

September 1977

Edinburgh is a large University and a diverse one and the Bulletin is one way in which news and developments around the University reach its community as a whole. Its main audience is therefore Edinburgh staff and students but on this occasion it goes wider afield, to the schools.

Labels are sometimes stuck on universities; but labels can both over-simplify and obscure what happens in the real university. This issue tries to avoid labels while offering an impression (no more) of one University. It also focuses on aspects of the University's work likely to be of interest to those thinking about university entrance. Most of these articles have been written by members of the University who have particular responsibilities in this area, and include:

PAGE 4—Student Accommodation—problems and myths.

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PAGES 8-10—Teaching, learning, study choice . . . and how to make the best of them.

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None of this is intended as an attempt to *prove* that Edinburgh (like Securicor?) cares. Prospective entrants are bright enough to work out for themselves which university is likely to suit them best. Some central facts, plus personal accounts of a few sides of the life in a large and diverse university today, may however help to provide some further information for students—and staff—in schools who are concerned with university entrance. We hope this issue does.

# University of Edinburgh

# BULLETIN

## Edinburgh researchers produce anti-stammering aid

Probably well over 1% of the population—perhaps around 500,000 people in the U.K. as a whole—suffer from an enduring speech impediment commonly described as a stammer or stutter. For the large majority of people involved, the stammer inhibits them, with varying degrees of severity, from carrying out in a speedy and relaxed fashion the day-to-day tasks, such as making a telephone call or buying a train ticket, which present no problem for most of us. Various speech therapy and other techniques have been introduced over the years to aid people with a stammer, but there remain many adults who have a residual or intractable stammer despite treatment.

Seven years ago, some Edinburgh researchers from various disciplines began to come together in their spare time to see whether an automatic electronics process could be devised to help those who had this enduring disability. The results of their efforts are now incorporated in the 'Edinburgh Masker', an electronics device designed to help those with an intractable stammer, which has achieved a 90% success rate during extensive trials, and which is now being manufactured by the firm of Findlay Irvine Ltd. at Penicuik, near Edinburgh.

The device consists of an electronics box (approximately 3½" x 2½" x 1") which is linked to a

*contd. on page 2*

*Using the telephone is often a taxing process for those with an intractable stammer. The new device aims to help alleviate such problems.*



## New collection of material for School of Scottish Studies

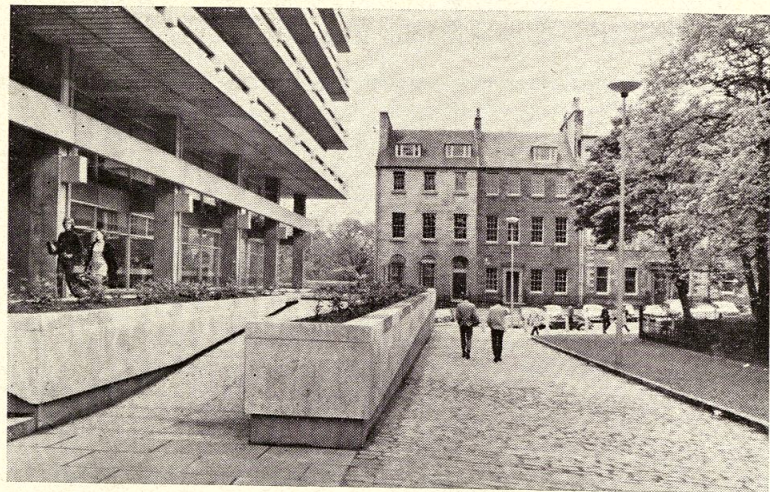
An important collection of recorded tapes and notes has just come to the University's School of Scottish Studies in the form of a bequest from Mr. J. H. Levy, who travelled extensively in the Eastern Hemisphere, as well as in Europe and

recorded a great many tapes of music and other folk forms. These tapes will now be included in the School's archives, which already contain a valuable study collection of overseas comparative material, as well as the central—and

growing—collection of documents, tapes, photographs and film material, dealing with the folk history and culture of Scotland.

Founded in 1951 and now permanently housed in numbers 27-29 George Square, adjacent to the new University Main Library, the School of Scottish Studies is a unique institution within the universities of Scotland. It offers two undergraduate courses in oral traditional culture (in addition to the Scottish literature and History Courses offered at Edinburgh) as well as facilities for research; and maintains the Scottish Place Names Survey—with 250,000 place names now on record.

The School publishes its own annual journal, *Scottish Studies*, and the quarterly, *Tocher*, which prints tales, songs and other traditions, both in Gaelic and in Scots. The School has also republished some of its archive folk-song and other material on long-playing records and cassettes.



## Anti-stammering aid

(from page 1).

A small sensor worn on a band around the neck plus either small earpieces or dictaphone-style earphones. Its effectiveness is based on the long-known fact that when certain types and levels of noise are present, a stammerer often seems to lose the speech impediment—while for example, standing nearby a waterfall. The device uses this fact to create via the earphones or earpieces worn by the user a particular type of sound which masks his or her own voice, the sound being triggered on and off automatically by the neck sensor.

Over the past seven years successive versions of the device have been made and subjected to repeated scientific tests, and latterly, with some financial aid from the Scottish Home and Health Department, field trials were conducted with some 20 volunteers, a good part of this test programme being designed to ensure that the effects of the device were not temporary. These have been followed by testing a further 100 stammerers with a slightly modified and

smaller version of the masker. The tests have shown that the speech fluency of around 9 out of 10 adults with an intractable stammer improves substantially when the device is worn. Also, while those who have developed the masker make no claims for speech fluency when the device is removed, some patients state they have also experienced speech fluency effect after use.

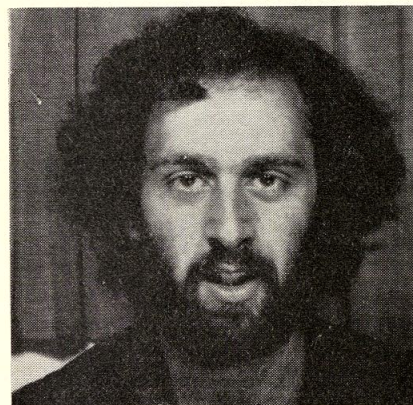
In every trial conducted so far the device has been introduced to the stammerer by the speech therapist member of the Edinburgh team. The team is insistent that the masker is only used on the professional advice of a doctor or speech therapist, so as to ensure that the masker can benefit the stammerer concerned and that he or she is properly instructed in its use, though this process rarely takes more than an hour. Precisely for this reason, the Department of Physiology at the University of Edinburgh is to sponsor two one-day conferences on Wednesday 28 September and Saturday 22 October for speech therapists and others in the medical services who may be involved in giving guidance to patients with a stammer.

Until such time as the device might be made available on National Health Service prescription, the cost to those purchasing one after taking medical advice is just in excess of £90, which is the lowest price on which it has been proved possible to manufacture. However, a request has been submitted to the N.H.S. authorities that the masker be considered for issue at nil or reduced cost on prescription, since the team are acutely aware that many of those having a severe stammer would find this sort of financial outlay difficult, and it is hoped this request will eventually be successful.

At a press conference held at the University this month, members of the team—Mr. Jock Austin, Laboratory Superintendent in the Department of Physiology; Dr. Harry Brash, Lecturer in the Department of Medicine; Mrs. Ann Dewar, speech therapist; and Dr. A. D. Dewar, Senior Lecturer in the Department of Physiology—announced the results of the project and the manufacture of the anti-stammering device.

## Three student productions in 1977 Edinburgh Festival

Edinburgh University Theatre Company, whose predecessor, the University Dramasoc, was one of the founder groups of the Edinburgh 'Fringe' Festival, again plays a prominent part in the Fringe programme of the 1977 International Festival.



Editor of this year's *Festival Times*, Justin Greene, who graduated from the University this summer with an Honours degree in English and Philosophy, has written a new play *Ludwig and Bertie*, for one of the Theatre Company's three Festival productions. His previous Fringe successes have included *Trump*, which he wrote and directed for the 1974 Festival. Last year Justin also directed the much-acclaimed production of *The Tragical History of Dr Faustus* by E.U.T.C.



