Centre and for outside contracts. Collaboration between Biogen and the Pilot Plant led to the first large scale (3,000 litre) production of an interferon by a genetically engineered organism. The material produced has been used for clinical trials, and the process developed at the Pilot Plant was used on production scale in Austria.

The Centre has an academic core staff of six and there are many staff throughout the College involved in work relevant to biotechnology. Research at the Centre includes work on genetic and protein engineering, biosensors, microbial metabolism and fermentation technology.

### Computers Smell

Computers that can taste and smell are reminiscent of science fiction, but the work of Dr Case with biosensors shows it could be a real possibility. The biosensors that he is working on combine the high specificity and catalytic activity of enzymes with sophisticated modern electronics to produce sensitive and specific analysers. A paracetamol sensor which could be used by hospital staff to rapidly assess the extent of an overdose is being worked on, along with a pesticide sensor to measure the extent of water pollution.

Biosensors with the potential to do rapid quantitative analysis, can be manufactured cheaply and can be used by untrained staff. Clinically the fact that they can be used for an analysis on living systems is a major step forward. They provide an economically viable alternative to existing analytical methods which may involve lengthy laboratory analysis. The work is a good example of how interdepartmental collaboration can work, with Biotechnology Centre working closely with members of the Departments of Chemistry and Electrical Engineering on the development of the biosensors.

### New Plants

The work of Dr C Lichtenstein with plant genetic engineering is aimed at producing new plant varieties. Plants could be given

resistance to herbicides, making weed control much easier, or resistance to viruses. If the protein quality of plants can be improved they will be more nutritious providing an alternative food source to meat. The production costs for plants would be considerably less than those for meat. The work is based on the fact that some bacterial can induce tumour growth in plants, with the tumour resulting from the transfer of DNA from the bacteria to the plant leading to expression of the foreign genes in the plant.

Enzymes are used to cleave the DNA so that the genes responsible for the tumour formation can be replaced with the desired genes. The major advantage over classical plant breeding methods is that the plants can give exactly the required properties and no others.

### Stereospecific

Micro-organisms can carry out an enormous range of chemical transformations and by understanding the pathways involved it may be possible to steer the metabolism to new and desired products. Professor D Ribbons and Dr D Leak are looking at microbial metabolism and physiology, which has a number of applications for work in the Centre and in other departments. There are some micro-organisms able to carry out chemical transformations producing intermediates of known stereochemistry which would otherwise be difficult to produce. Joint research with the Chemistry Department is using this ability in the chemical synthesis of analogues of naturally occurring pesticides. They are also looking at the possibility of using micro-organisms to carry out other chemical transformations which involve problems such as low yields and mixtures of products when standard synthetic methods are used. Another collaboration involving members of the Metallurgy, and the Mineral Resources Department and the Biotechnology Centre is using a micro-organism to leach ores out of laterite minerals such as bauxite, and to concentrate them. Some micro-organisms are able to accumulate up to four times their weight of the metal. There is also joint work within the Centre using  $^{13}\text{C}$ ,  $^1\text{H}$ ,  $^2\text{H}$ ,  $^{31}\text{P}$ , and  $^{19}\text{F}$  nuclear magnetic resonance spectroscopy to obtain measurements on living micro-organisms. In this way information can be obtained about the regulation and times scales of microbial metabolic pathways.

Although the Centre has only been in existence for a short while it has already forged substantial research links with the rest of the College and hopes to increase these in the future. The fact that Imperial College has a great strength of research in most areas is a great advantage for interdisciplinary work. The Centre also has links with government institutions and links with industry which include funding. There is an MSc course available at the Centre for up to twelve students, with a BSc in biotechnology available via the life sciences course. It seems that the Centre is now able to meet the needs for interdisciplinary teaching and research that initiated its development.



# What did you do this weekend?

## -and did you enjoy it?

London can be an exciting place to live—but only if you know the ropes. In October several hundred fresh faced first years will arrive at Imperial College and you can help them enjoy their first few weeks here to the full.

A few weeks before the start of the academic year all first year students receive a copy of the IC Union Handbook. Can you pass on information to help them in their first year? Whether you want to review a favourite restaurant, pub or cinema, discuss the merits of the local shops or write an article on study skills there is a place for everything. If you are the Chairman/Captain of a club or society you are also required to submit a short article detailing your activities and facilities (see pigeon holes for details). General photographs of college and local events are particularly useful.

If you are at all interested in passing on your knowledge and advice please contact Nigel Atkinson via the Felix office as soon as possible. The copy deadline will be Friday 31st May.

# Tinker

Once upon a time a mathematician decided to learn to play golf.

After his first shot he sat down, got out a pencil and started to work out his shortest route to the next tee.

One of the mathematicians strong points was his sense of space, given any two points he could visualise any of the ellipses for which the said points are foci. Using this amazing ability he noticed that the position of his ball and the hole were exactly at the foci of the elliptical green.

He must now walk to the edge of the green, leave his bag, hole his ball and retrieve it, then take his bag to the next tee. How can he work out his shortest route?

GRADE 2

I have one solution to the Easter puzzles, for the spider fly problems. I will leave the other two prizes open until Monday 6 May in case anyone can solve them, though I expect you are too busy with exams, just now.

ROYAL FREE HOSPITAL SCHOOL OF MEDICINE  
RAG APPEAL



THE PARTY AT THE END OF THE UNIVERSE

at  
**bananas**

201-203 Wardour St. W1. (off Oxford St)  
(between Tottenham Court Rd. tube & Oxford Circus tube @)

MONDAY 29<sup>th</sup> APRIL 9-00pm - 3-30am

THE FIRST 100 PEOPLE RECEIVE A FREE

METAXA BRANDY or OUZO with a mixer  
or a BRANDY ALEXANDER COCKTAIL

PLUS MORE FOR EVERYONE AT 60p UNTIL 10-30pm

WIN A FABULOUS FORTNIGHT FOR 2  
"GREEK ISLAND HOPPING"

Fly to Athens...then visit the islands of your choice



Come as Superheroes... Aliens... Space Oddities...  
Martians... Inter-Planetary Humanoids... 42...

