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University of Edinburgh

BULLETIN

UNIVERSITY OPEN DAY FRIDAY 2 JUNE

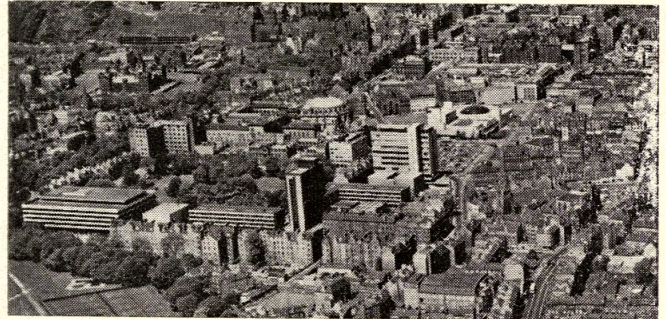
The University again this year holds open house in the George Square/Central area in June, though this time on a Friday—2 June. There will be two main sessions over the course of Open Day. From 10 a.m. to 4 p.m., the University will be playing host to around two thousand pupils, teachers, and parents from the Edinburgh area and much wider afield. During this session the major emphasis will be on information and advice relevant to university entrance, but as well as information desks there will be a wide range of displays, demonstrations, lectures and films to which members of the University—staff and students—their families and friends are very welcome to come along.

As an experiment this year, one of the major exhibition centres—the Appleton Tower, which will house a wide range of science displays—will be open for an evening session for the general public from 7 to 10 p.m. During the evening a special series of general appeal lectures—not limited to 'science' subjects—will be mounted.

So tell your friends and perhaps come along yourself as well. Take in a lecture and see some of the eight floors of displays at the Appleton Tower on the evening of Friday 2 June.

The programme of lectures that evening, each lasting approximately three quarters of an hour, will be:

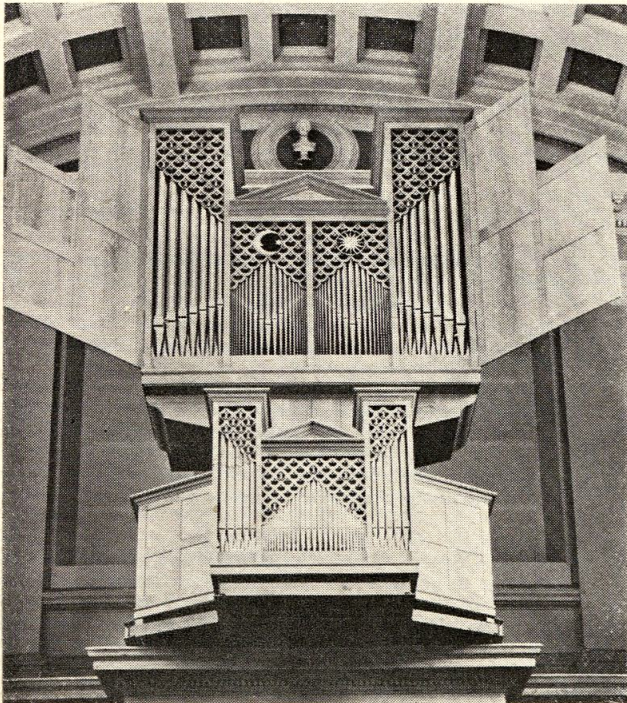
- 7.15 p.m. Dr David Milne, of the Wolfson Micro-electronics Unit on the \$50 BILLION CHIP
Dr Anne Ferguson, of the Department of Medicine, on FOOD FOR THOUGHT—NUTRITION AND DISEASE



Photograph by courtesy of The Scotsman

- 8.15 p.m. Dr David Bond of the Department of Genetics, on GENETIC ENGINEERING—A NEW FUTURE?
Professor Norman Hunt, of the Department of Business Studies, on MARKET PLACE AND IVORY TOWER
- 9.15 p.m. Professor George Mackie, of the Department of Mathematics, on MATHEMATICS IN SPORT
Mr Ted Cowan, of the Department of Scottish History, on ARE THE SCOTS A NATION?

An outline programme for the day's events is available from the Schools Liaison Office, 9 Buccleuch Place (Tel: 031-667 1011 ext. 6436) or the Information Office, Old College (Tel: 031-667 1011 ext. 4254).



Inaugural concert for new classical organ in the Reid Concert Hall this Sunday

see also page 2

Classical organ at the Reid Concert Hall

Work was completed over the Easter vacation on the installation in the Reid Concert Hall of a new classical organ, which had been under construction in the makers' workshop in Germany over the last 3 years. The proposal to acquire such an instrument emanated from the Faculty of Music in the early 1970s and, in 1972 a case was made to the University's Equipment Grant Committee. The Music Faculty in its application, pointed out that although Edinburgh was, as a University and a City, a major centre for the study and performance of music, there was no suitable classical organ in the area either for practice by music students or for public performances; the provision of a good instrument in the Reid Concert Hall would clearly enhance Edinburgh's musical standing and attract to it performers who otherwise might be discouraged by the present lack of facilities. After taking independent advice from a number of outside bodies which supported the case put forward by the Music Faculty, the phased purchase of a new classical organ was agreed and a firm order was placed in 1975. The final cost of the instrument and its installation—which has been paid in instalments over a 3 year period—will be around £80,000, a substantial expenditure which, had it first been proposed in the more straitened circumstances of 1978,

would perhaps have been problematic. The net result is, however, that Edinburgh music students and music lovers will be able to make use and benefit from the new instrument via the regular concerts given by the Faculty for Edinburgh's public and via the special concerts which the new organ will, no doubt, draw to the Reid Concert Hall during the Festival and other times of the year.

The organ-builder, Jürgen Ahrend, is considered one of the two or three leading builders in the world today, having been trained in all aspects of the art, musical, structural and acoustical, and having made specialised instruments of very fine workmanship, from San Francisco to Innsbruck. His experience in the restoration of old organs is virtually incomparable, and players of the new Reid Hall organ can be confident of producing sounds closely conforming to the ideals of the best old masters. The opening recital on 21 May, by David Lumsden (Principal of the Royal Scottish Academy of Music and Drama) will show some of the repertory for which the instrument is ideal—music from 1600 to 1978, with a natural emphasis on the works of J. S. Bach (Tickets for this recital will be available from the Concert Office, Alison House or the Edinburgh Bookshop).

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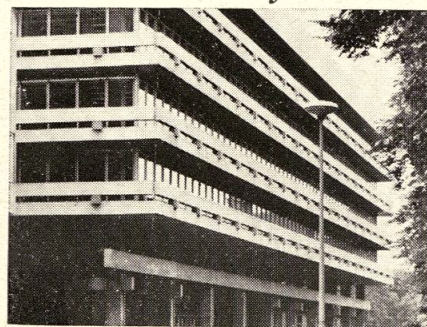
German writers' visit to the University



Dr McPherson and Mr Buck of the German Department in discussion with Christa Wolf after her second reading

Christa Wolf, novelist and critic, is one of the most important writers of the GDR, whose narrative prose and essays have appeared since the early 1960s, and are widely read and translated into many languages. Two of her novels, *Divided Heaven* and *The Quest for Christa T.*, as well as her main essay work, *The Reader and the Writer*, have been published in English. Her work forms part of the syllabus of Edinburgh University German Department, and it was in this context that an invitation was issued to her and her husband, Gerhard Wolf, also a well-known writer, critic and editor, whose works include a study on Hölderlin, and a critical edition of GDR poetry. This is the first visit by Christa and Gerhard Wolf to Britain. The visit was organised by Dr Karin McPherson, lecturer in the German Department at Edinburgh University. The British Council agreed to give a grant towards Christa Wolf's stay in this country. In the course of her fortnight's visit to Edinburgh, Christa Wolf gave two readings at the German Department, to an audience of students, staff and invited members of the public. In these, she read from her last published novel, *Kindheitsmuster* (Patterns of Childhood), and from her latest, as yet unpublished, narrative prose work on Heinrich von Kleist and Karoline von Günderode, (*Kein Ort, nirgends.*) Both lectures, held in German, were followed by a discussion. K. M.

Main Library



The STATUTORY INSPECTION of the Main Library will take place during June. All Main Library books borrowed on or before 31 May must be returned during the month of June. Books will be issued or re-issued as usual during June, but no book borrowed before June can be re-issued unless it is produced at the Service Desk.

All borrowers will be charged a fine of 10p a day for each volume not returned on or before the last day in June upon which the library is open and will forfeit the use of the library until the fine is paid.