## How hard can you try?

In 1812, one James Barry graduated in Medicine from the University of Edinburgh. In this case it was no mean achievement for James Barry was probably seventeen at the most—possibly younger—when presenting a thesis, in Latin, on hernia of the groin, and securing a brilliant medical degree pass. Dr Barry moreover went on to join the British Army in 1813 as the most junior commissioned officer in the Army's Medical Department, and subsequently to pursue a distinguished career, practising progressive medicine in Army units throughout the then British Empire, before retiring in 1859 as Inspector-General of Hospitals.

Yet it subsequently transpired that Dr 'James' Barry was Edinburgh's first woman graduate, pursuing for almost fifty years under the guise of a man, first an education then a career in medicine which would not otherwise then have been open to her.

Nowadays women do not have to go to quite these lengths to get into higher education, but while the numbers of female applicants and entrants to university have risen over the last ten years from around one quarter to one third of the total—and will hopefully continue to rise—women are still poorly represented in some areas of study, particularly in certain scientific and technological subjects.



This rare photo shows Dr. Barry while serving in the West Indies around 1860 (reproduced by courtesy of Royal Army Medical College).

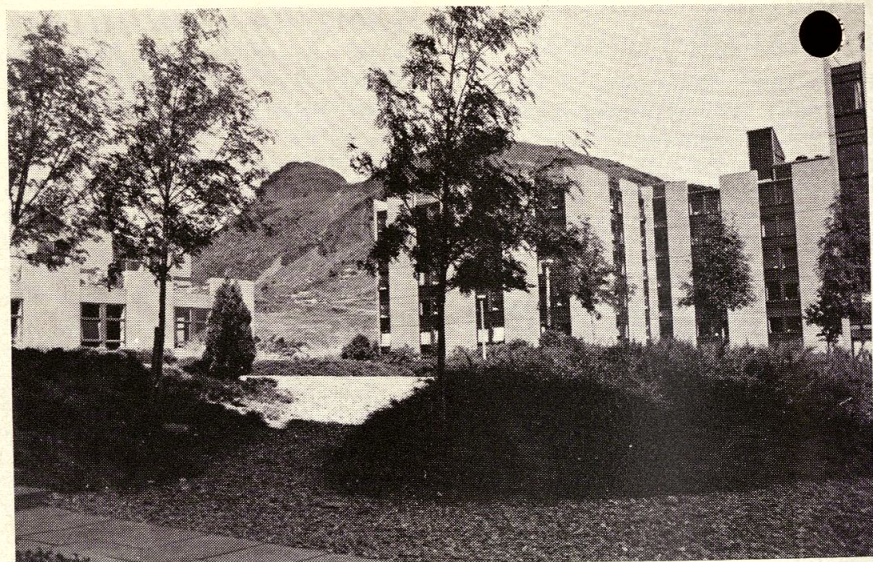
This is certainly no reflection of any policy against the admission of women to these courses, but mirrors the simple fact that women still do not present themselves in sufficient numbers for higher education in these subjects.

A 'family favourite' is provided in the form of *Toad of Toad Hall*, taken from A. A. Milne's *Wind in the Willows*. Producer, Paul Bader, and Fiona Boyes, (Mole), are pictured (left) outside the University's George Square Theatre during rehearsals.

A second new play, *Lies*, by local resident Mike Boyd, another 1977 Edinburgh graduate and a former award winner at the National Student Drama Festival, promises to lead the audience up the garden path by magic and illusion, exploring the politics of deception and misrecognition. In this production, the E.U.T.C. sponsors the new *Theatre of Lies Company*.

## Student accommodation

'Thousands of Students Homeless', 'Homeless Students Sleep on Floors'. These, and headlines like them, will doubtless make their punctual appearance in our newspapers at the beginning of October. They reflect a real difficulty in finding suitable accommodation, but they over-dramatise it and can cause unnecessary anxiety to students and their parents. At Edinburgh we have devoted a great deal of money and effort to this problem. We are not complacent but we are reasonably confident that no Fresher need come to University without having somewhere acceptable to live. Anyone who is offered a place at the University each year should automatically receive an application form for accommodation and a booklet describing the different types. If by any chance this does not happen anyone who wants accommodation has only to write to The Student Accommodation Service (30 Buccleuch Place, Edinburgh EH8 9JS), which handles all initial applications for accommodation. Many students, of course, stay at home for all or part of their University career. Some people think that this is less satisfactory than moving out and seeking greater independence. The arguments, however, are not all on one side, and



The Pollock Halls located next to the Commonwealth Games Swimming Pool on the edge of Holyrood Park in Edinburgh, accommodate over 1,700 students.

independence may be a poor substitute for regular home meals and a comfortable, familiar environment. Most other first-year students express a wish to live in Halls of Residence. We do our best to meet this within the limited number of places which exist and bearing in mind the need to preserve a reasonable mix of different years in the Halls. About 80% of Fresher applicants find their way into Halls in the Autumn

Inner suburb areas house a good proportion of those students who live in lodgings or flats.



Term, but the unsuccessful need not be despondent. The traditional Marchmont landlady, guide, philosopher, and mother-figure to the aspiring scholar may now be a rare species but some are still alive and well and on the lists of the Accommodation Service. Alternative accommodation is always available for those who cannot get into Halls and is certainly not automatically inferior.

But the majority of Freshers not based at home will spend their first year in Halls, probably the Pollock Halls. They will soon be practised in traditional student folkways, complaining simultaneously that the food is inedible and that the portions are too small, fantasising about the remote and malevolent bureaucracy over which I preside, some of them even doing a little work, and almost all of them getting their real education by sitting up late into the night talking about everything under the sun. They will also discover that the Wardens do not conform to some expectations. They are neither jailers who lock the cells at 9 o'clock each night nor glorified nursemaids who tuck them up in bed with a hot water bottle and a mug of nourishing cocoa. What

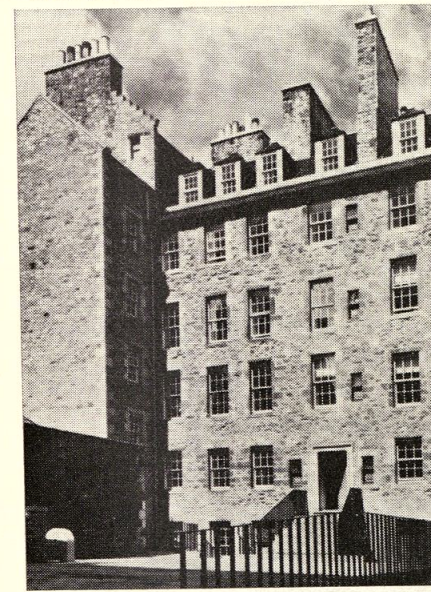
## by James Wright

the Wardens do provide is an ultimate sanction against anti-social behaviour and a ready ear for anyone who wants to discuss any aspect of life at University.

All these types of accommodation have their own advantages and disadvantages in relation to particular students. What we do our best to achieve within the limits of what is possible is to match the accommodation offered to the wishes and needs of the individual.

**James Wright is Senior Warden of the University's Pollock Halls of Residence and a lecturer in the Department of Humanity.**

*Myln'e's Court Residences in the Old Town provide about 170 places.*



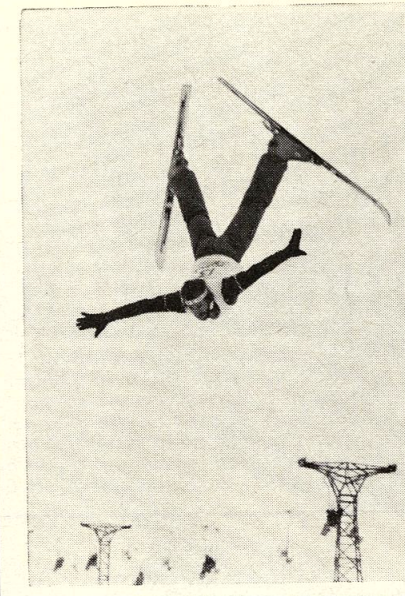
### WHERE EDINBURGH UNIVERSITY STUDENTS LIVE

The latest figures for Edinburgh's full-time undergraduates show that for every 10 students, around—

- 3 stay in University-owned halls of residence or student houses.
- 3 stay in rented privately-owned accommodation (mostly in groups sharing furnished flats).
- 3 live in the family home or their own house.
- 1 or a little over stay in lodgings or 'digs'.