HAVE A Break from  
REVISION  
WITH THE MUSIC  
OF

**IMPORTANT  
NOTICE**  
—THE BAND—

IMPORTANT NOTICE  
Playing at SOUTH SIDE  
THURSDAY 2ND MAY 85  
9.15PM

NB WE WILL EASE THE STRAIN!

**Written, formal examinations have a hallowed place in academic life, and while, from time to time, educationalists have espoused alternative methods, they are widely accepted as the fairest and most efficient means of assessing students' knowledge and understanding.**

The written examination is not however by any means a precise instrument. It is certainly possible, for example, on individual papers, to come up with a 'fluke' result, that is a result markedly better than the student's actual ability would have led one to expect. It is also unquestionably possible to come up with results that are worse than either the student or his teachers anticipated, and which do not fairly reflect the student's ability.

The risk of systematically underperforming in a set of examinations is linked to two separate, but closely related, factors: (a) an inadequate technique for playing the examination game, and (b) an inadequate recognition that a formal examination, like any other testing situation, can generate levels of anxiety which in themselves may have an adverse effect on intellectual functioning.

### Playing the examination game

Examinations are to some extent an abstraction from reality, an artificial construct. They are a sort of game in which the participants are invited to demonstrate what they know, in writing, on a blank piece of paper, in a set time. An important component of the game is that the examiner is forbidden to give credit on any other evidence than that presented in the script. It is an astonishing fact that despite this elementary point, some students insist on abandoning common sense to the extent, apparently of playing another game altogether. A common manifestation of this is the student who spends an hour and three quarters (out of three hours) writing, re-writing, polishing and perfecting one answer or five required.

Another common departure from the rules consist in writing out the answers without properly reading the questions. There are two, equally devastating variants to this: (a) not selecting the

questions which optimise the candidate's chances of scoring high over-all, and (b) misreading individual questions and subsequently writing an answer to a question which in effect is not there.

Some basic and well recognised components of a good examination technique are as follows:

1. Read the question paper carefully, preferably twice. Errors of perception are highly correlated with heightened anxiety.

2. Select the questions you are going to answer, put them in order, and write out a simple timetable, allowing the same time to all questions (assuming the same maximum marks for each).

focussed on something else.

4. Answer the easiest question first, so that you can proceed to the others on a psychological 'high'.

5. Don't be afraid to make rough notes in your answer book. When you are answering one question, ideas relating to other questions you are going to answer may come into your head—jot them down. Similarly on entering the examination room, and possibly before reading the paper at all, you may wish to write down very quickly salient points which you have memorised in your final preparation.

It is, of course, essential to rule out rough work very clearly, so that the examiner knows that it

seems to be some common sense ways of handling this problem.

Arrive early—far better to be biting your nails outside the examination room, than sitting in a traffic jam at Earl's Court. Once you are in the examination room, sit down and relax a minute or two before doing anything.

To a certain extent anxiety is contagious. If you feel that this is a hazard for you, then 'keep yourself to yourself' before admission to the examination room. It may also be worthwhile resisting the impulse to compare notes with all your friends immediately after an exam.

It is also a good idea in the examination itself, not to let yourself be thrown if your neighbours appear to be writing with more facility than you are. They may, for all you know, be writing rubbish, and in any case, inordinately long answers do not necessarily bring the best results.

The most common symptom of anxiety getting out of hand, is an overwhelming sense of panic, a temporary breakdown of our rational and ordered response to a demanding situation. In an examination this may, for example, take the form of 'blanking out'—completely forgetting everything. The remedy for this is to switch off, close your eyes, and do nothing for a while.

This is far better than yielding too easily to the powerful impulse to resolve the tension by giving up altogether. When you feel that the anxiety attack has abated, try getting your mind working again by using a 'scribble technique'. Just write down words—any words—which lead to other words, until you feel that your faculty of recall is available to you again.

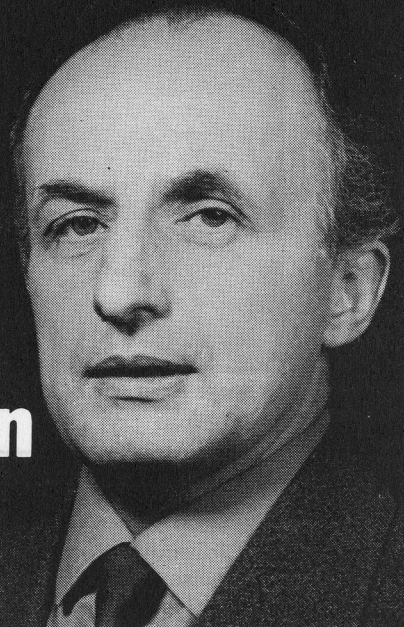
A final point. If you have a history of becoming particularly anxious at exam times, or if for contingent reasons you think that you may do so this time, it would be sensible to talk to someone about it well beforehand. Tell your personal tutor or your senior tutor, talk to a doctor or nurse at the Health Centre, or come to see me. Just a small amount of practical help may make a substantial difference in the event.

Some material in this article is derived from a lecture given by Dr Robert Sharp of the Institute of Behavioural Therapy.

## Exams, anxiety

by  
Don  
Adlington

## and common sense



Allow fifteen minutes for the planning and five minutes at the end for finishing off. Some people find that it helps to make quick notes on each question at this stage.

3. Be disciplined in adhering to the timetable. Recognise that the first few marks accruing to a question can be obtained far more easily than the last few—and it is the total mark which counts. If you get stuck in the middle of a question leave it and deal with the next one. You can always return to the unfinished answer later, and indeed the very act of disengaging from the difficulty may allow a resolution to surface while your mind is actually

does not form part of your answer.