This notification refers only to books borrowed from the Main Library. Other libraries in the University may have different requirements, about which enquiry should be made in the libraries concerned.

An Edinburgh Sunday

Walking through the streets of Edinburgh
Of an ordinary Sunday afternoon.
Grey drizzle. Hardly anyone about.
How cheering to come across a Sunday
Corner shop, small, open-doored, brightly lit.
Enter! Mind those boxes behind the door,
Crammed with country produce—celery
In cellophane (condensation shining),
Leeks with pale dry soil clinging to the roots,
A tired cauliflower or two.

My daughters tug

At me.

Ah there! Tucked away behind
The counter the penny tray resplendent:
The sherbet dabs, the penny chews, black jacks,
Rhubarb rock, banana splits, liquorice,
Sea-food, pink mice and bright bubble gum.
And all the sweets in quiet jars around
The walls, row on row — soor ploods, caramels,
Cinnamon balls, fruit drops and glacier mints,

And — aristocrat of sweets — the buttered brazil.
With hardly room to stand, you wait while kids
From down the way push in front and tease
The great, fat, smelly, doctored ginger cat,
Curled up next to the pile of wrapped sliced bread.
A woman in a flowery overall
Takes a bottle of milk out of the crate
And half a dozen rolls, or a man calls
In for his *Sunday Post* and a packet
Of fags . . . O you corner shops, knots of life
To a sweet-toothed people of harsh laws. Oases
Gracing the austere sabbath of the north.

'Sunday Corner Shop' is taken from "Out of My System", a volume of 48 poems written by Derek Bowman of the Department of German between 1960 and 1975. First published in 1978, by the Tamarind Press, with a preface by Sorley Maclean the volume has just been reprinted. Copies are available from Derek Bowman, 75 Cluny Gardens, Edinburgh EH10 6BW, price 95p.

People

DR W. DUNCAN REEKIE Lecturer in the Department of Business Studies has been selected by the Scottish Committee of Aims for Freedom to receive the 1978 Scottish Free Enterprise Award. This Award is made to the person who by his writing or speaking has in the view of the Committee most upheld the ideas of freedom and enterprise of Scotland.

PROFESSOR IAN R. MACNEIL, currently Professor of Law at Cornell University, New York, has been awarded the John Guggenheim Memorial Foundation Fellowship for 1978/79. Professor MacNeil's work, which he intends to conduct at the Department of Scots Law in Edinburgh and as a Visiting Fellow at Wolfson College, will be the general theory of contract. (The Scotsman 12.4.78).

CAPTAIN ALBERT HUGHES, University Bedellus and only member from Scotland of the National Association of Toastmasters, recently attended the special banquet sponsored by the Association with the Society of London Toastmasters to celebrate the millenium of the Loving Cup Ceremony—originated from the slaying of King Edward the Martyr who was stabbed in the back while drinking a goblet of wine in 978. While in London, Captain Hughes with some of his colleagues, took part in a performance of the Loving Cup Ceremony on the television programme "Blue Peter" before that evening's Mansion House banquet.

Institute of Advanced Studies in the Humanities

The Fellows at the Institute this term, with their subjects are:—

Mrs Priscilla J. Bawcutt, Liverpool (The Poetry of William Dunbar)
Mr James I. W. Brash, Western Australia (Electoral Politics in Scottish Counties after 1832)
Professor Errol E. Harris, USA (Transcendental and Dialectical Logics)
Dr Ian W. A. Jamieson, New Zealand (Middle Scots Poetics)
Professor Alistair M. Macleod, Canada (Principles of distributive justice)
Professor George C. Schoolfield, USA (A bibliography of Rilke)

Fellows elected in February and expected during the summer are:—

Dr Mary Ellen B. Lewis, USA (Scottish local poet tradition)
Professor W. H. Maurer, Hawaii (Translation of 50 representative hymns of the Rgveda)
Dr Anne Marie Skabarnicki, USA (The *Reminiscences* by Thomas Carlyle).

Observatory extension

The Royal Observatory on Blackford Hill is to get a £160,000 extension in the form of a new wing to the present building which will replace the existing temporary accommodation for Observatory and Edinburgh University staff. It is planned that work will begin in October and will be completed by the end of 1979. Finance for the new extension comes from the SRC.

Thefts at K. B.

Thanks to prompt action by JCMB Warder, Mr William Ross, charges have now been preferred against a person found on the premises at King's Buildings on Friday 28 April. A number of thefts had recently been reported from the King's Buildings site and Security had circulated K B Departments with information on this and a request for prompt action if anything suspicious was noticed.

Help is a phone call away

NIGHTLINE—Run by students every night of term between 10 p.m. and 8 a.m.
NIGHTLINE—Gives information, offers suggestions, listens, respects confidentiality.
NIGHTLINE—Someone to talk to.
NIGHTLINE—667 0221.

Appointments

The Staff Committee on behalf of the University Court has approved the following appointments and resignations:

APPOINTMENTS

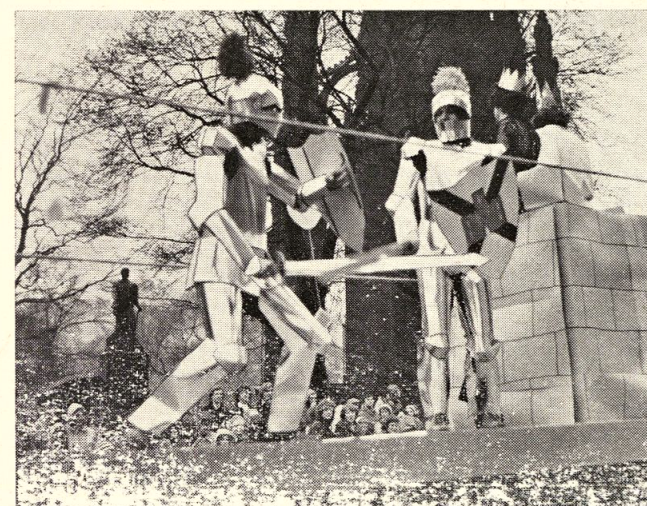
<i>Accounting and Business Method</i>	J. Innes, BCom, CA I. C. McCusker, MLitt	Lecturer Lecturer	1.4.78-30.9.80 1.9.78-30.9.79
<i>Business Studies</i>	Miss J. E. Foulds, MA	Admin. Asst.	1.5.78
<i>Chemistry</i>	G. A. Heath, BSc, PhD	Lecturer	1.9.78
<i>Clinical Surgery</i>	U. Chetty, MB, ChB, FRCS, MRCP C. McGregor, MB, ChB, FRCS	Lecturer Lecturer	1.4.78-30.9.81 1.2.78-30.9.80
<i>Dental Surgery</i>	Mrs L. C. Fletcher, BDS, PhD	Lecturer (temp. p.t.)	1.4.78-30.9.78
<i>Economic History</i>	D. J. Proudfoot, MA	Lecturer (temp.)	20.2.78-31.12.78
<i>Edinburgh Regional Computing Centre</i>	K. D. Dietz, BAsc, MAsc	Computing Officer	1.6.78-31.8.78
<i>General Practice</i>	W. J. Bassett, MB, ChB, MRCP W. C. Campbell, MB, ChB, J. B. Donald, MB, ChB, DA, DRCP, FFRCS G. S. Graham, MB, ChB, DObstRCOG, DCH, MRCP	Lecturer (p.t.) Lecturer (p.t.) Lecturer (p.t.) Lecturer (p.t.)	1.7.78-30.9.79 1.7.78-30.9.79 1.7.78-30.9.79 1.7.78-30.9.79
	W. M. Gilmour, MB, ChB, MRCP R. R. Hamilton, MB, ChB, MRCP P. N. Paterson-Brown, MB, ChB, DObstRCOG W. M. Paterson, MB, ChB, MRCP P. J. Swarbrick, MB, ChB, MRCP	Lecturer (p.t.) Lecturer (p.t.) Lecturer (p.t.) Lecturer (p.t.) Lecturer (p.t.)	1.7.78-30.9.79 1.7.78-30.9.79 1.7.78-30.9.79 1.7.78-30.9.79 1.7.78-30.9.79
<i>Library</i>	Miss D. E. Kemsley, BA	Librarian (Grade 1)	25.9.78-31.7.81
<i>Medicine</i>	N. J. Douglas, MB, ChB, MRCP N. G. Dewhurst, BSc, MB, ChB A. G. Fraser, BSc, MB, ChB	Lecturer Lecturer Lecturer (temp.)	1.1.79-30.9.79 3.4.78-30.9.80 19.3.78-30.9.78
<i>Medicine W.G.H.</i>	N. McD. Davidson, BA, MA, BM, BCh, MRCP	Snr. Lecturer (temp.)	11.7.78-31.12.78
<i>Nursing Studies</i>	Miss S. Sladden, BA, PhD, DipSocAdmin, SRN, RMN Miss R. I. Weir, BSc, RGN, SCM, RNT H. T. Law, BSc, PhD	Lecturer Snr. Lecturer/Director	18.9.78-30.9.81 1.9.78-30.9.81 17.4.78
<i>Medical Physics and Medical Engineering</i>			
<i>Orthopaedic Surgery</i>	D. N. Chamberlain, MB, BS	Lecturer (temp.)	1.7.78-30.6.79
<i>Pathology</i>	Miss L. J. Holloway, MB, ChB, FRCPath M. D. Bain, BSc, MB, ChB Mrs M. A. McIntyre, MB, ChB, MRCP Miss S. L. Manton, BDS R. G. Wright, BSc, MB, ChB	Snr. Lecturer (temp.) Lecturer Snr. Lecturer Lecturer (temp.) Lecturer	1.7.78-7.7.80 1.8.78-30.9.81 1.4.78 1.4.78-30.9.78 1.8.78-30.9.81
<i>Pharmacology</i>	N. H. Wilson, BSc, PhD	Lecturer	1.10.78-30.9.81
<i>Respiratory Diseases</i>	M. F. Sudlow, MB, BS, MRCP R. J. Wolstenholme, BSc, MB, BS, MRCS, LRCP	Snr. Lecturer (temp.) Lecturer (temp.)	1.4.78-30.9.78 6.3.78-28.2.79
<i>Veterinary Medicine</i>	Miss G. Penney, BVM&S, MRCVS	Univ. Demonstrator	1.5.78-30.4.81