Also, a report on student accommodation recently prepared by the Edinburgh Students' Representative Council, casts some further light on the distribution of student housing throughout the City. According to the survey, the very large part of the student population in rented accommodation live within a maximum of 30 minutes' travelling time (by foot, bike, public transport or car) of the University. Since over half of the 'home-based' Edinburgh students also live within a similar area and the 2,500 students in the University's own residences are also fairly centrally located, this would indicate that currently about 9 out of every 10 Edinburgh students are involved in no more than 30 minutes' travelling to their place of study and that around 5 of these 9 live only 15 minutes away.

## SPORTS-SCENE '77



*It's the skier, not the picture that is upside down. The photo catches in mid-air one of the exponents of free-style skiing at the first international professional contest held in Scotland last year. While scarcely typical of the day-to-day activities of the Ski Club's 700 members, it looks as though one or two will be making a start on free-styling this year.*

*Practice makes perfect and the Rifle Club is intending to maintain its record next session as the most successful Club in the Scottish Universities.*



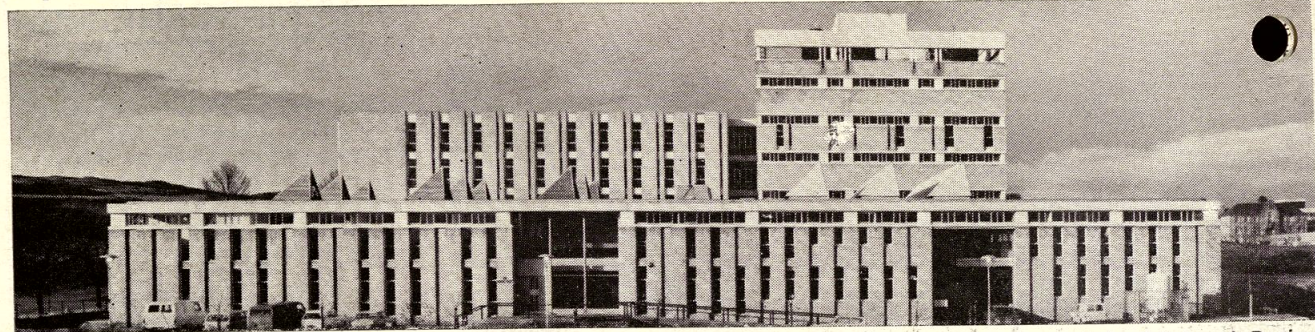
**Fencing Club** members go to Uppsala this month for a competition forming part of that University's 500th anniversary celebrations.

Some **Mountaineering Club** members are meanwhile trekking back from expeditions to the American Yukon and the Hindu Raj.



*Canoeing instruction has been one of the courses arranged at the University's Firbush Centre, on the shores of Loch Tay, this summer by the Department of Physical Education. The Canoe Club, one of whose members is pictured here on the River Awe, was one of the clubs who made overseas trips over the last year, with the help of the University's Sports Union.*

## Opening and open day for James Clerk Maxwell Building



The Departments of Computer Science, Geophysics, Mathematics, Meteorology, Physics, Statistics and the Edinburgh Regional Computing Centre are giving an open day for schools and the general public between 10 a.m. and 10 p.m. on Friday, September 30 at the University's King's Buildings site, where the newly-completed James Clerk Maxwell Building (the JCMB)—shown above—which houses these Departments, will be formally opened on the previous day. All visitors will be welcome to come along for the displays, lectures, films and other exhibits showing the teaching and research activities carried out within the JCMB which will be presented throughout the Friday. Further information is available by writing to the JCMB (Room 5209), University of Edinburgh, King's Buildings, Mayfield Road, Edinburgh. Tel. 031-667 1081 ext. 2600.

### Other open days

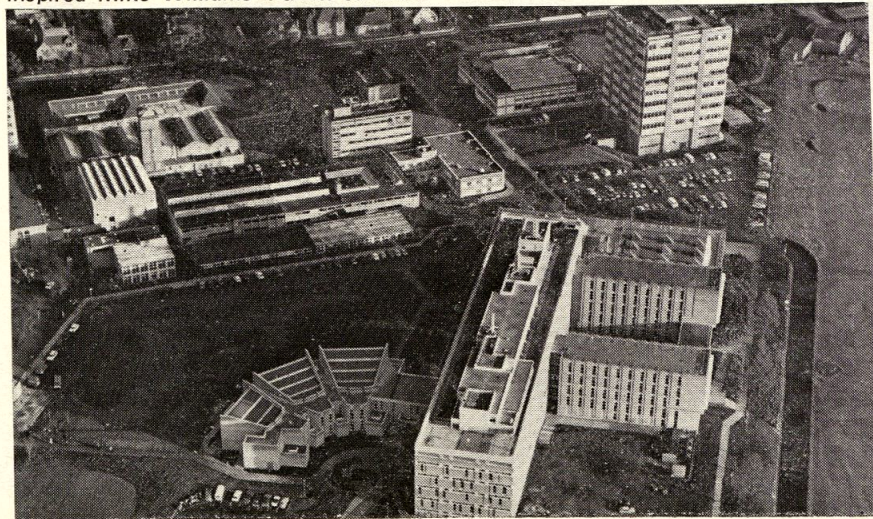
The main annual University Open Day for Schools is usually held in early June. Teaching staff and students are on hand to talk about courses and degree-level study to pupils, their teachers and parents and there will be the chance to see something of present-day university life. Many academic departments—arts, science and social science—also hold individual open days. Information is available from the Schools Liaison Service, (See page 16).

Chemical, Civil, Electrical and Mechanical Engineering are holding open afternoons on December 19 and 20. Information from Martin Carrie, Engineering Science, Mayfield Road, Edinburgh EH9 3JL.

### Ancient Greek for beginners

The Edinburgh Summer School in Ancient Greek, a new venture organised by a committee of school and university teachers, is designed principally to provide an intensive introduction to the reading of Greek, for those who have no previous knowledge of the language, but who may wish to take it up in the upper forms of schools, at university, or elsewhere. The School took place this year between July 25 and August 6, with 15 participants. It is intended to organize a Summer School along similar lines next year, the provisional dates for 1978 being July 24 to August 5. The Department of Greek also provides a course for undergraduate beginners. Anyone who takes this course can qualify at the end of a year to join the 2nd year class, and thereafter to a Classics or other degree involving Greek.

The aerial view below (reproduced by courtesy of the Edinburgh Evening News) shows part of the University's King's Buildings complex. In the site at one corner of the J.C.M.B. building (bottom right), the new wave power lab is now under construction. The group of buildings (top left) house the Engineering Departments and, (top right) Botany, Molecular Biology and Forestry and Natural Resources, whose Darwin tower inspired Mike Williams' Punch cartoon.



### DARWIN BUILDING



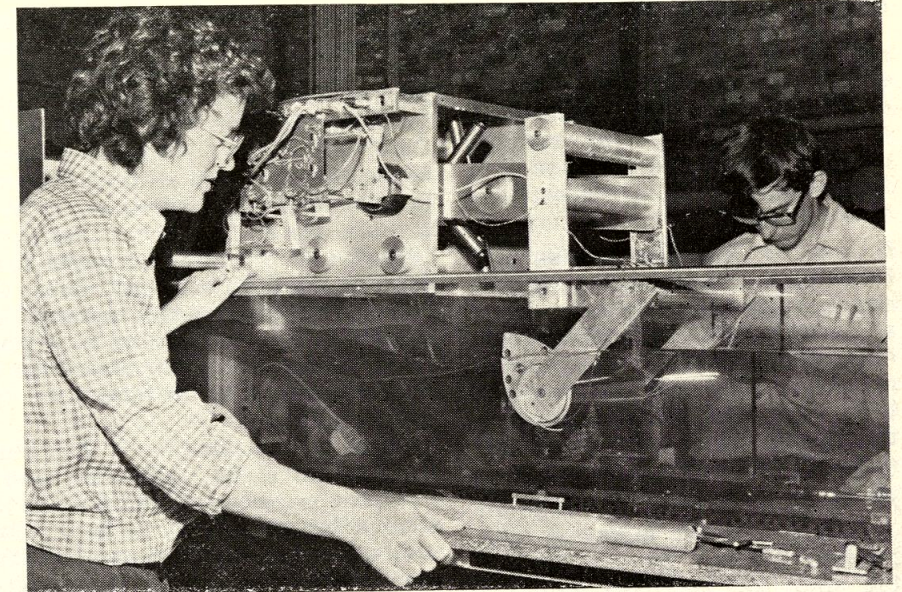
reproduced by courtesy of Punch.