6. If you run out of time, tell the examiner so, and say which point you would have gone on to discuss if you had more time.

### Dealing with anxiety

A degree of anxiety, accompanied by recognised physiological symptoms, is a normal reaction to testing and stressful situations. Everyone is affected to some extent and should be aware of it. You tell yourself that you are anxious, that it is natural, and that you can handle it. In doing that, you minimise the risk that the anxiety may escalate to a point where it becomes disabling. Again there

## CLUBS

### DRAMSOC

# Dramsoc Summer Tour

During the Summer, Dramsoc goes on Tour. This year three plays are being taken to the Edinburgh Festival Fringe and Dramsoc will take part in the World's largest arts festival, performing alongside both amateur and professional groups. Auditions for the three plays will take place on Friday 26 April at 7.30pm in the Union Dining Hall (1st floor, Union Building). If you have ever thought of acting, the details of the Tour are detailed below.

The three plays are *Funeral Games* a black comedy by Joe Orton (four male, one female), *Unity* by Jane Anning (two female, one male) and *You're A Good Man Charlie Brown* (three males, two females). Anyone is welcome to audition.

Rehearsals for the plays begin in the middle of June after the exams have finished. They take place during the evenings, enabling people to take full time jobs. All members of the casts are required in London for these rehearsals. The festival begins, with the theatre venue being converted from Saturday 3 August, at which point the rehearsals cease and equipment is taken to Edinburgh. The first performances begin on Thursday 8 August, with press previews and continue during the subsequent three weeks. The plays by Orton and Anning are performed on alternate nights from August 8 to August 24. *You're A Good Man...* is performed each lunchtime from August 25 to August 31, when the festival finishes.

Accommodation in Edinburgh is usually in flats, with rent being about £30 per week. Other costs are transport to Edinburgh and

obviously food and drink. So if you have no other plans for the Summer and are interested in acting, come along to the auditions. If you have any questions or doubts either drop me a note (Nick Shackley, Chem Eng 3) or come along on Friday. For anyone interested in acting, this is an opportunity not to be missed.



A scene from one of last year's successful productions

### QT SOC

# Silly Season

Due to pressure of work, the weakness of the Dollar and the fall of Stoke City, QT will be having a moderately quiet term. Summer however is the silly season and events will be arranged in the open air, usually in Hyde Park. These will include raving at Speakers Corner and Donald's walkabout by the Round pond. Any other ideas aimed at annoying tourists will be gratefully received.

Meetings will be held as usual on Tuesdays, 1pm, Southside Upper Lounge for the next few weeks.

PS Sorry no jokes this week.

PPS If anybody knows where the pillocks from PPSoc are, then we are still waiting for our pillow fight.

### ICCND

# AGM

ICCND has no events organised for this term except the Annual General Meeting where members can receive their late membership cards and stand for various committee posts. It will take place on Wednesday May 8 at 12.45pm in the Union Upper Lounge.

It can be great fun organising and running a club as a team, so if you want to help you can drop a note to ICCND in the Union Office.

At the AGM the art and literature prizes will be given out and the maybe some entertainment. So come along and support your ICCND group. Without you there may not be one next year!

# Bookshop News

First the bad news. Due I am sure, to a small number of people who 'borrow' books from the Bookshop we have had to install a complete closed circuit television system in the shop. As the shop is owned by the Union the cost of installing this will mean that this reflects on our profits, so remember while you are watching, so is my staff.

Now the good news, the Christmas best seller *Mans Best Friend* £2.95, is once again available. Rumour has it that a follow up will appear later in the year. If and when it does you will be the first to know.

For the next two weeks there will be in our window an exhibition of Engineering and Physics books published by John Wiley and sons Ltd. If you wish to see any book from the window please ask my staff and they will get them out for you.

#### New Titles

The story of Air Fighting Air Vice-Marshal J E 'Johnnie' Johnson published by Hutchinson at £9.95.

This book, by one of the greatest Air Fighters of them all, tells the story of fighting in the air from the First World War to the present day. It is full of thrilling first hand stories of courage and accounts of many of the legendary Flying Ace's. Publication date is April 29 and hopefully I will have signed copies. If you wish to order one, please come and see me.

#### Hardbacks

**Nazi Gold** Sayer and Botting Granada £10.95.

**The Burning Shore** Wilber Smith Heinemann £9.95.

**Janner on Presentation** Greville Janner Business Books £15.95.

#### Paperbacks

**Sharpes Enemy** Bernard Cornwell Fontana £1.95.

**Three Women of Liverpool** Helen Forrester Fontan £1.95.

**Passage to India** E. M. Forster Penguin £3.95.

**The Danger** Dick Francis Pan £1.95.

**The Diamond Waterfall** Pamela Haines Fontana £2.95.

**Talon** Anthony Melville-Ross Fontana £1.95.

**Servants of Twilight** Leigh Nichols Fontana £1.95.

**The War Lord** Malcolm Bosse Fontana £2.95.

**Celebrity** Thomas Thompson Penguin £2.95.

**Division of the Spoils** Paul Scott Granada, £2.50

**Charles Chaplin** My Autobiography Penguin £4.95.

**Piaf** Simone Berteaut Penguin £3.95.

**This Climbing Game** Walt Unsworth Penguin £4.95

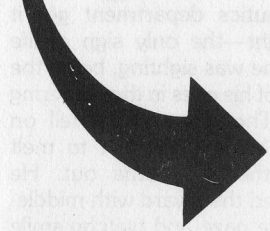
**The Creative Computer** Michie and Johnston Pelican £6.95.