RESIGNATIONS

<i>Accountant's Office</i>	J. A. G. Wallace	Snr. Admin. Officer	30.6.78 (retiral)
<i>Administration</i>	P. Goldfinch, MA, MSc	Snr. Admin. Officer	31.7.78
<i>Biochemistry</i>	J. Sweetin, BSc	Univ. Demonstrator	31.3.78
<i>Chemical Engineering</i>	D. M. Wilson, BSc, PhD, FICChemE	Snr. Lecturer	31.12.78 (retiral)
<i>English Literature</i>	Mrs H. E. W. Williams, MA	Lecturer	31.8.78
<i>Edinburgh Regional Computing Centre</i>	Mrs H. Drummond, BA MSc	Comp. Officer	28.2.78
<i>Library</i>	H. Phillips	Asst. Librarian	30.9.78
<i>Linguistics</i>	I. Pearson, BSc, MLitt H. R. N. Trappes-Lomax, BA	Lecturer (temp.) Lecturer (temp.)	30.6.78 31.5.78
<i>Mechanical Engineering</i>	G. T. S. Done, BSc, PhD	Snr. Lecturer	30.9.78
<i>Pathology</i>	J. A. Habeshaw, PhD, MD B. T. Potter, BSc, MB, ChB	Lecturer Lecturer	30.9.78 31.7.78
<i>Psychiatry</i>	T. A. Holding, MA, DM, MRCPsych, DPM	Lecturer (temp.)	31.7.78
<i>Scots Law</i>	R. Burgess, LLB, PhD	Lecturer	31.8.78



Charities Procession 1978 — Damp but undaunted



Out and About

House of Commons Parliamentary Answers

Written Answer 16.3.78

Student Grants

Mr Clemitson asked the Secretary of State for Education and Science what is her estimate of what would be the gross cost of providing grants for young people in full-time education between the ages of 16 and 18 years (a) an equivalent rate to the payment which young people will receive under the youth opportunities programme and (b) an equivalent rate to the supplementary benefit which an unemployed young person at present receives, respectively.

Mr Oakes: Precise figures are not available, but it is estimated that the gross costs of paying non-means-tested awards to all young people aged 16-18 full-time education at the youth opportunities programme allowance rate or at supplementary benefit level might be of the order of £1,000 million or £500 million respectively.

Written Answer 20.3.78

Research and Development (Advisory Council)

Mr Macfarlane asked the Secretary of State for Industry if he will make a statement on the progress of the Advisory Council for Applied Research and Development, its current objectives and its contribution so far to applied research in the United Kingdom.

Mr Les Huckfield: The Advisory Council for Applied Research and Development was set up in November 1976 under the chairmanship of the Lord Privy Seal and with the following terms of reference: "To advise Ministers and to publish reports as necessary on—

- (i) applied research and development in the United Kingdom and its deployment in both the public and private sectors in accordance with national needs;
- (ii) the articulation of this research and development with scientific research supported by the Department of Education and Science;
- (iii) the future development and application of technology;
- (iv) the role of the United Kingdom in international collaboration in the field of applied research and development."

The council has met four times. At an early stage it turned its attention to defining a small number of important topics for detailed study and has now established small working parties to study the applications of solid state technology; industrial innovation; and the effects of technological change on employment. The council hopes to receive reports from the working parties by the summer and to submit its first report to the Government in the autumn.

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Out and About

U.G.C. Survey for 1976/77

A concern about declining financial resources over the last quinquennium and its effects on the universities is one of the keynotes of the University Grants Committee Annual Survey for the academic year 1976/77, which was published last month.*

The Report points out that over the quinquennium as a whole the "average unit of resource" available to the universities fell by 6.9% against an intended decline of 1.2%. Among the results of this financial decline was the imposition of a great strain upon the dual support system for research which assumes well found departments, financed from UGC recurrent grant, on which the Research Councils can rely.

Despite the apparent collapse of the quinquennial system over this period, the UGC reaffirms their conviction that longer-term settlements, into which the maximum of certainty is built in terms of real value, is not only the traditional, but the most economical method for funding of universities by Government.

The Committee now expresses some modest optimism that recent Government attempts to extend the planning vista, if coupled with assured levels of annual grant realistically revalued should improve the situation over the next few years.

*Cmd 7119 HMSO 60p.

N & F proposals

The Standing Conference on University Entrance has itself published a booklet coinciding with the issue of the Schools Council Working paper. "The Universities and the N and F proposals" has been circulated to universities and a copy is available for consultation in the University Information Office.

Veterinary Finance

SIR MICHAEL SWANN, chairman of the Government's Committee of enquiry into the veterinary profession which reported in 1975, has called for more public spending on preventative veterinary medicine.

Appointments

SIR CHARLES CARTER has resigned as Vice-Chancellor of the University of Lancaster to become head of the Research and Management Committee of the nationally formed Policy Studies Institute as from this Autumn.

MR JOHN SPENCE, currently Under-Secretary in the Arts and Libraries Branch of the Department of Education and Science is to move to the University Grants Committee as an Under-Secretary following the retirement of Mr Ted Moss. Mr Spence was formerly Secretary of Council for Science Policy.

Grants & Contracts

The following grants and contracts totalling £235,379 were reported to the University Court at its meeting on 24 April 1978:

BRITISH CERAMIC RESEARCH ASSOCIATION

£6,000, over a period of one year, in continued support of research on structural ceramics, under the direction of Professor A. E. Hendry, Department of Civil Engineering.

CANCER RESEARCH CAMPAIGN

£2,270 in continued support of research on localisation of specific viral genomes within transformed cells and tumours by molecular hybridisation, under the direction of Dr K. W. Jones, Department of Genetics.

HIGHLANDS AND ISLANDS DEVELOPMENT BOARD

£14,000 in support of an islands visitor study, to be undertaken by the Tourism and Recreation Research Unit, Department of Geography.

THE HUMANE RESEARCH TRUST

£3,000 in continued support of research, under the direction of Dr R. Clayton, Department of Genetics.

INCORPORATED NATIONAL ASSOCIATION OF BRITISH AND IRISH MILLERS LIMITED

£30,000, over a period of three years, in support of research on the effect of bread and bran on gastrointestinal function, under the direction of Dr M. A. Eastwood, Department of Medicine.

MEDICAL RESEARCH COUNCIL

£22,878, over a period of three years, in support of research into vesicular transport in cerebral endothelium, under the direction of Professor W. E. Watson, Department of Physiology.

MINISTRY OF DEFENCE

£12,132 in continued support of an investigation on cavitation effects during shock-wave/structure interactions, under the direction of Professor J. L. King, Department of Mechanical Engineering.