## Edinburgh wave power on the move

The wave power research and development project, led by Stephen Salter at the University of Edinburgh's Department of Mechanical Engineering, moves into its next phase this Autumn when the research team takes possession of their new testing building—currently under construction—which will house a 90' x 35' wave simulation tank.

The Edinburgh wave power project dates from 1973 when Stephen Salter began to examine in detail the possibilities of developing supplementary or substitute methods of generating energy which would simultaneously meet the requirements of being clean, safe, working in the winter in Scotland and using inexhaustible sources of power. He quickly focussed upon the potential energy source that lay in the plentiful waves around Britain's coasts.

The notion of extracting power from the waves was far from new, proposals having been formulated at least as early as the 1890's, though no project had ever been brought to successful completion. Stephen Salter suspected, however, that advancing technology, combined with changed economic pressures following the energy crisis, gave a basis for a practical scheme.



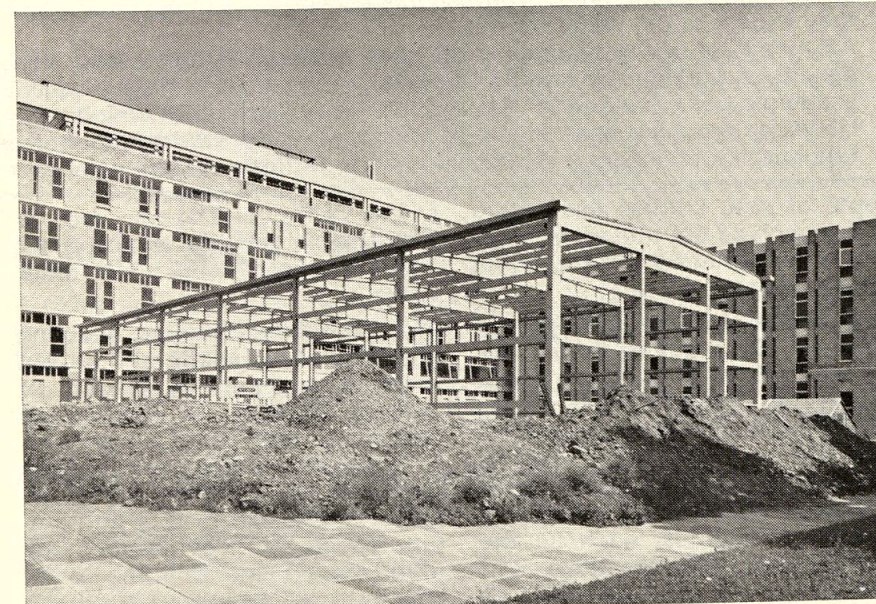
Jamie Taylor and Glenn Keller of the research team at work in the lab.

A study of the existing information on the size, power and distribution of waves at sea convinced him that the potential for generation of power from the waves around Britain's coasts, particularly during the winter months when national energy needs are high, was certainly there, and he began to experiment with a model of a "bobbing ballcock" which might be used to work a pump to generate electricity. The early model which was

able to extract about 15% of the available wave power was over the course of the next few weeks changed into a nodding duck or teardrop-shaped model which could achieve up to 90% energy extraction. He followed up these initial studies by approaching the then Department of Industry with proposals for a research and development project, and before the end of 1974 he had begun work in earnest with David Jeffrey, the first member of what was to become the research team, with financial support from the Department of Industry.

Since then the team has been working on refining the single nodding duck unit (shown in the existing test tank in the photograph above) and on the exact methods to be used in joining the series of nodding ducks together on a flexible spine so that the full-size assemblies could be anchored in suitable stretches of water around the coasts away from shipping lanes. Thus positioned the waves striking the ducks would activate radial-type hydraulic pumps to drive power-producing generators located in the duck's core, and cables would transmit the electricity back to land via the sea-bed.

The new lab. takes shape next to the University's James Clerk Maxwell Building.



## New and changed first degree courses

A number of new degree courses and changes in syllabus for existing courses begin this year, and in 1978/79 a new medical curriculum will be introduced. The following notes cover some of the main changes.

**B.Com. in Business Studies and French**—the first of a series of honours degrees designed to equip students for the increasingly international character of modern business, providing within the course for a period of study abroad and the preparation of a business topic dissertation in the language taken.

**A course option in Modern Japanese written language** will provide the first opportunity for the study of Japanese within a Scottish University.

**M.A. in Linguistics**—establishing a single honours course in the study of what language is and how it works, in addition to existing joint courses where Linguistics may be studied with one of several languages, or Philosophy, Psychology or Social Anthropology.

**Medicine—degrees of M.B., Ch.B.** A new five-year, three-Phase, medical curriculum will be introduced from 1978/79. Phase I (two years) involves study of the basic sciences, such as anatomy and provides improved opportunity for experience of clinical situations at an early stage. Phase II (one year) gives a general introduction to the clinical subjects subsequently studied in depth in the two final years of Phase III, when students have whole-time clinical attachments to a succession of clinical specialties. Selected students will be able to take a **B.Sc.(Med.Sci.)** honours degree by the insertion of an additional year's study.

**B.Sc. and M.A. in Psychology**—a revised syllabus for the present degrees is to be phased in.

**B.Sc. in Science Studies**, designed to offer students the chance to relate a specialist science discipline (Physics or Zoology) to its social context, and to explore the social nature of scientific knowledge, involving the examination in

## Teaching . . . learning by Peter Kennedy

In the University many man-hours (person-hours sounds silly) are invested in teaching and learning every week; both by the academic staff and by students, and it is obviously sensible to get the maximum advantage that we can from all this work. To contribute to this end, we at Edinburgh, some years ago, set up the Teaching Learning and Assessment Committee with instructions that it should try to encourage an interested and open attitude to teaching and learning in the University. In our early years we spent a lot of our time and energy arranging conferences and workshops for members of the academic staff with the objective of encouraging better teaching within the University and, in spite of all the hoary old jokes, we found that most university staff believe that their students should be well taught and try hard to teach well. But, clearly, teaching is only part of the process and more recently we have been thinking about the way students study and learn and what we could do to help them to get the best out of the teaching offered to them.

First of all we recognised that students come to University to enjoy themselves, to do some work and to gain a degree and that almost everyone is successful in doing all three. Studying in university is about succeeding not about failing. However, it is a 'transition' period at the beginning and there can be difficulties. A new student comes from somewhere near the top of the pile at school to somewhere near the bottom as a Fresher at University and that is not an easy change to make. School has become very familiar, pupils are known to their teachers as individuals; those going on to start a university course were probably among the best from their class and, although they have already been encouraged to learn independently, there has always been pretty strong support and guidance offered to them in approaching their work.

The University is a little different. Almost every student is rather good and there are many of them. The academic staff may seem remote and the teaching impersonal and new students are thrown back very much on to their own resources in deciding how and when to work. But there

are advantages. They are treated as independent adults with control over their own fate and the approach to the tasks they have set themselves.

Nevertheless there is advice and help that can be offered on studying which is worth knowing about and when a new student comes to Freshers Week preceding the first term, he or she will find that T.L.A. offers a workshop as well as talks on study skills. Here are one or two of the points which we try to make there and which are worth thinking about beforehand.

The best study method is to decide what you want to do, commit yourself whole-heartedly to doing it and then get on with the job. Learning is something you do and not something implanted by others. The acquisition of good habits of study is a long-term gain. Thinking about organising your time, learning how to read effectively, developing a good note-taking technique are not activities to do with having a study "problem" but with getting the best out of your lectures, tutorials, and private study.

Talk to your teachers. They are encouraged by your interest and discouraged by cynicism and lack of enthusiasm.

Talk to your fellow students. Although study is often solitary there are also advantages in sharing your knowledge and experiences with your colleagues.

Finally, find out what is expected of you—you have a right to know the hurdles you are expected to jump.