**A Managers Guide to Industrial Robots** Ken Sushjara Spectrum £12.50

**Hitch-Hikers Guide to Europe** Ken Welsh Fontana, £3.95.

**Wisden Cricketers Almanack 1985** £9.95.

# REVIEWS



**Jazz** Mahavishnu Orchestra ●  
**Singles** Howard Jones ●  
**Freeez** ● Wooden Tops  
**Books** Summer travel ●

## JAZZ

It has been a long time since **Mahavishnu Orchestra** have made any noticeable impact on the heavily pock-marked British jazz scene. With titles like *The Flowers of Spring* it's hardly surprising. Now, it seems, they have brushed off their memorable—but historical—psychedelic jazz image, shaken the last few hippies from their coat tails and waxed saxophonical. The band is headed as ever by the incredibly versatile John McLaughlin, trading acoustic guitar for clarinet and synthesised guitar, and Billy Cobham, reputed by some, to be the worlds greatest (although perhaps not the fastest) drummer. But, for sheer heat and rhythm, saxophonist Bill Evans, already an established mainstream jazz musician, has laid down a remarkable selection of up-beat and ballad riffs for the set, each one dripping in vitality.

No, that's not entirely true, old habits die hard, and some tracks (*The Unbeliever* sounding suspiciously like some like some live-music Miles Davis wrote some ten years ago, and *When Blue Turns to Gold* still retains their subdued nature; but none of the eight tracks meander. They are well structured, compact, tight as a drum.

The new Mahavishnu is hardly a British venture. In addition to Cobham and Evans, McLaughlin uses two lesser known Scandinavian musicians for keyboard and basswork. Everything I said about Scandinavia being the home of jazz die-hards and hippies I take back a hundred fold, oh, I don't know though. They've got to live somewhere. Maybe that's how this new Mahavishnu thing all started....

## SINGLES

# 45 rpm

### Howard Jones: *Look Mama*

Despite repeated claims by his army of fans that Howard Jones's songwriting talents are many and varied, I have to admit to being bored to tears with the tedious *What is love* sound that permeates virtually every track on the *Dream Into Action* album. It was great the first time, even ok on the second, but unfortunately *Look Mama* has little to recommend it for repeated listening.

### Freeez: *That Beats My Pate*

Freeez MK 111 seem to have reformed in name only: the style and depth of this new single fortunately has none of the electro 'bob pop' of *AEIOU* and *Pop Goes Your Love* but instead a light funky feel and an attractively soft lead vocal. A bit bland admittedly, but

good dance music for us non-soul freaks.

### I Start Counting: *Still Smiling*

The second release from Mute's new Depeche Mode soundalikes, this does show a remarkable (and surprising) originality. It's almost Yazooish in interpretation, and with excellent mix down by Femi J. I like it!

### Wooden Tops: *Move Me*

Before you move on to a review of a known band, do give this a chance. I think *Woodentops* could be the new Aztec Camera of 1985. Already supporting bands like *Everything but The Girl* and *Orange Juice*, this is their second single, and the first on Rough Trade. It probably won't be successful yet, but just watch this band...

## BOOKS

### First of the summer whine

It's that time of year. When a young man's fancy turns to love and he does more with his nights than argue about who's got all the duvet. Search out the sunglasses from behind the dusty Christmas decorations. The old, sticky bottle of Pimm's from the back of the tarder. Ice in the fridge instead of coins in the meter. And the living will be easy...

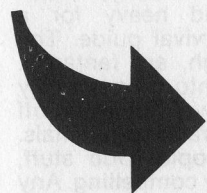
Once these last few weeks of academic angst have gone, what then? Cleaner in Southside? Oh, be serious. Industrial training? Writing programs (sic) for a fifth-generation teasmid. Not again. What you need is a *holiday*. And because we at FELIX like to be of service, we will show you some books to send you on your way and a few to read when you get there.

Yes, I wish they all could be Caledonian girls. I would gladly Fly the Flag, and let them give me a flight so good I won't want to get off. The only snag is that I'm skint. My American Express card has melted, and the Service Till prints 'Fuck Off You Little Creep' every time I put my numbers in. 'C'est la vie' as they say in France. 'Versprung Durch Technic' as they say at Nat West. The only way for us paupers is via the *Hitch-hiker's guide to Europe* by Ken Welsh, now in its tenth edition. If you already have the old model, it isn't worth getting, because the more obvious alterations—the exchange rates—are well up the creek by now. Otherwise this book is a must, even if your Mum won't let you hang around with lorry-drivers. Essentially, it tells you how to export the student life-style, but don't let that put you off. Over the years, Ken Welsh has built up a fascinating collection of scams, dodges and downright skulduggery which will help you get by on very little besides your own nerve. For the faint-hearted, there are also lists of place to eat, sleep and act like a tourist.

If you are going by car, you may have been tempted by Arthur Eperon's books—*Traveller's France*, *Traveller's Italy*, and so forth. My advice is 'don't bother'. Their premise is obvious: stay off the Motorways. Beyond that, the books list a few routes through the relevant country, with recommended restaurants and hotels along the way.

Of less use, but very freaky is *No Need to Die* by Eddie McGee. If you are hassled by the Pigs in Amsterdam, *The Hitch-Hiker's Guide to Europe* will suffice. If you are hassled by the Pygmies in the Andes, you need McGee's book. That and a servicable shotgun. The drawbacks are irritating—poor diagrams, semi-literate commentary, much too big and heavy for a practical survival guide. The ideas, though, are fantastic. An insight into a completely different way of life, living off the land. Tracking animals. Tracking people. Odd stuff, but strangely compelling. Any man who has trapped snakes for food deserves the royalties from his books, and I certainly wouldn't want him turning up at our office to complain about a nasty review. There are no recipies for quiche in this book.

So what do you take to read for the boring bits—night-flights and so on? Well, I will try to read Joyce's *Ulysses* for the third summer in a row. Bet I fall asleep by page 50. For insomniacs, the choice usually includes at least one or two 'thrillers'—the thrills usually deflated by the six-inch nails which hold the plot together. However, there is a sub-genre which is reliably better than the average; the journalistic spy story. Why it is so popular is a bit of a mystery in itself. I suspect that the best examples succeed by providing a plausible framework for headline events which may be difficult to understand in isolation. Spymasters playing huge games of logic have the same, simplifying appeal as mathematics, Santa Claus, or extremist politics. It often seem that people find plurality discomfoting; the friendly, authoritative voice of a journalist or politician spinning a yarn without loose ends can seem more real than reality itself. It is often amusing to read passages on an author's political enemies. In the context of fiction, a more even-handed approach applies than that found in directly discursive pieces. If faced with an airport bookstall, have a look at the nonsense churned-out by Hurd and Osmond, or perhaps Gerald Seymour (who wrote *Harry's Game*).