NATURAL ENVIRONMENT RESEARCH COUNCIL

£17,881, over a period of one year, in support of an investigation on estimation of transpiration from forest, under the direction of Professor P. G. Jarvis, Department of Forestry and Natural Resources.

£6,303, over a period of one year, in support of an investigation on estimation of evaporation from forests, under the direction of Professor P. G. Jarvis, Department of Forestry and Natural Resources.

NORDRECO AB, SWEDEN

£11,101, over a period of two years, in support of an investigation on physical and chemical relationships of fibres which can influence human intestinal absorption and colonic functions, under the direction of Dr M. A. Eastwood, Department of Medicine.

RANK PRIZE FUNDS

£6,000 in support of dietary studies in relation to the Edinburgh-Stockholm survey of risk factor for ischaemic heart disease, under the direction of Dr M. F. Oliver, Department of Medicine.

SCOTTISH HOME AND HEALTH DEPARTMENT

£36,705, over a period of three years, in support of a clinical genetic, molecular and epidemiological investigation of cataract aetiology, under the direction of Dr R. Clayton, Department of Genetics in collaboration with Professor C. I. Phillips and Dr R. S. Bartholomew, Department of Ophthalmology, Dr D. E. S. Truman, Department of Genetics, Mr J. Duthie, Department of Statistics, Dr J. Seth, Department of Clinical Chemistry and Professor J. Williamson, Department of Geriatric Medicine.

£21,443, over a period of three years, in support of the development of an ultrasound scan system for the diagnosis of breast disease, under the direction of Professor E. Samuel, Department of Medical Radiology and Dr W. N. McDicken, Department of Medical Physics and Medical Engineering.

£15,370, over a period of three years, in support of research on the breast cancer screening trials, under the direction of Mr W. Lutz, Medical Computing and Statistics Unit.

£14,267, over a period of three years, in support of research into the cause, epidemiology and prevention of sudden infant deaths, under the direction of Dr A. D. Bain, Department of Pathology.

£13,654, over a period of one year nine months, in support of research on the control of autisms engaged in by severely mentally deficient patients under the direction of Professor H. J. Walton and Mr R. J. McGuire, Department of Psychiatry.

SCOTTISH TOURIST BOARD

£650 in support of an analysis of social and economic indicator data, to be undertaken by the Tourism and Recreation Research Unit, Department of Geography.

SCIENCE RESEARCH COUNCIL

£1,725 in support of observations at SAAO, under the direction of Dr M. J. Smyth, Department of Astronomy.

Total in current session: £2,620,764

Machines, pattern-knowledge and chess

by Professor Donald Michie, Machine Intelligence Research Unit

Is computer chess serious?

The possibility that students of computer chess are just fooling around with the taxpayer's money is one that is bound to occur to the mind of even the most charitably disposed observer. I shall argue that, on the contrary, this study is serious, socially timely and desirable, and possibly even *necessary* in the sense that no other equally apposite material is readily available for investigating certain scientific issues of importance.

Chess offers an idealised test case for the type of computing problem which I have termed "semi-hard". A "semi-hard" problem contrasts on the one side with "standard" problems, for which compact algorithmic solutions can be found, and on the other side with "hard" problems (so called by Knuth) for which no *feasible* solutions of any kind exist. The capacity to solve semi-hard problems distinguishes the skilled human practitioner from every computing system so far devised. Numerous *standard* problems are intractable to human solvers, yet can feasibly be solved by machine,—for example solving sets of differential equations. But the point is not whether humans could be got to make some sort of showing in territory in which modern computing methods excel, but whether computers can be programmed to make a showing in quite different territory (namely semi-hard) in which the human brain is in its element.

Semi-hard problems

Computer scientists have usually left this semi-hard territory severely alone. The reasons are good, sufficient and simple. Even where a standard algorithmic approach can be developed for a semi-hard problem, it cannot yield a feasible computation. This follows from the definition of semi-hard as characterising those problems whose space-minimal solutions are time-infeasible and whose time minimal solutions are space-infeasible. To complete the definition we have, of course, to add that they are also not "hard". In other words, the store-time trade-off curve is such as to allow compromise solutions which are both time-feasible and space-feasible. We are not in general able to say with certainty which problems are semi-hard, but we usually have a shrewd idea. One might mention recognising faces, translating Horace or playing faultless chess. This last is beyond human powers but may nevertheless turn out to be only semi-hard for electronic speeds and stores.

What, then, are the non-standard methods by which a semi-hard problem might be rendered feasibly computable? The development and characterization of such methods is precisely what Machine Intelligence, as a branch of computer science, is about. Although it is still early days, the field has got far enough for us to describe these methods as concerned with representing in machine-usable form large bodies of systematically organised knowledge. Knowledge about what? Knowledge about the function whose

evaluation constitutes problem-solving in the given domain. For a semi-hard problem, this may be a tall order. For translating Horace most people would not predict machine solution in the twentieth century. Those who believe that knowledge of such matters as love and death are intrinsically not susceptible of machine representation would say "Never".

Human and Machine computations

The inter-relationship between human-computable and machine-computable problems is at first sight puzzling, until one grasps that the critical factor is the human's trick of compensating for slow computation by use of stored knowledge. More specifically, he uses large masses of stored descriptive facts about the function to be evaluated and about the domain over which it is defined to drive a very shallow calculational procedure. It has to be shallow, say no more than a few thousand successive operations, if it is to terminate in reasonable time. Anyone interested in more detail on how this is done in practice should consult Ian Hunter's paper on Alexander Aitken, the Edinburgh mathematician and calculating prodigy ("An exceptional talent for calculative thinking" in *Brit. J. Psychol.*, 1962) for the case of virtuoso arithmetic, or Adriaan de Groot's book "Thought and choice in chess" for the case of grandmaster chess.

We can allow that as many as 10^{10} bits of memory might be utilised by a trained expert for the given skill. Owing to the slow speeds of information transfer into the brain this is about as much store as he could reasonably have time to fill during his training period. The number of stored descriptive concepts, or "patterns", used to drive a given skill is known to be smaller by many orders of magnitude, being no greater than 10^5 for those few cases on which some sort of

CHAIR VACANCIES

Under the recently revised procedure for established chairs which become vacant, members of staff wishing to submit comments on the future of the:

SIR WILLIAM FRASER CHAIR OF SCOTTISH HISTORY AND PALAEOGRAPHY, which will fall vacant upon the retirement of Professor Gordon Donaldson from 30 September 1979, are invited to contact the Dean of the Faculty of Arts by 24 May;

CHAIR OF LOGIC AND METAPHYSICS, which will fall vacant upon the retirement of Professor W. H. Walsh from 30 September 1979, are also invited to contact the Dean of the Faculty of Arts by 24 May.

measurement has been done. However, the largest number of patterns assembled to date in rule-based programs designed to emulate human skills is only a few hundred, so that the generalization that contemporary computing systems make less extensive and intensive use of memory than human problem-solvers remains valid at the present stage.

We can now understand why some problems are machine-soluble but not human-soluble and others are human-soluble but not machine-soluble. We can also, perhaps, appreciate the special interest of a problem-domain such as grandmaster chess which is only marginally tractable by either man or machine, and why it is that the respective successful implementations (I here assume that machine implementation *will* eventually be achieved), are bound to come out with quite different morphologies,—i.e. store-intensive and processor-intensive respectively in the two cases. For those professionally interested in the processor-sparing properties of heuristic knowledge, one can scarcely imagine more happily designed test material than chess.

In Edinburgh we are using an implementation of the ALI language to build machine representations of chess end-game knowledge. It is clear to us that without an ultra-high-level computer language to be used specifically for *advising* as opposed to programming, it would be pointless to ask a chess-master to transfer strategies from his brain or chess-book to the machine, unless he happened also to be a computer scientist. But in that case the first thing he would do would be to devise and implement for his own use a language like ALI, which talks about things like patterns, goals and constraints, and sweeps the details of concrete analysis under the carpet. Using this language we have been able to "teach" the machine to play an end-game hard enough to fool chess-masters and to defy programming by conventional methods. Whether we can follow this up in more difficult territory is something which time will tell.

A.V.S receives Television Award



The above Royal Television Society Award was recently presented in Glasgow to the Audio Visual Services Unit for a programme made with the Department of Dental Materials.

Teaching, Learning and Assessment

Two contributions have been received so far about interesting developments in teaching and learning. Members of staff are reminded that the Editor has agreed to run a regular column with the approval of the Teaching, Learning and Assessment Committee and contributions can be sent to George Gibb, Director, Audio-Visual Services, 19 Buccleuch Place.