As the retiring chairman of our T.L.A. Committee, I am perhaps allowed a rather pompous closing note. As a school career progresses students can come to know the pleasure which comes from putting a great deal of work and of intellectual effort (perspiration and inspiration) into a problem and, at last, finding a satisfactory solution.

Teaching and learning at a university should offer repeated opportunities to know and renew that pleasure.

*Peter Kennedy is a Senior Lecturer in the Department of Physics.*

## Research

Last year, departments and individual members of staff at the University attracted £3¼ million (an increase of £¾M over 1975/76) in research grants and contracts from outside bodies such as research councils, industry and foundations—the largest sum for any Scottish University and one of the largest research incomes for any university in the United Kingdom. And as the Principal, Sir Hugh Robson, has remarked, sums on this scale do not come from gullible eccentrics, but have to be extracted from boards of hard-headed experts who only put their money where they expect to get value from it.

All members of the teaching staff have research interests and many would be quick to point out that these often have to be followed without benefit of outside funding and despite a decrease in time available, as government grants decline university student numbers increase and academic posts have to be left unfilled—a problem with which many schools have also had to wrestle.

However, teaching in a context of research, where students learn from those active in the forefront of their subjects, remains a cornerstone of Edinburgh's philosophy. This issue of the **Bulletin** illustrates one or two areas, from very many, in which Edinburgh's researchers are working.

depth of case studies illustrating topics such as the role of technology in precipitating and moulding social change.

**M.A. in Social Administration and Politics**—the study of Social Administration, with its main focus on the role of social policy in the administration of the social services and on problems of need in relation to changing conditions, will be combined with a study of aspects of politics, such as the position of political ideas and institutions in the formation of

social policy. The course is intended to provide career openings in social work and other fields.

**M.A. in Russian Studies**, enabling students of linguistic ability, but with no previous knowledge, or only an O level, in Russian, to acquire in four years a high proficiency in written and spoken language and an extensive knowledge of Russian history and culture. The course provides for study of at least one month in the Soviet Union.

## PLACES AND APPLICATIONS

A quick survey of the position over applications for admission to the University next month broadly confirms the trends shown in recent figures issued centrally by UCCA.

Total numbers admitted are likely to be up on those for 1976 though within the applications pattern, subjects continue to vary in relative popularity.

Edinburgh publishes in its prospectus indications of the minimum school examination grades generally required of those admitted to each undergraduate course.

Anyone requiring further individual guidance should write direct to the University (see page 16).

## Study choice . . . some options

Edinburgh, as a large University, offers courses in almost all the major areas of study as well as many minority ones within a degree structure based for the most part on three years of study for an ordinary degree and an extra year for honours.

In many areas it is possible for new entrants to sample at first hand, in their initial years at the University what the study of particular subjects at this level can involve, before taking decisions to follow those subjects through to final level, or to opt for others. This flexibility is particularly relevant because of the wide range of courses that are available, (some through to final degree level and some forming part of a degree course) including many not generally offered in school. Even to begin listing this group—Accounting, African Studies, Agriculture, Arabic Studies, Archaeology, Architecture, Artificial Intelligence, Astronomy, Astrophysics . . . —gives some idea of the options which can be considered for University study. It is also often possible under the Edinburgh academic structure to defer until well after entry a decision on whether to aim for the benefits of a specialised final course, studying one or two main subjects, or for those of a more general final degree, which has long been a feature of university education in Scotland.

There are, of course, practical limiting factors—Medicine can scarcely be 'sampled' in this sense at least, some courses assume a certain level of knowledge and time-tables can clash. Broad guidelines about the possibilities are given in the University's prospectuses, which also list those who will give further information.

After entry academic advisers, or directors of studies, are there to help students find their way through the possibilities and to make the most of them. A current Director of Studies writes about some aspects of his work on the next page.

## Where the Director of studies comes in

Each new student entering the University is assigned to a Director of Studies who is there, as a member of the teaching staff with special responsibilities for undergraduate education, to provide information and guidance on choice of courses, and try and help with any academic or personal problems that may arise during an undergraduate's career. Tom Robertson, Senior Lecturer in Accounting, here writes on his own work as a Director of Studies.

In almost every organisation there is to be found a character who knows where to find things—or knows where to look for them, knows "the drill" about how to get things done—or if he doesn't know, he knows who to ask. He is to be found in industry, commerce or other areas of employment, where he doesn't mind showing the new lad some of the ropes, you'll find him in the Forces helping the 'rookie' to find the stores and the canteen. You may have noticed such a chap at school—he might be the Headmaster or the Janitor or someone somewhere between these exalted persons who, because it's his job, but mainly because he likes to, is ready to help with any of the problems which hit you at some time or other during your school career.

Now usually, when an organisation tries to formalise this sort of function things go a little wild and before you know it there is a mushroom growth of all manner of specialists in all kinds of problem solving and they rush around creating further problems for more specialists. In spite of this, or perhaps in some cases because of it, the informal "Help Service" still flourishes.

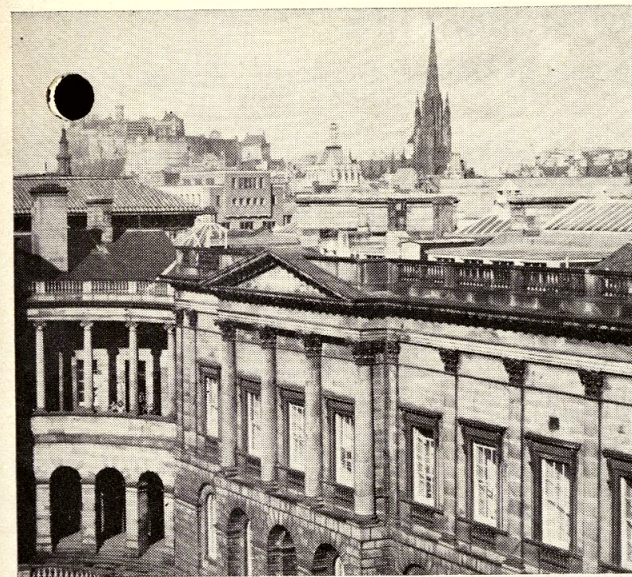
The point of all this is to draw your attention to one way in which this University has managed to connect the formal to the informal communications system—by the appointment of members of the academic staff in each Faculty to be "Directors of Studies". That is rather a grand sounding title to give someone, but do not be put off by it, for the Directors of Studies system provides in a rather effective way two things. Firstly, a formal channel which all students must use for the purposes of planning and progressing their studies; secondly, and at the same time, it provides each student with access to someone who will be ready and willing to give help and advice about any matters which

might affect his or her academic performance. Which doesn't mean that if you've a problem, your Director of Studies will fix it for you—but it **does** mean that he or she will probably be able to give you one or two ideas, including how you might solve your own problem or suggest someone who might be of direct help. If he thinks you should see one of the specialist services he will of course advise you accordingly. By far the largest proportion of students on a Director's 'books' run smoothly through their academic life at University with a minimum of trouble and leaving with a degree—the academic community's acknowledgement that an appropriate amount of work has been done). Then on to a career in what some people call the 'real world'. Directors of Studies try to help students to keep their options open for as long as possible during this process so that if after a while a student finds that he or she has developed an unexpected interest in a subject of study and wishes because of this to change courses, degree and perhaps eventually career expectations, the opportunity for change is available. This 'flexibility aim' sometimes produces unexpected results . . . "I've got a prospective Chartered Accountant studying Genetics" . . . "That's an idea, if we could breed them we wouldn't need to teach them" . . . "Funny thing about prospective C.A.s . . . do you remember A. B-C he chucked accountancy and he's in the Household Cavalry now—counting horses I expect". One Associate Dean tells me that in his Faculty 70% of all students eventually end up in different careers from that indicated when they commenced their studies. The interesting thing about the 'job specification' of a Director of Studies is really that there isn't one. A Director certainly must be available to sign students up for

courses, have a working knowledge of the University Calendar and he must be able to fill in forms to apply for concessions, but this 'formal' part of his work could probably be done much faster by a machine. The other part is that in which he sees his students as persons who enjoy (or hate) University life, are doing well (or badly), are fit (or ill), know where they're going (or have no idea where they'll end), need support (are completely self-sufficient); this informal part of his work is not specified and indeed could not be. A Director of Studies learns it by doing it and by himself being a person and not just a teaching machine with administration attached.