## SAILING

### IC Victory

A team from the Sailing Club travelled to Holland to compete in the Tilburg International team racing competition, over Easter. With a total of three English teams entering, and the usual strong entry from the Dutch Universities it was obviously going to be difficult to match our convincing victory last year.

The sailing, held on a lake in the middle of a safari park, surpassed all expectations. The first race against Leiden saw Jones execute a masterful port tack start and cross the entire fleet, only to be recalled on a technicality. Leiden sailed a different course to most of the Imperial team but Bevans appraisal of the situation meant Imperial held a narrow lead through-out.

Sheffield A, the current National Polytechnic Champions, faced Imperial next. Seconds before the start, contrary to all predictions, the wind picked up to a healthy force 6, and seconds after the start Brimlow and Leon wiped out. Conditions continued to deteriorate, and racing was abandoned.

The following day dawned with a more moderate wind but heavy snow. Bevan, sailing the aptly named 'Un peu bleu' led the team to victory after victory. Sheffield B, Nautikos and Utrecht all fell victim to an Imperial team fueled with chip butties. Bevan's

aggressive tactics of sinking the opposition, combined with Jones's ability to bribe the organisation, paid dividends as the Imperial team reached the finals.

Overnight conditions had changed drastically; 'Twister' Leon was undisputed 'Pinball King' and Rudge and Burrows were unbeaten at table football. Brimlow was still searching in vain for some Yorkshire Pudding. It was a very, very confident Imperial team which met Sheffield A the following day in the decisive race. Approaching the first mark Imperial held 2, 3, 4 but Brimlow stopped to relocate the buoy. With Imperial now in a losing 2, 3, 6 position Bevan and Jones set off after the leading Sheffield boat. At the final mark some totally unsubtle pumping by Jones enabled him to obtain an overlap, and soon Imperial gained a victorious 1, 2, 6 combination. This was a superb result against a team that had lost only one race in the last year.

The tournament was as enjoyable as ever, and all who went look forward to competing again next year.

## RIFLE

### Young guns go for it

Full-bore, if you didn't know, means real, grown-up bullets. Big ones. We can't use them in the sports centre without sending them through the wall, into the basement of Student Services. Hands up, Michael Arthur, we want your money.

This is a challenging event in several ways. The competition is held over 300 and 600 yards. The equipment is unfamiliar. The shooter's ability counts for everything—no advantage can be gained by using a favourite, souped-up gun. And the climate is weird. In the one day, we had wind, rain, sun, mist and snow. Remember that telescopic sights are a no-no, which makes poor light a serious blow.

Scoring was by aggregate of the best four members in each team, resulting in a victory for RCS with 332 points, followed by Guilds with 297, and RSM with 285. In fairness, it has to be said that there were only the minimum four members in the Mines team, but then how many Miners would you trust with a

firearm?

There was a trophy for the best marksman of the day. So how to go about getting it? There are differing approaches to shooting. The most basic involves making oneself comfy, then just pulling the trigger. This is at best only fairly successful. The next stage of sophistication is practised by most shooters. Put your elbows in such-and-such a place, hold your breath, use an eyepatch, don't hang on target for more than six seconds, concentrate on the trigger, and so on. The big snag is that all this technical stuff induces stress in the sportsman. Think it over—the barrel must not shake in the slightest, or the shot will stray. Nervous fingers just aren't

steady enough for the best result. The Zen approach is the only way for the expert. The whole being of the shooter focussed in the tip of his fingers. An undergraduate from Aeronautics department got it just right—the only sign of life whilst he was sighting, being the gleam of his eyes in the gathering dark. The snow which fell on Paul Claydon was last to melt when the sun came out. He accepted the award with middle-distance gaze and twitchy smile of a man who is, frankly, more content behind a gun than anywhere else. He slept thoughtout the return journey, eyes switching open only at the sound of breech-blocks being put into store.

## TRACK & FIELD

### Athletics squad proposed

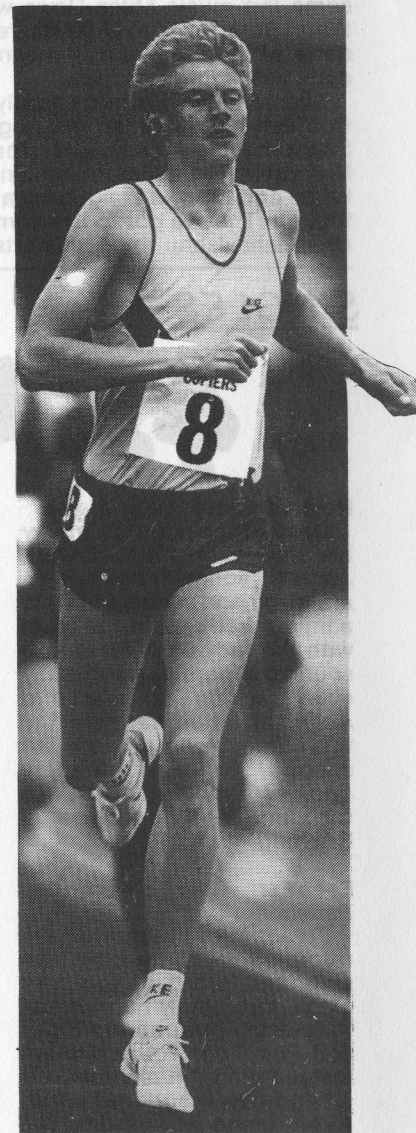
John Pope, track and field secretary for the Cross-Country Club, has been appointed to encourage wider support for track and field athletics within College.