Veterinary Surgery

The Department of Veterinary Surgery has employed monochrome Closed Circuit Television in undergraduate teaching for seven years, initially using a simple camera system with one monitor and currently having the use of more up-to-date hardware purchased by the Faculty of Veterinary Medicine. We have also availed ourselves of the University Audio-Visual Services to stage more elaborate productions recorded on videotape.

CCTV is routinely used as a magnification system to permit groups of 25-30 students to observe instructional operative surgery techniques before they carry out these techniques individually on cadavers. The ultimate aim is to record the surgical procedures on videotape so that play-back facilities will be available during the practical classes.

We also use the CCTV system to relay live surgery from the Small Animal Operating Theatre to a teaching room to be observed by large groups of students. A link between the Radiography Department and the teaching room also permits the relaying of still and dynamic radiography of clinical patients to large undergraduate groups.

In addition the Department is also gradually compiling a library of clinical productions for undergraduate and postgraduate use and for lending, the productions having been made, both in the studio and on location, with the cooperation of the University Audio-Visual Services.

It is the opinion of both teachers and students that when by necessity large groups of students are involved, CCTV is an invaluable and indeed a necessary aid in the teaching of our discipline. It is also obvious to us that monochrome television has serious limitations and restrictions for teaching and that colour facilities would greatly enhance the value of our work. We therefore look forward to the central services having colour TV facilities and perhaps eventually to having a colour system in the Faculty itself. **R. Borthwick**

The following articles appear in IMPETUS No. 8, March 1978 issued by the Forum of the Co-ordinating Committee for the Training of University Teachers: *The Importance of Communication in Staff Development* by David Mack; *Staff Development and Curriculum Development* by Colin Coles; *Staff Development in Course Development* by Anthony Shannon; *What Kind of Teacher Do you Think You Are?* by Terry Keen and Warren Hopwood; *A Proposal for Analysing Lecturing Styles in Higher Education* by David Wharry; *The Staff Teaching Workshop at Manchester University* by Nicholas Boreham and Colin Morgan and *Myths and Defence Mechanisms* by Dennis Fox.

Mathematics

Here at Edinburgh a large number of students take mathematics as a sub-

sidary subject to their main course of study. This leads, particularly in the first year, to large non-specialist mathematics classes. Because the mathematical backgrounds and abilities vary greatly, it is not easy to give thoroughly satisfactory courses to such groups. It became evident some years ago that a significant number of students had not been doing as well in these courses as might be expected. Sometimes this was caused by *continued on page 17*

Music in the University

Bach at St. Cecilia's Hall 1978

The series of concerts 'Bach at St Cecilia's Hall' given during May and June 1978 will be the tenth in this line of concerts; so it is particularly appropriate not only that the amount of music to be heard is greater than usual but that it is to include two very notable firsts.

On 21 May the new organ in the Reid Concert Hall is to be inaugurated. The builder is Jürgen Ahrend of Leer, Ostfriesland (West Germany), undoubtedly one of the best two or three organ-builders in the world today; the instrument itself, although modest in size, will be of immense importance to a particular branch of musical studies. The recital is to be given by David Lumsden, Principal of the Royal Scottish Academy of Music and Drama and former organist of New College, Oxford, where some years ago Dr Lumsden re-introduced to Britain the classical organ with mechanical action, of which the new Edinburgh University instrument is the latest and subtlest example. A short, illustrated talk will preface the recital.

The second 'first' in the Bach Concerts is the performance of a major new work for harpsichord by the Reid Professor, Kenneth Leighton. This will be the centre-point of a concert of 20th-century music—introduced by some 'modern' bitonal music of the 16th and 17th century—played by Kenneth Leighton and Peter Williams on 10 June. This idea too is new to Scotland, though some of the music (particularly the pieces by Bartok, Hindemith and Shostakovich) will be familiar in their original guise as piano music.

Yet a third concert will have only passing reference to J. S. Bach: on 3 June, the recently formed St Cecilia Singers (directed by Herrick Bunney) will perform French and Italian music of several centuries (Scarlatti *Stabat mater*, Frank Martin *Mass*, Debussy *Chansons*), to which Nigel Waugh and Andrew Dean will add German and French cantatas written in a conscious Italian style (J. S. Bach, Couperin). This choir was re-invited after its splendid performance of Bach motets in the 1977 series and has already earned a name for specialised programmes.

Five concerts are devoted entirely to J. S. Bach. The first, on 20 May, presents another new idea: a programme of Bach, transcriptions made for piano by some of the greatest pianists of the last 100 years or so, including Brahms and Busoni who are both represented by their transcriptions of the famous violin chaconne—Brahms's for left hand only, Busoni's for what must sometimes seem to the listener to be several hands, all employed at once in a wonderfully baroque gloss on a work already curiously powerful. Peter Evans, a pianist with a growing reputation for the handling of such music, is to use these two fine pieces to frame a programme of shorter arrangements made by some surprising names.

On 27 and 28 May, the six Suites for Solo Cellos are to be played by the Dutch cellist Wouter Möller, who has specialised in the baroque cello (with all that this means for stringing, bowing, articulation, style and pitch) and who will, for the first time in Scotland (perhaps Britain), present the six suites of Bach with the instruments intended by the composer—not least the *violoncello piccolo* for the D major suite and the *violoncello scordatura* for the C minor suite. For a change of style and timbre, Colin Kingsley will play the Fifteen 3-part Inventions in the course of the two evenings, choosing a clavichord from the Russell Collection.

Continuing the gradual coverage over the years of all the Bach chamber music for stringed instruments, Nigel North brings to St Cecilia's on 4 June the major works for lute. Some of these pieces are also transcriptions, though in some instances it is not at all certain from the sources which instrument the composer had in mind. In any case, however, the lute in question is not the familiar renaissance lute revived this century for such composers as John Dowland but the bigger baroque lute, with its bass-strings and involved tunings. In this concert, contrasting music will be provided by Lucy Carolan on the harpsichord.

Finally, further harpsichord music: on 11 June, Peter Williams will play the *Goldberg Variations*, a traditional recurrence in this concert-series, though one absent for the last four years.

'Bach at St Cecilia's 1978' closes with another traditional concert: a jazz evening provided by the Raymond Monelle Trio on 13 June, in which no doubt the Trio will have their own way of saluting The Man, as the 19th century Bach-fans called their idol. Further tribute will be paid in talks: on the piano transcriptions (Hans Gal, 20 May), on the cello suites (27 May), and on the *Goldberg* (11 June), after the first and third of which refreshments will be available.

Tickets from the Edinburgh Bookshop and Music Faculty Concert Office, Extension 2424. Concert £1, Students 50p, Jazz Invention 75p, any 7 Concerts £5.

People

Among those members of the University recently elected as Fellows of the Royal Society of Edinburgh were:

DR D. M. ANDERSON of the Department of Chemistry;

PROFESSOR GORDON DONALDSON of the Department of Scottish History;

PROFESSOR J. R. S. FINCHAM of the Department of Genetics;

PROFESSOR R. H. GIRDWOOD of the Department of Therapeutics

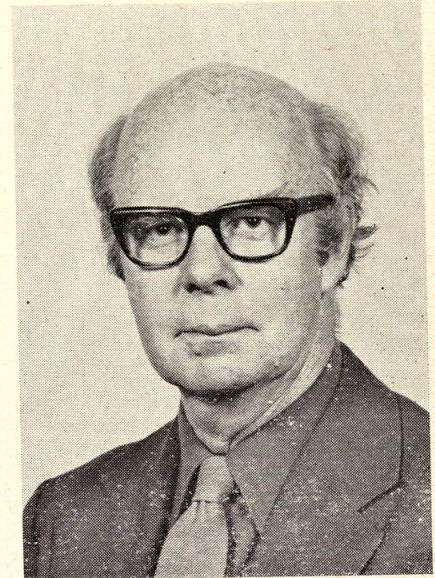
DR JOHN LORAINE of the Department of Community Medicine; and

PROFESSOR T. C. SMOUT of the Department of Economic History.



Photo by courtesy of the 'Glasgow Herald' 'Evening Times'.

Professor Gordon Donaldson is to retire from the Sir William Fraser Chair of Scottish History and Palaeography on 30 September 1979.



Vice-Principal Professor W. H. Walsh is to retire from the Chair of Logic and Metaphysics on 30 September 1979.

Edinburgh University Student Publications Board—Ten years up

Ten years ago this summer, the Student Publications Board came into existence. It was set up then primarily to publish *Student*, and came in the wake of a series of crises involving the staff of the newspaper, the SRC and the University.