### WHERE EDINBURGH'S STUDENTS COME FROM

Each year the University admits over 2,000 new undergraduate students, of whom around: 75% (approximately 1,500) come from Scotland; 20% (approx. 400) from England, Wales and Northern Ireland; and the remaining 5% (approx. 100) come from overseas, indicating that, while the University's roots lie very clearly in Scotland, whose schools provide 3 in 4 of all entrants (with the Edinburgh region itself providing 1 of every 3 entrants from Scotland), the University is very much an international institution in a United Kingdom context with a substantial majority of its undergraduates coming to Edinburgh from "south of the border". The international nature of University scholarship and research is shown at postgraduate level in the 500 overseas students who form around one-third of Edinburgh's total full time postgraduate population, a total which makes it one of the largest centres for postgraduate study in the United Kingdom and by far the largest postgraduate centre among the eight Universities in Scotland.

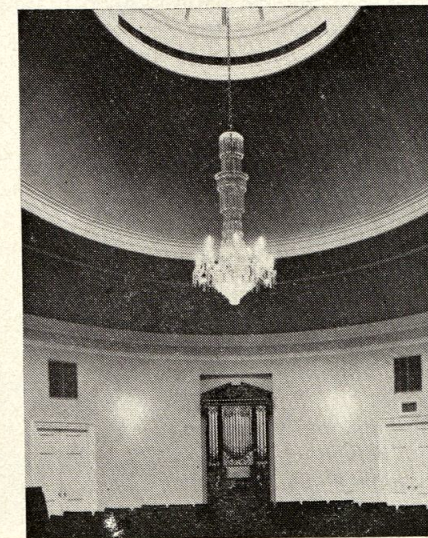


The area around the new Students' Centre (right), has this summer shown the benefits of the landscaping carried out by the University's gardens department. Within the next two years a start should be made on the new Dental School and Hospital which will link up Old College and the Student Centre with the Medical School, Teviot Row Union, and the Arts, Social Science, and first year Science-teaching Departments which, with the main University Library, are located around George Square.



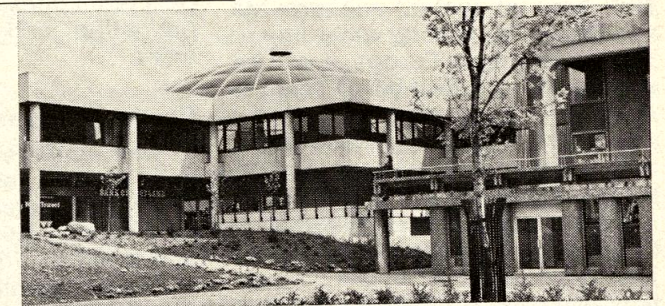
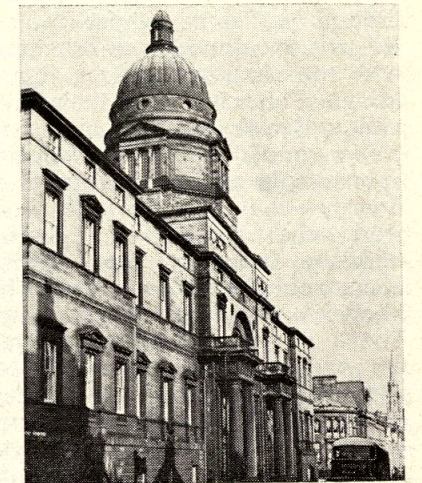
### UNIVERSITY BUILDINGS St. Cecilia's Hall

at the corner of Cowgate and Niddry Street, with its unique domed oval auditorium, forms a perfect setting for the chamber concerts, recitals and other smaller-scale performances given there both at Edinburgh Festival time and throughout the year. Built in 1762 by Robert Mylne and originally the concert hall for Edinburgh Music Society, the building had deteriorated over the years before it was acquired by the University, restored and re-opened for the Faculty of Music, which it now partly houses, and the general community of Edinburgh in 1968.



## AROUND EDINBURGH

The continuing renovation and upgrading of the interior of the north side of Old College (left) is providing improved teaching and research facilities for the Law Faculty. Robert Adam and William Playfair's building started in 1789, provided classrooms for all students in the early part of the 19th century, as well as housing the incipient Royal Scottish Museum.



In this photo (left) taken from the Students' Centre, this year's Charities Procession is leaving George Square to begin its tour of the city. While money raised during charities week (nearly £20,000 in 1977) represents a good portion of Edinburgh students' financial contribution to the wider community, a thousand students also do voluntary work through the University Settlement—whose offices are located in the Student Centre. Among the jobs done, with the advice and guidance of full-time organisers, are helping the old, the chronically sick and handicapped and running a talking newspaper for the blind. The Settlement always welcomes new helpers since the demand for their services is endless.

As well as providing a home for musical performances by University and other players, St. Cecilia's also houses, in a gallery next to the auditorium, a fine collection of keyboard instruments (the Russell Collection), and provides music studio practice and other facilities. The Society of Friends of St. Cecilia's, founded in 1971, exists to support the musical and museum functions of the Hall and details of the Society are available from the Director of the Russell Collection. The gallery is open to the public on Saturday afternoons (2-5) throughout the year when it is often possible to hear some of the historic keyboard instruments in use.

## Wave power project

(from page 7)

It is currently estimated by the Edinburgh Team—whose project is being developed in co-operation with the commercial firm, Ready Mixed Concrete, and their subsidiary Sea Energy Associates, as well as under the current financial sponsorship of the Department of Energy—that the average yield from the spines of full-size nodding ducks on the Scottish coast would be between 30 and 50 kilowatts per metre of sea front. These figures would incorporate an average winter month's yield, when energy demands are highest, of around 80 kilowatts per metre. In the new laboratory wave-simulation tank, which, with its 350 tons of water, will provide the finest laboratory wave power testing facility in Europe, it will be possible for the Edinburgh Team to continue their testing programme in fully realistic wave conditions, with a linked series or spine of up to 90 ducks, which at full scale would measure 3 or 4 kilometres. The problems involved in designing energy-generating 'ducks' which will give reliable operation without frequent servicing, under the harsh off-shore conditions in the northern seas, particularly during the winter months, are manifold, but the laboratory tests to date have been encouraging. If results continue favourably the hope is that full scale models could be operating experimentally at sea within the next seven years. Initial capital investment on full-size wave generating ducks would be substantial—on current estimates a prototype kilometre-long unit would be likely to cost around £20 million at today's prices. It is thought, however, that as the scheme is developed investment costs in relation to power output will be no higher than those currently needed for nuclear power stations.

If the remaining problems can likewise be resolved, the nodding ducks should provide a substantial part of Britain's future requirements for energy in the form of electricity generated from an inexhaustible and 'free' power source in a way which causes minimal damage to the environment.

## £ and pence of student life

by Jim Murray, Research Officer, Students' Association

### Grant levels

If you obtain a place at University you will require financial support to enable you to undertake your course of study. The majority of British students who attend University receive a grant and have their fees paid by the grant awarding body. This year the grant for living in halls or digs is £1,010 and £785 for students living at home. Whether you consider this amount of money to be generous or not it would be foolish to pretend that students do not have financial problems or that to survive to the end of the summer term on a grant does not require careful budgeting and money management.

### Parental contribution

If your parents have an income greater than about £4,000 per annum your grant will be subject to a contribution from them, the size of which will depend upon the financial commitments they have. This is the case for about four out of every five undergraduates at Edinburgh University. The parental contribution is considered as part of the grant whether it is paid or not. Unfortunately there is no legal requirement that this money is paid. Parents can face difficult financial circumstances and the question of the parental contribution often calls for a great deal of give and take on each side. It may be worthwhile for parents to consider some form of regular provision for such payments; a monthly standing order can be very helpful and a Deed of Covenant is a useful device which can offer tax advantages.

### Vacation income

The grant is primarily expected to cover students expenditure during the thirty weeks of the University term between October and the following June. This year the subsistence allowance for the intervening vacations has been arranged so that the grant is notionally expected to provide also an income of about £13.00 per

week over the Christmas and Easter holidays. This means that most students will not normally be eligible for supplementary social security benefits, if they do not get a job, in these two vacations (though it is usually possible to claim such benefits, if suitable employment is not available, over the long summer vacation).