Support at present is disappointing considering the part the activity plays in the 'professional' sporting calendar. Furthermore, there is talent and interest which could be combined to produce a strong College team.

The one major event for College athletics this season is on 30 April/1 May and so we need as much support as possible very soon. Two evenings of competition are all that is asked, be you world superstar or competent jogger. The latter may well be more important as Goldsmith's won last year purely by fielding a complete squad. John Pope is not alone in thinking that Imperial can field a better squad and hope it will. If people are prepared to turn up for this event please contact John or Cross-Country Club via the Union Office.

The long term intention is to form a track and field athletic squad, but this is the ideal time to assess support and for introductions to be made. People can be entered for their fixtures if they wish as well.

Will two evenings of revision make that much difference to exam results?



## Friday 26

- **ISLAMIC SOCIETY** 1.00pm Union Building. Friday congregational prayers.
- **DRAMSOC AUDITIONS** 7.30pm Union Dining Hall. Three plays for 1985 Edinburgh Tour—auditions for all three, anyone welcome.

## Saturday 27

- **IC RADIO HIGHLIGHT** 9.00am—12 noon 999KHz. It's Back! It's Incredible! It's DJ's Grekky Show!
- **IC RADIO HIGHLIGHT** 9.00pm—11.00pm 999KHz. Capt Kirk's Megalomania Programme—the Sewer Show, with excerpts from the 'Good loo Guide', a survey of College loos and the views of those who use them—don't miss it!

## Sunday 28

- **CHAPLAINCY SERVICE** 10.00am Consort Gallery Sherfield.
- **MASS** 11.30am and 6.00pm More House, 53 Cromwell Road. Mass, bar supper and talk.

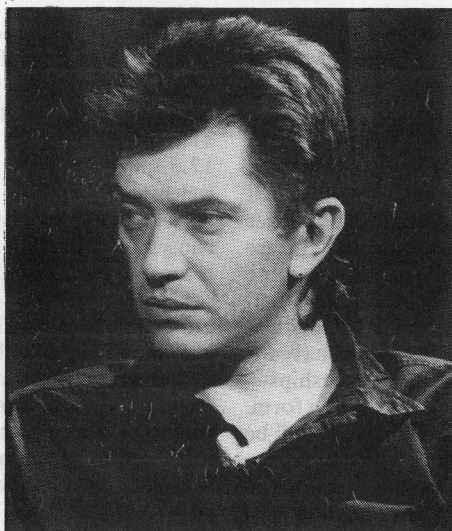
## Monday 29

- **WARGAMES MEETING** 1.00pm Union SCR. 10% discount on games, membership £1.50.
- **ICCAG LUNCHTIME MEETING** 12.30pm ICCAG Office. Come along and find out about the activities of the Community Action Group.
- **HANG GLIDING MEETING** 12.30pm Southside Upper Lounge.
- **WATERSKI CLUB MEETING** 12.30pm above Southside Bar. Sign up for Wednesday and Saturday skiing.
- **CHRISTIAN UNION** 5.30pm Green Committee Room, Union 5th floor. Meet for prayer each Monday till 6.30pm
- **JAZZ, FUNK AND DISCO** Advanced Ballroom and Latin 6.30pm (Jazz), 7.30pm (Ballroom) JCR. 75p.

## Tuesday 30

- **NORTH AMERICAN STALL** 12.30pm JCR. Vacation in the USA—Work and Play you'll never have another chance (looks good on CV too)
- **AUDIOSOC** 12.30pm Union Upper Lounge. Discount record club meeting, buy records cassettes, videos etc at trade prices.
- **MASS AND LUNCH** 12.30pm Chemistry 231.
- **HOVERCRAFT CLUB MEETING** 12.45pm Lower Gallery, Linstead Hall.
- **APPROPRIATE TECHNOLOGY MEETING** 12.45pm Green Committee Room. Please come along and help form the committee.
- **QT MEETING** 1pm Southside Upper Lounge. Discuss events, stunts.
- **RIDING CLUB** 1.00pm Southside Upper Lounge. Meeting.

- **STOIC CELEBRITY INTERVIEW** 1.00pm and 6.00pm JCR (lunchtime only), Southside TV Lounge, and all Hall TV sets. Martin Shaw—true Professional and part-time Scott of the Antarctic.



- **GERMAN WINE TASTING** 6.00pm Senior Common Room. AGM—voting new committee in—followed by tasting of quality German Wines and surprises. £1.50 members, non-members £2.00.
- **THE IMPERIAL WORKOUT** 6.00pm Southside Gym. Wear something comfortable and please bring training shoes (any kind) all welcome. 50p a lesson, membership £1.00.
- **CANOE CLUB** 6.30pm IC Swimming Pool. Trip every other weekend.
- **JUDO PRACTICE** 6.30pm Union Gym Beit Quad. Price 50p mat fee.
- **IC DANCE CLUB** 7.00pm(inter) and 8.00pm(improv) JCR. Intermediate Ballroom and Latin and Improvers Ballroom and Latin. 50p.
- **OPSOC REHEARSAL** 7.30pm Music Room, 53, Prince's Gate. Meet in Southside Bar before rehearsal.

## Wednesday 1

- **ICCAG HOSPITAL VISITING** 12.45pm, Mech Eng Foyer.
- **WARGAMES** 1.00pm, Union SCR. 10% discount on games.
- **ISLAMIC TEACHINGS** 1.30pm, 9 Princes Gardens. Concept of prophethood in Islam. Free.
- **MICRO CLUB MEETING** 1.30pm Mines 401. Membership £2.
- **NEW BEGINNERS CLASS** 8.00pm JCR. IC Dance Club 50p.