The 1967-68 year had been a traumatic and eventful one. The hippy movement and the underground press were at their height, the Vietnam war raged and the spirit of student activism was perhaps stronger than at any other time. The Brooke Advisory Clinic was set up, making the pill easily available for the first time in Edinburgh. All this, combined with Malcolm Muggeridge, was explosive, and the explosion happened. Muggeridge, then Rector, refused to support moves to make contraception freely available to students. He was challenged by members of the SRC and the *Student* staff, who said he had not lived up to his election pledge to represent students' interests. After several fierce altercations, both in and out of the pages of *Student*, Muggeridge resigned and delivered his famous sermon in St. Giles' where he vehemently attacked "student immorality" and the pill. Later he described the students who had challenged him as "contemptible". In October of that year, *Student* editor Hugh Griffiths (now a barrister in London) published a full-page discourse on the virtues of LSD. He was sacked by the SRC, then reinstated after a storm of protest. It was agreed that a semi-autonomous body ought to be set up which would take responsibility for publications away from the SRC, and so the Student Publications Board was created.

Rapid Growth of Board

In ten years the Publications Board has expanded at a phenomenal rate, and is now the largest student publishing house

in the United Kingdom. Sophisticated new machinery has been bought which enables all the primary typesetting, headlining and design to be done on the premises; outside contract work is now extensively done as well. The full time Publications Board staff has just been

increased from four to seven. The policy is set democratically at weekly meetings by the members of the Board. There are sixteen Board members, most of whom are students. Many people, including many former Student editors, have gone on to work in the media in some capacity. **D. M.**



'PUBS' Board in session

Student 1968-1978

Special issue

To mark the tenth anniversary, the Publications Board is compiling a special 50-page *Student* which will be published in October this year. Included will be a review of major events over the past ten years and extracts from past issues of *Student*. Anyone who feels they could help in any way or has any relevant information should contact the editor, Donald McLeod, EUSPB, 1 Buccleuch Place, New Edinburgh Review

New Edinburgh Review

Editor sought

NER is the Board's quarterly magazine, which concentrates on arts and current affairs. The Board recently decided on a "new look" less academic publication, and a salary for all future editors. They are now inviting applications for the position from all interested parties—the appointment is for four issues.

The Professors' Symposium 1792—1882

Ninety years of dining and disputation

by Sally Magnusson

In a musty old leather-bound volume, stored deep in the bowels of the University Library, are recorded the minutes of a unique annual occasion. Once a year for just under a century, with the lapse of a decade or two in the middle, the Professors of Edinburgh University got together for an evening of conviviality.

It was a conversation between the then Principal, Dr William Robertson, and Dr Andrew Duncan, which started it all.



This drawing by Edward Forbes, Professor of Natural History, 1854-5, originally appeared in the student paper *The Maga* in 1835

"The propriety and advantage of a Social Annual Convention of the Professors having been suggested: The Principal directed Dr Duncan to send intimation to all the Professors, that such a Meeting was to be held in Hunter's Tavern, on Saturday 31 March 1792".

The Professors duly assembled, and the first thing they did was to pass a regulation, that

"a meeting shall be held annually on the last Saturday of March: at which such Professors of the University of Edinburgh as incline, shall dine together in a tavern".

And dine together in a tavern they did—year after year, until in 1882 the brown ink of their punctilious record-book trails into silence. By that time, a fascinating assortment of professorial figures has passed before us; toasting, speech-making, joking, singing, and above all **eating** their way through the nineteenth century.

It began soberly enough. Portraits were commissioned (for instance, one of the Lord Provost of Edinburgh in 1798, in gratitude for his "indefatigable exertions in beginning and advancing the New buildings for the College of Edinburgh"). changes in the *Senatus Academicus* were reported, services to the University applauded ("an opportunity of returning them a cup of thanks for their meritorious services"), absentees commended for the fine taste of their

letters or rebuked for the want of it. The dinners were conscientiously frugal—at least for as long as the sentiments behind a public-spirited motion in 1799 lasted:

"As it was the opinion of some of the Professors, that the dinners furnished to this meeting were too luxurious for the present state of the times; it was agreed, that the directions hereafter given, should be to provide dinner for sixteen, at half a crown each".

Such austerity, however, did not long remain the keynote of the proceedings. The food gets richer and the drink more abundant. In the minute-book, the tortuous formality of the prose is yielding to syntax a little less demanding on the concentration. The plain, precisely-printed headings surrender to ornate flourishes with cloud-like effects billowing delicately round the capital letters. And the evenings' activities begin to assume a more rumbustious air of conviviality:

"Although this Meeting was very thin, yet it was very agreeable", runs the report for 1823, "and the Principal when he

closed the Senate, declared that he never was in a more pleasant party in his life . . ."

The delights of the palate and the abundance of the mirth claim all the attention of the scribe in the following year, 1824. A certain Dr Home announced his gift of a dozen bottles of rum, to supply the Professors with "Nectar", as he put it, for the next twelve years. "A bumper was drunk"—several times!—to the health of absent colleagues and alumni. Then one Dr Brunton

"offered to furnish the Senate with a Catacomb in his Cellar for preserving the Surplus picnic liquors sent for promoting their Cordiality . . ."

And what's more,

"the Roast Beef and Plum Pudding were both declared to be excellent, and the Mirth abundantly noisy".

In 1835 the story is taken up by an engagingly voluble Secretary, who relates the evening's entertainment with obvious relish and an entirely new air of self-mockery. Professor Cheape, we learn,

"favoured the company with a

song, of that solemn and temperate mood and measure which best befit the attention and enjoyment of learned ears".

He reports that, after the Professors had spent some time dwelling fondly on past meetings,

"the effect was to strengthen the conviction of all present of the propriety of continuing such stated meetings of entertainment, which not only help to smooth brows furrowed with learned toils, but to unite in brotherly bonds those otherwise connected in the grave and high functions of Academic tuition".

By the mid-century, the days of frugality long past, a Gallic breeze has begun to waft through the pages of the minute-book, as page after page is devoted to enumerating the culinary delights enjoyed by the Professors.

In 1864 the tavern's chef seems to have surpassed himself. The eye is dazzled by an even longer list of exotic French dishes than usual. That year, we discover,

"the *Senatus Academicus* had . . . the honour of entertaining at their Annual Symposium His Royal Highness Prince Alfred presently a Student in the University".

The fare was somewhat self-consciously patriotic, "Potage a la Victoria", "Potage Printaniere a la Princesse de Wales", "Ris de Veau Pique a la Prince Albert", and "Supreme de Volaille aux Truffes a l'Albert" were conspicuous among its array of sumptuous delicacies. Once their student-prince was out of the way, the Professors, it seems, could let their hair down and get on with the party! "After the departure of His Royal Highness the serious business of the evening commenced", is actually how it's put. For a minute, we wait politely for the solemn account of academic affairs so familiar in bygone days. Instead, the serious business turns out to have been—

"the solemn Trial of Professor Miller for the offence of Drunkenness—as also the consumption of spiritous liquors

especially when committed by a Teetotaler".

At the end of the "trial", described at great length,

"the Professor was solemnly sentenced to sing a song, which he forthwith did to the great delight of the company".

From this point on, the Minutes devote themselves entirely to lively descriptions of annual revelry—quoting lustily rendered songs and recording the elaborate exercises of professorial wit which appear to have taken up a good deal of the time. The 1871 Symposium, for instance, was distinguished by an energetic mock-debate about the existence and whereabouts of the island of Eig. "This Eig", we are solemnly told, "was one duly to be hatched"! Four years later it was the number of legs sported by Jenny Geddes's stool which exercised the minds of the Symposiasts, enabling the Professors to demonstrate that mental agility and nice discrimination for which they are famed, as they energetically debated the exact thickness of the Dean of St Giles's skull.

Much of the hilarity of the evenings was provided by the songs. And nobody was more prolific as a composer or in more demand as an entertainer in the last years of the Symposium than the Professor of Greek, John Stewart Blackie. In 1868, when the new evolutionary theories were provoking virulent debate among Victorian intellectuals up and down the country, Edinburgh's Professor Blackie was on the ball with a musical defence of divine Creation. His "Song of Geology" is dedicated to Allman, Professor of Botany, and each stanza describes and celebrates a different stage in the world's evolution from chaos to man, Sire Adam, "the crown of the mammals". The last stanza declares the composer's position in the current debate with a triumphant flourish:

"And thus was completed—
miraculous wonder!
The world—this mighty
mysterious thing!
I believe it is more than a
beautiful blunder;

And worship and pray, and
adore, while I sing.
Wonder and miracle!—God
made the wonder;
Come happy creatures, and
worship with me!
I know it is more than a
beautiful blunder,
And I hope Tait, and Tyndall
and Huxley agree".