### Income & expenses in term

For the thirty weeks of the term a figure of about £900 remains from the full grant for students living away from home to cover most of the student's needs. It takes little ingenuity to calculate that this leaves a weekly income of roughly £30.00 in term-time. A student is likely to spend up to £20 on providing food, accommodation and basic household needs such as heating and lighting when living away from home. Only about £10.00 therefore will be available for everything else. When a reasonable allowance has been made for travel, books, stationery, and essential services there will be little enough left over for clothes and entertainment. It is possible, though, to claim travel expenses in excess of £32.00 from the grant awarding body. With this in mind it is important that a student budgets very carefully the amount of money drawn from the bank throughout the academic year.

### Keeping in the black

Overdrafts can be attractive and from time to time banks are anxious to advance money even to students. You should remember that it is not always possible to obtain employment during the vacation and you may need all your vacation earnings for purposes other than paying off an overdraft. Living on credit is not a very satisfactory way of trying to make ends meet. Your time at University can be very valuable. It will certainly not be enhanced by having to worry about the Pounds and Pence of student life.

## Student grants and tuition fees

Considerable publicity has been given over recent months to the Government's policy of increasing tuition fees for higher education. However, prospective undergraduate entrants from within the U.K. should note that in general their financial position is not adversely affected by the increases. All those eligible for a central or local government grant have their tuition fees paid automatically by the grant-awarding body, even where, because of their parents' income, they will only receive the minimum award for maintenance.

**These notes and the facing article can only provide brief guidance for the 'average' school student now contemplating university entrance. All potential entrants should consult the official annual guides to check on their own position. These are either:**

**A Guide to Student Allowances—**  
(S.E.D. Haymarket House, Edinburgh).

**A Brief Guide to Grants to Students—**  
(D.E.S. Elizabeth House, York Road, London SE1 7PH).

*The Rector of the University at present is Mr. Magnus Magnusson, writer and broadcaster, well-known for his television work on archaeological programmes like "Chronicle" and "BC: The Archaeology of the Bible Lands", and general knowledge programmes like "Mastermind". He is shown here speaking with visitors in the first year science laboratories, overlooking the Old Town, at the University's most recent Open Day in June.*



## What is a Rector?

The Rectorship of one of the older Scottish Universities is a unique office—unique, because it does not exist anywhere else in the world. The office of Rector was established more than a century ago, to "safeguard the interests of the students". Originally, it was envisaged as being for an outside, lay person, unconnected with the University or its administration, who would ensure that student interests were not being disregarded by the authorities. To that end, the Rector was given the statutory right to be chairman of the University Court (the governing body of the University); and the students were given the exclusive right to elect him to office, every three years.

Every Rector, from Gladstone and Carlyle onwards, has interpreted his role differently. I see it, perhaps, a little differently from my predecessors. I do not think that the Rector should 'represent' students, even though it was the students who elected me; that is the proper role of the S.R.C., whose office-bearers now attend meetings of Court.

On the other hand, because of the present system of electing the Rector, every Rector feels a 'special relationship' with the student body. The Rector can be, and sometimes is, called upon to act as an unofficial Ombudsman for individual students with problems that have not been resolved by the excellent counselling and welfare services of the University and the Students' Association; but above all, I see my role as providing a focus and an inspiration for fresh initiatives in University life.

Everyone says that these are difficult times for Universities. But times are never easy, for Universities or anyone else. At present, Edinburgh University is in good heart, despite the economic problems (or, as I sometimes suspect, because of them!). Of course there are arguments, and great debates, and conflicts of interests; but throughout the University there is a striking sense of co-operation, of pulling together for the benefit of the University as a whole rather than of any particular sectional interest.

And I, for one, am very, very proud to be a part of this great University community.

## HANDICAPPED STUDENTS

*One of the initiatives currently being undertaken by the Rector, is to chair a working party to check that disabled students at the University are as far as possible helped to help themselves during their time at Edinburgh.*

*The University has stated already that no academically qualified applicant should be turned away simply on grounds of physical handicap. There can be problems such as access to and speed of movement between various teaching buildings. For this reason, prospective students with a handicap are encouraged to write as soon as possible—preferably in advance of submitting an application—to the Physician-in-charge of the University Health Service at Bristo Street Edinburgh, who, in consultation with other members of the University, tries to offer realistic guidance on the possibilities for various courses in each individual case.*

# Graduate employment . . .

by Jane Saxton

Jane Saxton, is on the staff of the University's Careers and Appointments Advisory Service.

## Is a degree worth it?

For those contemplating or about to begin a university course, graduation may seem a long way off—1980, 1981 and beyond—and thoughts of what to do afterwards may understandably be equally distant. Despite the uncertain times in which we live, most would agree that a first degree is a worthwhile investment in terms of the potential number of careers it opens up. Opportunities for graduates are now so numerous and varied that it pays to start exploring the possibilities well before final year and this is where the careers advisory service at university can help.

## What our graduates do

It is always of interest to look at what past generations of graduates have done. In line with the national picture, about the same percentage each year of all Edinburgh University graduates (excluding medicine, dentistry, veterinary medicine and B.Ed.) continue in full-time courses as enter employment directly, although the relative proportions may differ from one subject area to another and vary slightly from year to year with the economic climate. Of those who continue in higher education, some stay on to do a higher degree, some go into teacher training, whilst others undertake a variety of vocational training such as in social work, hotel management, journalism, archive administration, librarianship.

Looking at the different subject areas, each year a higher proportion of **Arts** graduates tend to stay on for further study than enter employment directly after taking their first degree. Traditionally, Arts graduates have perhaps been least well prepared for employment on graduation and have tended to opt for some form of postgraduate vocational training to overcome this.

In **Social Sciences**, about a third in any one year stay on for a wide variety of further study whilst over half of all those graduating go straight into work. These include

some 40 to 50 Commerce students, many of whom take up apprenticeships in chartered accountancy.

**Law** graduates aim mostly to enter the legal profession. This is from choice as there is no obligation to use the degree in a specialist way. Obtaining an apprenticeship is not an easy matter and some aspiring solicitors have to consider alternative openings.

Traditionally, approximately equal numbers of **Pure Science** graduates stay on to do research as enter employment. On the other hand,

in the case of **Applied Science** graduates at Edinburgh University, engineering and agriculture graduates have always directly entered employment in large numbers, whilst ecology graduates have tended to stay on for a higher degree.

Each year a substantial and increasing number of graduates from all subject areas go straight into employment on graduation.

TABLE 1 shows the proportion of 1976 graduates entering different types of work.

TABLE 1 U.K. EMPLOYMENT: TYPE OF WORK ENTERED BY EDINBURGH FIRST DEGREE GRADUATES\* 1976

TYPE OF WORK	SUBJECT AREA					
	ARTS/MUSIC/DIVINITY	SOCIAL SCIENCES	LAW	PURE SCIENCE	APPLIED SCIENCE	
SCIENTIFIC/TECHNICAL				■■■■	■■■■	
PRODUCTION			■	■	■■■■	
MANAGEMENT SERVICES		■		■■■■	■	
BUYING/SELLING		■■		■	■■	
FINANCIAL	■■	■■■■	■■	■■■	■	
LEGAL			■■■■			
PERSONNEL	■	■				
GENERAL MANAGEMENT/ADMINISTRATION	■■■	■■■	■	■■	■■	
SECRETARIAL	■■	■		■		
PLANNING		■				
CREATIVE/ENTERTAINMENT	■■	■	■	■		
INFORMATION/LIBRARY/MUSEUM	■■■	■		■	■	
SOCIAL/MEDICAL	■■■■	■■■■	■	■	■	
LECTURING	■■		■	■		

\*excluding Medicine and Dentistry, Veterinary Medicine and B.Ed.

Looking down each column the following symbols indicate the %age of Edinburgh graduates from the various areas of study who entered the types of work specified.