## Thursday 2

- **RAG COMMITTEE** 12.30pm Union Dining Hall. To discuss the Rag Fete on 11 May.
- **METHSOC MEETING** 12.30pm Chem. Eng. E400. Informal meeting, lunch available.
- **AUDIO SOC** 12.30pm Union Upper Lounge. Discount record club meeting. Buy records, cassettes, videos, etc. at trade prices.

- **ICYHA BUTTIES** 12.30pm Southside Upper Lounge. Our weekly meeting with information on this term's coming events. All welcome.

- **THE IMPERIAL WORKOUT** 12.45pm Southside Gym. Wear something comfortable and please bring training shoes (any kind) all welcome 50p.
- **STAMP CLUB MEETING** 12.45pm Chemistry 231.
- **BALLOON CLUB MEETING** 12.45pm, Southside Upper Lounge.
- **SCIENCE FICTION SOCIETY** 1.00pm library meeting. Access to the society's 600 volume library. All members welcome. Union Green Committee Room.
- **STOIC BROADCAST** 1.00pm and 6.00pm. For reception see Tuesday. Newsbreak, Stoic slaves on, despite exams and other nasties.
- **IC RADIO HIGHLIGHT** 1.00 to 2.00pm 999KHz. The King of the Steel Wheels is back with *Avengeance* (Ed Cartwright in case you're still guessing).
- **QURANIC CIRCLE** 1.30pm 9, Princes Gardens. Learn how to read the Quran.
- **THE IMPERIAL WORKOUT** 6.00pm Southside Gym. Wear something comfortable and please bring training shoes (any kind) all welcome. 50p a lesson, membership £1.00.
- **ICCAG SOUP RUN** 9.15pm, meet Weeks Hall, Princes Gardens. Taking soup, biscuits and meeting some of London's homeless.

## Capital Ideas

★ **Theatre** *Golden Girls* by Louise Page is the current RSC production at The Other Place. This story of five ambitious athletes is suitably topical for the first stirrings of the athletics season, and there are student standby tickets available.

★ **Film** Contribute towards British Film Year by going to see *Dance With A Stranger* now on general release. It tells the tale of Ruth Ellis, the last woman to be hanged in Britain, and every frame is steeped in smoky immorality.

★ **Economics** *The London Stock Exchange* allows visitors into its gallery, and you get a film, a talk and a good view all for free. Go and see fortunes being made and lost, and marvel at the world economy in action.

★ **And finally** *Elvisly Yours* is at 107 Shoreditch High Street, not far from Liverpool Street Station, and is a shop selling nothing but Elvis Presley memorabilia. Get yourself an Elvis badge, tee-shirt, record, packet of bubblegum etc. You can also lay a wreath at a twelve foot high statue of the old rocker. The King lives on in East London.

# Report

THE JARRATT Committee, has published its report on efficiency Studies in Universities.

The Committee, set up by the Committee of Vice-Chancellors and Principals, has come up with detailed recommendations for the Universities. In particular, governing bodies should assert themselves in respect of strategic plans on academic decisions, universities should develop a rolling academic and institutional plan, and performance indicators for academic performance should be developed.

The report criticises universities in that little formal attempt is made to appraise academic staff on a regular basis. Currently academic staff are only 'reviewed' intermittently, often with no formal feedback.

It is also recommended that time is saved by having fewer committee meetings involving fewer people in the University.

The report is also strong in its advice to Government, especially regarding funding. It is nearly impossible, says the report, for universities to undertake realistic long term planning when the Government don't provide broad policy guidelines on higher education.

The Committee reported after detailed studies in six universities; Edinburgh, Essex, Loughborough, Nottingham, Sheffield and University College London.

# Burgess to shave

THE TENTH ANNUAL rag Fete is now set for Saturday May 11 and will be opened at 2.00pm by Lady Flowers.

The Queen's Tower will be open as usual and there will be loads of stalls and attractions. If there are any clubs or societies which want to run a stall, please get in touch with the Rag Committee via IC Union. Carl Burgess, next year's President will be having his head shaved if £300 is raised in sponsorships—your soc rep should have a form. IC Rag Committee itself shall be running a jumble sale so if you've got anything that you cannot be bothered to take home and is in

reasonable condition, please drop it in to any of the Union Offices. Committee meetings to organise the fete are to be held on Thursdays May 2 and 9 at 12.30pm in the UDH—all welcome.

Next year's charities will be chosen at Joint Rag Committee. If anyone has any charities to be considered, please drop some information into the Rag Pigeon-hole in the Union Office and this will be sent out in advance of the meeting. Anyone not in normal receipt of minutes who wants this information sending to them should also drop their name in to us.

# Booery Woolery

COLLEGE SECURITY Chief 'Hercule' Reeves has been kept busy over the Easter vacation.

It seems that a practical joker forged a 'College Notice' from John Smith, announcing that a new rector had been appointed. The notice was circulated to Heads of Department, Admin, etc, etc. Imaging Professor Swanson's surprise when he found that he had been make Rector!

Reeves leapt into action, though, when he noticed that there was a distinctive flaw on the typewriter used for the notice. He was immediately dispatched on a tour of all College typewriters, to try to identify the guilty party!

The College notice went on to announce the departure of Estates Secretary Don Clark IPM, to be replaced by a Mr F R E Mason WM. Extensive research on level O of the Sheffield Building reveals that the initials IPM and WM have Royal Arch Freemasonic connections.

# News in brief

THE COLLEGE HAS acquired a new head tenancy in Collingham Place, opposite Sainsburys Supermarket, Cromwell Road.

The accommodation, for ten postgraduate students is available for immediate occupation.

Interested PGs should contact the Student Services Office.

\*\*\*

A WARDEN IS required for Holbein House.

The successful applicant will probably be married and will take up their duties for the 1985-86 session.

Further information and application forms can be obtained from IC Union Office. The closing date for applications is Friday 17 May.

\*\*\*

A TEAM FROM the Department of Computing took part in the world finals of the programming competition run by the Association of Computing Machinery last month.