What with dining and singing and punning, the Symposiasts didn't have time for much formal business. The affairs of academia recede further and further as the century progresses and the wine flows thicker. But always close to the professorial heart are the students. The Professors may have given up reporting assiduously on their numbers and progress, as they had done in the old days; but the students are always good for an enthusiastic toast. In 1869, for instance,

"the Chairman gave the health and prosperity of the 1529 Matriculated Students of the University. The toast was received with rapturous cheers!"

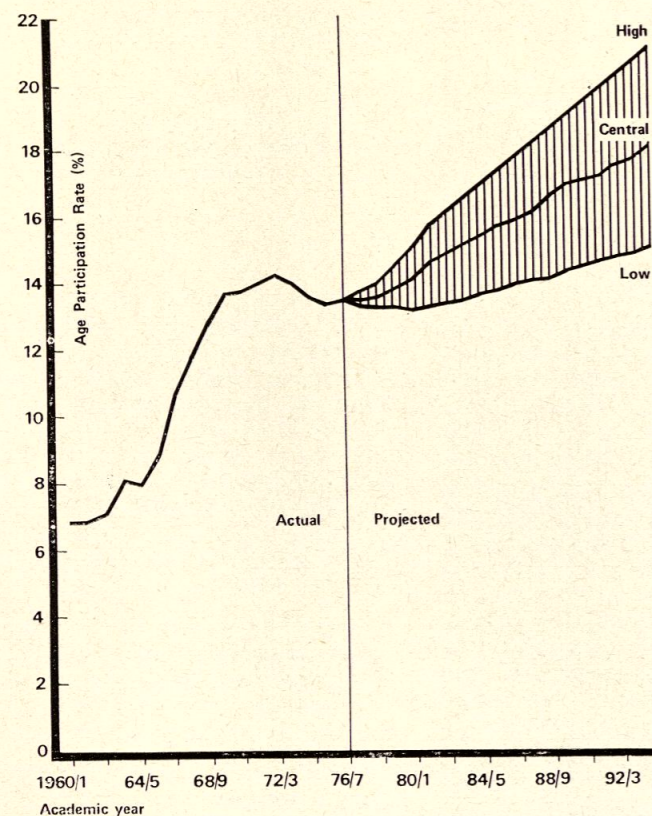
Thirteen years later, Professor Fraser's tribute to the students at the very last Symposium to be recorded, in December 1882, radiated the same warmth, and despite the jocular tone also reflects the high regard (often expressed over the years) that the Professors had for their annual meeting as a force for real harmony within the University. Professor Fraser

"proposed the toast of the 3340 students of the University whose patience and hard perseverance in the acquisition of knowledge he much admired. He felt sure that it was an influence emanating from the Symposium which had done so much to promote genial feeling among the students as evidenced by the admirable Social meetings of the Students' Club".

The Symposiasts separated that night "after having enjoyed a hilarious evening". Things had changed a little since that first sedate assembly in 1792. But it was a tradition that Dr William Robertson would have been proud of.

Chart 1. Age participation rates.

Higher education full-time and sandwich students: Actual and variant projections to 1994/95, Great Britain.



Higher Education into the 1990s expansion then contraction and diversification?

This month the University is determining its preliminary response to the Government's discussion document, *Higher Education into the 1990s*, which brings together the latest official projections of relevant population figures and seeks to examine in brief the possible effects of these on higher education—in particular the implications of the bulge in school and college leavers through to the early 1980s and the relatively sharp decline in their numbers thereafter.

The debate about future policy will continue at Edinburgh as elsewhere, but in the meantime reproduced on this page are two of the three charts in the document (the 3rd maps out present age distribution of University academic staff), together with a summary of the five possible models for coping with the changes in numbers, which the DES/SED put forward. Also reprinted are the 14 questions which the authors consider need in particular to be answered in relation to the paper.

The University, as an institution, has been asked to submit its first views by June. Anyone else wishing to send written views to the Departments has been invited to address them, as appropriate to:

The Permanent Secretary, Department of Education and Science, Elizabeth House, York Road, London SE1 7PH

*or
The Secretary, Scottish Education Department, New St. Andrews House, Edinburgh EH1 3SY.*

Alternative models for future development

MODEL A looks at what might happen if the system was simply expanded and then contracted in accordance with projected numbers. It would mean acquiring buildings for a number of years and then disposing of them, and increasing staff numbers then releasing them when no longer needed.

MODEL B looks at what might happen if the scale of the projected expansion after 1981 were reduced. This would involve risking a break with the Robbins principle. How serious the risk would be depends on which of the three forward projections of numbers might turn out to be correct.

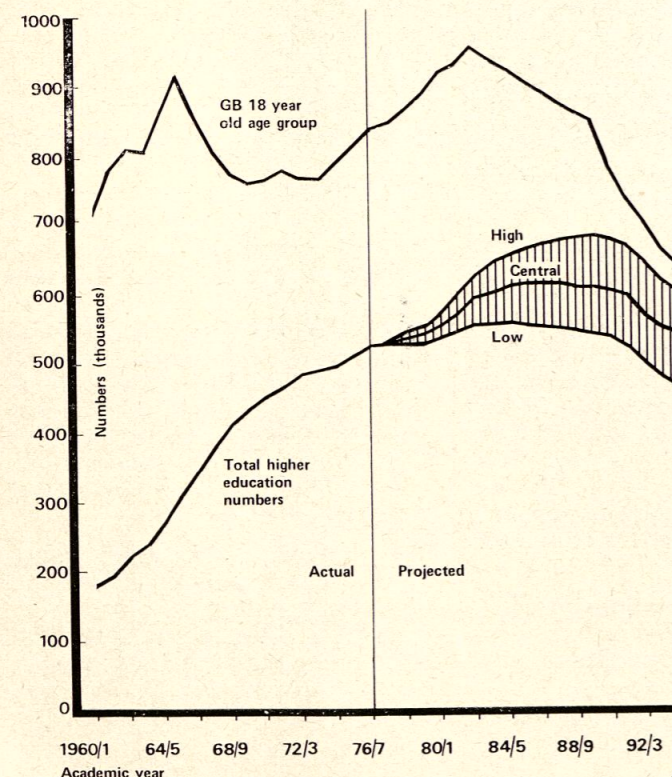
MODEL C represents an ad hoc "resources" approach. It looks at the possibilities of renting rather than building accommodation and appointing temporary staff to tide the system over the years of the projected peak in numbers.

A more drastic version would be the adoption of a deliberate policy of not adding either to accommodation or to staff numbers thereby squeezing accommodation standards and unit teaching costs in the 'peak' years.

MODEL D is the first of the two models looking at possible new developments which might modify the future pattern of higher education. It instances the possibilities of: encouraging two-year courses; diverting students from full-time to part-time courses; and encouraging students to defer their initial entry to higher education for a period after leaving school.

MODEL E assumes that social and economic developments may bring about significant changes in the pattern and composition of the higher education student group. With higher education perhaps becoming a more attractive prospect for young people from poorer home backgrounds and more development of more systematic opportunities for recurrent education for mature students.

Chart 2. 18 year old population and total full-time and sandwich students in higher education, Great Britain



Fourteen questions for the future?

- Are the projections of student numbers based on reasonable assumptions?
- Could higher education institutions contract their provision as sharply in the early 1990s as these projections imply?
- Does it make sense for the higher education system to expand to meet the full peak in projected student numbers?
- Would it be wiser to aim at a lower peak provision to avoid difficulties of subsequent contraction?
- Should the Robbins principle continue to guide the provision of higher education?
- What scope is there for encouraging students to embark either on shorter full-time courses or on part-time courses?
- Would it be feasible and desirable to develop deferred entry to higher education on a sufficient scale to make a major contribution to easing the problems of the 1980s?
- What scope is there for reducing higher education cost per student by improved use of resources without reducing the quality of educational provision?