- 1—4%
- 5—9%
- 10—19%
- 20% and over

## 1980 and beyond

It should be remembered that, while valuable, these details refer to the past showing what graduates did and not necessarily what they would like to have done or could have done. Secondly, the information refers to 1976 graduates and the destinations of graduates in the future need not follow the same pattern. In fact employment opportunities for graduates are constantly changing. This is why it can be a mistake to embark on a degree course, even in some instances a vocational course, with one's heart set rigidly on a particular career. New areas of graduate employment occur all the time. Examples of recently developing opportunities for graduates include surveying, building society management and the Fire Service. This would suggest that you need to keep your options open, develop a flexible approach—in short, to keep an eye on the situation throughout your undergraduate years. Graduates enjoy greater job opportunities than those entering employment direct from school. But this may only be a reality for those who are adaptable in what they are prepared to consider and where they are willing to go to do it.

## 'Relevant' degrees

Some posts require specialist knowledge and a relevant degree (e.g. medicine, dentistry, clinical psychology) but the majority of jobs are open to all graduates. Remember also that a 'relevant' degree does not bind someone to one particular field of employment. Many civil engineers and lawyers, for instance, have chosen not to enter careers directly related to these fields.

TABLE 2 shows the broad pattern of vacancies by main area of work for graduates in each subject area. Notice that there are no blank spaces, thus indicating a wide range of potential openings to graduates in all disciplines. Secondly, note the two groupings 'any numerate discipline' and 'any discipline'. Those studying economics, for example, can look horizontally across these two rows in addition to the Social Science row. The added dimension in this case would be the greater number of potential vacancies in management services work for an economics graduate.

TABLE 3 shows to what extent the main employer groups offer these types of work. Note the relatively small number of blank spaces indicating that most employers

have a wide range of vacancies to offer graduates.

## What employers look for

If the degree discipline is frequently not the most significant factor in career choice, what do employers look for in graduates? They want intelligent people who learn quickly, have an analytical and critical approach to problems, communicate effectively and have a high degree of motivation. These attributes can be obtained at university—not solely through academic study but by involvement in outside interests such as running a university society, playing sport, doing voluntary work and taking useful vacation employment.

## Making an early start

A degree alone is not a passport to success, but it can be an excellent springboard to a worthwhile career and potential applicants as well as current undergraduates should use every opportunity to find out more about different types of work and their suitability for them.

The Careers & Appointments Advisory Service offers careers guidance and job placement facilities to all students at the University. Take advantage, as early as possible, of the full range of facilities it offers.

## GRADUATE RECRUITMENT—THE OVERALL PATTERN

TABLE 2

MAIN SUBJECT AREA	MAIN AREA OF WORK							
	SCIENTIFIC/TECHNICAL	PRODUCTION	MANAGT. SERVICES	FINANCIAL	LEGAL	BUYING/SELLING	ADMINISTRATION	PROFESSIONAL
ARTS	●	○	○	●	●	●	●	●
SOCIAL SCIENCE (inc. Law)	●	○	○	●	●	●	●	●
SCIENCE	●	●	●	●	○	○	○	○
ENGINEERING	●	●	○	○	○	○	○	●
APPLIED SCIENCE (inc. Agric., Ecology)	●	●	○	○	●	○	○	○
ANY NUMERATE DISCIPLINE	●	○	○	●	●	○	○	○
ANY DISCIPLINE	●	○	○	●	●	○	○	○

Looking horizontally along each row the symbols indicate potential vacancies for each subject area.

- over 10%
- 1—9%
- less than 1% but not zero

TABLE 3

MAIN TYPE OF EMPLOYER	MAIN AREA OF WORK							
	SCIENTIFIC/TECHNICAL	PRODUCTION	MANAGT. SERVICES	FINANCIAL	LEGAL	BUYING/SELLING	ADMINISTRATION	PROFESSIONAL
PUBLIC SERVICE LOCAL GOVT. EDUCATION PUBLIC UTILITIES	●	●	○	●	●	●	●	●
OIL & CHEMICALS ENGINEERING/MET ELECTRONICS/COMP OTHER MANUFAC. CONSTRUCTION	●	●	○	○	○	○	○	○
BANKS/INSURANCE RETAIL/TRANSPORT OTHER COMMERCE	●	○	○	○	○	○	○	○
ACCOUNTANTS SOLICITORS OTHER PROF.	○	○	○	○	○	○	○	○
OTHERS	●	○	○	○	○	○	○	○

Looking horizontally along each row the symbols indicate the main employers offering these types of work.

- over 10%
- 1—9%
- less than 1% but not zero

## Who answers the questions . . . ?

There are many ways in which this University liaises with the schools. We have a group of Schools Liaison Officers, based on faculties, whose job it is to make contact with individual pupils and teachers, and to arrange visits, both to schools and to university, throughout the year—visits in which current Edinburgh students often take part. The Schools Liaison Officers are also university teachers. This means that we have up-to-date experience of the way in which students react to academic life. We think this is important if people are to try and present an honest picture of life at university. We are ready to visit schools to see groups or individuals and to talk about all aspects of study, course choice etc. in the university. Often we find that students want to come and look at Edinburgh, and in these cases it is usually easier to put them directly in touch with staff and students in individual departments. A great deal of valuable liaison is done by other academics, who are always ready to meet with potential students. This type of contact is particularly useful when the subjects of interest are not taught in school. We hope that this kind of personalised activity will supplement the basic information which is available in the various university prospectuses.

**Stuart McKirdy**  
Schools Liaison Officer

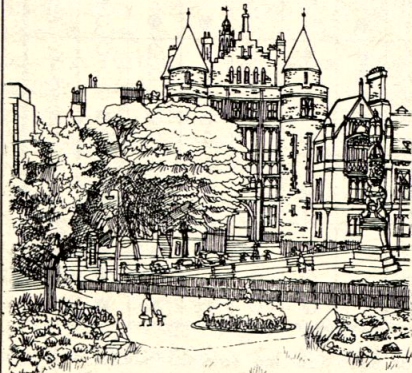
**Requests for visits to or from the University**—contact the Schools Liaison Service, University of Edinburgh, 9 Buccleuch Place, Edinburgh EH8 9LN, or telephone 031-667 1011 extension 6436.

**Copies of the General or Faculty prospectuses**—contact the Secretary to the University, University of Edinburgh, Old College, South Bridge, Edinburgh EH8 9YL, or telephone 031-667 1011.

**Other enquiries** about courses, entry requirements etc. should also be sent to the Secretary. These will be answered from his office or passed to the relevant faculty or department for reply.

**Information about University-provided or other student accommodation**, write to the Student Accommodation Service, 30 Buccleuch Place, Edinburgh EH8 8JS.

## EDINBURGH UNIVERSITY STUDENTS' PROSPECTUS



### a complementary publication

Edinburgh students have this summer become one of the few students' organisations to prepare and publish their own prospectus. Designed to offer a consumer's view of courses and teaching at Edinburgh, it provides an unofficial complement to the University's present prospectus material, rather than setting itself up as an alternative.

The Edinburgh Students' Prospectus is available from the Students' Association, Bristo Street, Edinburgh. £1 for a single copy, 80p each for five or more. (Cheques should be made payable to Students' Association, No. 1 A/C).



reproduced by courtesy of Punch.

## Health Hazards research aids Job Creation Scheme

One of the most recent projects in Scotland approved by the Manpower Services Commission under the Job Creation Programme is for seven young people to work for a year in the Department of Genetics at the University helping to run a continuing research and development scheme on health hazards. Working under the direction of Dr. Ruth Clayton, Senior Lecturer in the Department, those employed under the scheme will receive a training in research methods as well as contributing towards a project that is unique in its field. The research aims to establish a speedy yet reliable, and relatively inexpensive, method of detecting agencies in drugs, pollutants of food and drink additives which might cause damage to the foetus in the womb, and so help to avoid unnecessary risks to the unborn child. Current testing techniques to isolate potential dangers to the foetus from new drugs and other substances are both time-consuming and relatively expensive. The checking of any one of the myriad of substances which could affect a foetus presently takes 6-12 months and costs around £3,000 to £8,000. The aim of Dr Clayton's project, in a field where speed is often vital, is to perfect a test which could produce reliable results over a period of not more than two weeks and which could incidentally, be applied at a cost of only £50 to £100. Current results on the project, for which the main source of finance comes from the Medical Research Council, are encouraging. The injection of further funds via the Job Creation Programme will not only provide worthwhile training and work for seven young people who might otherwise have been unemployed but will help to bring forward the completion of work on the new process.