There were 24 teams in the final, which were held in New Orleans last month, and IC came eleventh. The IC team won the European competition in January.

# SMALL ADS

## ANNOUNCEMENTS

● **Small electrical items repaired** —cheap rates, fast service. No repair=no charge. D Lowe and A Judd Electrical. Contact Duncan Lowe, Elec Eng Pigeon holes.

● **Athletics:** anyone interested in competing in the London colleges Champs for IC. Meet in the Green Committee Room at 12.45pm, today!

● **Room available** in Falmouth Hall for three weeks from May 10. Contact A Hodcroft.

● **Room full of junk?** Suitcase too small? Don't throw everything away—drop it into IC Union Office for sale at Rag Fete.

● **Do you want IC** to support your favourite Charity? If so drop a line to Rag via IC Union before 9 May.

● **Owners of 4ICV requires 15C** for at least part of exam period, (espec. 3 June). Ready to accept any arrangement including payment. Contact David Brown-Brulart Chem Eng 1 (phone Int 3633 evenings—mornings before 9.30).

● **The Megalomania show**, Sat 9.00 to 11.00 on IC Radio 999KHz—what the

papers say: Unbeatable value and great entertainment—Mail on Sunday. What 'One flew over the cuckoo's nests' did for mental health, the captain's show does for radio —Observer review. Tiolets—the state of the rat—Grauniad. Ratecapping —Maggie Belgrano—Dirty loos shocker—Daily Maxwell. Scandal Roms shock in Southside loos—Sun.

## FOR SALE

● **Five piece drum kit** with hi-hat and two cymbals. Drums by Maxwin, cymbals and hi-hat by Zyn and Rodgers. Sounds good and in good condition. £195. Contact Duncan at the Union refectory.

● **Carver Cube M 400A** 300W/Channel. Excellent sound and condition. £275 ono. Hans Beier EE2 or 352 5259.

● **Sony 25w** per channel stereo amplifier. Perfect condition, complete with original packing. Only £25 ono. See Adrian Warren, Chem Eng 2 or Room 18 Weeks Hall, int 4236.

● **Honda XL125—Y reg:** 4 stroke, smooth and nippy, 110mpg, £440 ono. Contact D Vaughan Beit 3618 Room 65 or Chem Eng 1 for trial.

● **Three Deep Purple tickets** Knebworth 22 June. Contact R Pickering Computing 2 via letter racks.

● **Phillips colour TV, 14 inch** in excellent condition £120 ono. Also Puch ladies bicycle (3 speeds), almost brand new; £80 ono. Tel Maria 584 4411 Office hours or 244 9717.

● **UK reg MK 3 Cortina** £100. Phil Tiller Biochem PG. Internal 4135/4114.

● **Road Racing Cycle** Columbus frame, strong light chainset etc, as new, £150 ovno. Contact John Hopkins. Chem Eng 1.

## LOST

● **Red sports bag** containing 2 sets of swimming kit. Any info to N Rothwell Physics 2 via letter racks.

## PERSONAL

● **The flat 3 boys** wish to be know as the flat adolescents to avoid confusion.

● **The flat 3 adolescents** (née boys) piss all over the flat 3 boys irrespective of their regard shown for Bauhaus.

● **A bucket** of water, a loaf of bread, a locked room and thou!!! Who needs all the extras.

**Accommodation available for October 1985. No retainer required for Summer. Flats for 3, 4, 5, 6, 7, and 8 people. Also single and double rooms with cooking facilities in South Kensington, Fulham, and Putney areas. Contact A. Christian on 546 8159 or 731 0292.**

## SERVICING & REPAIRS at

# RICKY'S GARAGE

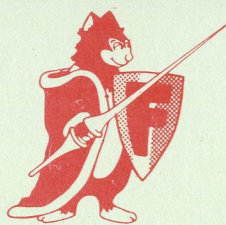
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19 QUEENS GATE PLACE MEWS,

SOUTH KENSINGTON,

LONDON S.W.7

Tel : 01-581 1589



# FELIX

## Summer Term 1985

ULU Travel  
in the JCR

open 9.30am to 5.30pm  
Monday to Friday

**Monday      Tuesday      Wednesday      Thursday      Friday      Saturday      Sunday**

22 April Summer Term Begins	23	24	25	26	27	28
29	30 IC UGM	1 May May Day	2	3 RCS Silwood Ball	4	5
6 Bank Holiday	7	8	9	10	11 Rag Fête	12
13 IC Council	14	15 RCS AGM	16 Ascension Day	17 IC Choir Concert	18	19
20	21	22 Ramadân begins IC AGM	23	24	25	26
27 Bank Holiday	28	29	30	31	1 June	2
3	4	5	6 Corpus Christi	7	8	9
10	11	12	13	14	15	16
17 Joint Council	18	19	20	21	22	23
24	25	26	27	28 Summer Term Ends	29	30

### REFECTORIES opening hours

Union Snack Bar  
Monday to Friday  
10.00am to 3.00pm

Sherfield  
Monday to Friday  
12.00noon to 2.00pm

JCR Buttery  
Monday to Friday  
10.30am to 11.45am  
12.00noon to 2.00pm  
3.00pm to 4.30pm

Southside  
Daily  
11.00am to 2.30pm  
3.30pm to 6.30pm

### LIBRARIES

Lyon Playfair  
Monday to Friday 9.30am to 9.00pm  
Saturday 9.30am to 5.30pm

Haldane  
Full service  
Monday to Friday 9.30am to 5.30pm  
(access from Sherfield only)  
Reading only  
Monday to Friday 5.30pm to 9.00pm  
Saturday 9.30am to 5.30pm  
(access from Lyon Playfair only)

### BARS

opening hours

Union and Southside  
Daily 12.00noon to 2.00pm  
Mon to Thurs & Sat 6.00pm to 11.00pm  
Friday 5.30pm to 11.00pm  
Sunday 7.00pm to 10.30pm

JCR  
Mon to Fri 12.30pm to 2.00pm