- How far could the problems of the 1980s peak be reduced by limiting resource commitments to the short term through the use of temporary staff and accommodation?
- During the peak years would such temporary expedients as longer terms or summer terms be acceptable to higher education institutions?
- What measures might be found to extend participation on a broader social basis so as to avert a demographically-linked decline in student numbers at the end of the 1980s?
- What would be the advantages and disadvantages of using resources no longer required for young home entrants to extent educational opportunities for people in employment?
- What would be the implications of any changes in the present pattern of higher education for the structure of student awards and of higher education courses and qualifications?
- If the diversity of our institutions is a source of strength in meeting diverse needs, might some of the answers to the above questions desirably be different for the universities on the one hand and the maintained sector of higher education on the other?

A few spare copies of the discussion document are available for consultation from the Information Office.

British Library building to be started

The Government have announced that construction is to commence on the substantial first stage of the new British Library building in Euston Road, London in 1979/80. This is expected to be occupied towards the end of the 1980s and the estimated cost of this part of the building—to be spread over ten years—is £74M. The Architects are Colin St John Wilson and Partners.

Debate in Lords on U.N. University

On 16 March the House of Lords debated the United Nations University (*copy of extracts from the debate are available in the Information Office*).

Obituary

The *Bulletin* regrets to record the death of

Dr Maeve Marwick, graduate and formerly lecturer at this University, who died on February 28, aged 79. Born Maeve Brereton in 1898, she studied medicine at Edinburgh, among the first women to do so. Her participation in student activities included a spell as President of the Fabian Society, where

N.U.S. views on tuition fees

The NUS submission to the DES last month has recommended that

1. The Government should declare a public review of tuition fees, with major changes to be implemented from the academic year 1979/80.
2. The Government should give a public commitment that within any new fee structure there shall be no differential in the level of fees charged to students from home and overseas.
3. The Secretary of State should seek new legislation giving all adults in the UK the right to education and training courses for two years full-time, non-advanced and three years full-time advanced, (or part-time equivalent), with their tuition fees automatically paid by their LEA. Full-time and part-time non-advanced, advanced and postgraduate courses should be designated for LEA payment of tuition fees.

she met her future husband, William Marwick. They married in 1923 and had five children, one of whom is Arthur Marwick, the historian.

As a student, Dr Marwick became interested in the work of Marie Stopes and, after graduating in 1921, spent much of her career pioneering birth control. She served on the committees which administered the opening of the first birth control clinics in Glasgow and Edinburgh, and, after the war, lectured on this topic to medical students at all levels. She

DIAL UNIVENT 667 1011 ext 4455 for a daily listing of University events

Distinction for Edinburgh Student in Pennsylvania

Alan Rose, a 3rd year Edinburgh BCom student who is currently at the University of Pennsylvania under the Edinburgh/Pennsylvania Exchange Scheme, has been nominated for the Herbert S. Steuer Memorial Prize. The Prize is given each year to an outstanding junior student whose scholarship, personality and qualities of leadership are regarded by the faculty as being most outstanding in his or her class and Alan Rose has been nominated by the Wharton School of the University of Pennsylvania on the basis of his "excellent academic record" while at Wharton.

was also Medical Officer at the Edinburgh Clinic until her retirement in 1963.

In recent years Dr Marwick played an active part in the Carlyle Society, which was founded by her father-in-law. She adopted the Quaker faith after her marriage, and was a regular attender at meetings.

She will be remembered for her kindness, honesty and the broad-minded attitude which her varied career gave her, and will be sadly missed by those who knew her.

A. H.

The President of the EUSU has offered his congratulations to:

SAILING

To the **Sailing Club** for their success at the Scottish Universities Championships held at Monklands Reservoir. Edinburgh convincingly won both men and women sections, the joint trophy and the men also won the overall trophy for the 5th year running. It was also announced that EU men won the Winter League.

At the British Universities Championships held in April at Manchester University Sailing Club. Edinburgh Ladies sailed very well to reach the semi-final of the ladies section, being beaten by Birmingham the eventual winners. In the Men's section, Edinburgh easily sailed through to the final, where in an extremely close 3 race match they were beaten 2-1 by the University of London, last years winners.

Ladies Team—Trycha Millar, Alison Tullock, Penny Sanderson, Julie Smyth, Allison Cullum, Deborah Corps.

Mens Team—Stewart Robertson, Chris Darling, Nigel Stein, Bates McKee, John Hodgart, Dave Northcott.

Congratulations also to **Stewart Robertson** and **Chris Darling** on being selected for the 6 man British Universities Team.

SWIMMING

To the **Swimming Club** for winning the BUSF Championships held at Blackpool. Edinburgh won the men's section with a 17 point clear lead over Oxford who were the previous winners. Particular congratulations go to; **Alan McClatchey** who won the 'Bobby McGregor Trophy' for his winning performance in the 200m. Individual Medley, and who also won a gold medal in the 400m. Freestyle and a silver medal in the 100m. Backstroke; **Simon Hindshaw** for winning a silver medal in the 100m. Butterfly; the **Mens Relay Teams** for winning all the relays.

CURLING

To the **Curling Club** who were 2nd in the Scottish Universities Championships in Perth.

Also to **Dave Ramsay** of the Club who played lead in the Scottish Under-21 Team which was 3rd in the World Championships in Switzerland.

Dave deserves special recognition as he was selected as lead of the All-Star team of the competition—a decision which indicates that he is probably the best Under-21 lead in the world.

ANGLING

To the 8 members of the **Angling Club** who took part in the Club's trip to Firth. In 5 days fishing a total of 8 salmon, best 14lbs., and 62 trout, best 4lbs. 1oz. (and a new club record), were caught. In the past 5 years the Club's Easter tour has always provided good sport, but this has been the most productive yet.

RIDING

To the team of **Jill Davidson**, **Alison Craig** and **Rosemary Sweetman** who were unlucky to finish only 6th in the British Universities Championships at Melton Mowbray.

Individually, **Jill Davidson** finished 1st in the cross country phase, **Rosie Sweetman** finished 2nd in the Dressage and **Alison Craig** finished 6th overall individually.

Congratulations also to **Jill Davidson** who rode in the British Team at Bristol's International Competition of dressage and jumping. The Team finished 4th and was the best placed home team.

MEN'S HOCKEY

To the Men's Club in putting forward 4 players for the SU team in the BUSF Tournament in April.

They were:—**Gerry Lafferty**, **Thomas Scholfield**, **Derek Bell** and our Captain **Peter Seidelin**.

Further congratulations to **Derek Bell** who played in the winning British Universities team in the 4-way International Tournament held after the BUSF event.

ATHLETICS

To **Anne Clarkson** who got a new Scottish Universities record of 2m. 9.4s. in winning the 800m at the First International Trial. Also to **Gavin Gilliatt** who came 2nd in the Triple Jump, to **Penny Gunston** who came 3rd in the 1500m and to **Ken Glass** who won the B 400m.

SKI-RACING

To the **Men's Ski Team** who competed in the BUSF Championships in the Cairngorms during the holidays and came 2nd to Aberdeen for the 2nd year running in the overall team championship, out of 18 universities. Congratulations also for winning the first event of the team trophy, the team slalom and to **John Vaitkus** whose time was the second fastest of the day, and **Ewan Frazer** who was 4th. Other notable results were **John Vaitkus** 8th out of 165 competitors in the Grand Slalom and also 8th in the overall, combined individual, and in particular **Caroline Waller's** fine performance in her first year at University in the Ladies Team. She was 2nd in both the Grand Slalom and Special Slalom and thus 2nd in the overall combined individual ladies Championships.

E.U.S.U. A.G.M.

The Annual General Meeting of the Edinburgh University Sports Union will be held on Thursday, 25 May 1978, in the Debating Hall of the Teviot Row Union at 7.30 p.m. A good attendance of sports union members is expected. Amongst other business the elections for President, Vice Presidents, Secretary and for the Executive Committee for 1978/79 will take place.

Guinness for Skiers

Special congratulations are due to the Ski team for winning an extra event at BUSF sponsored by Philips Electrical. This was a British Universities snowman-building competition. Our winning snowman was 19 feet high and was an official world record which has been approved by the Guinness Books of Records under the strict rules laid down to govern the tools available for building the snowman. For example, the 8-rung ladder provided didn't help very much to reach the great height achieved.

The snowman raised £190 for charity, which was £10 per foot offered by Philips and we have asked that it should go to the Mountain Rescue Service.

A good angle

Eight members of the University Angling Club had another very successful tour, during the Easter Vacation, based at Firth. In five days fishing a total of 8 salmon and 62 trout were caught, despite rather cold weather.

The salmon fishing, in particular, was the best to date, and reflects the excellent Spring run of fish on the Tay river system. Indeed the catch was more than double the club's previous best for such a tour, and several other fish were lost.

Mick Batty caught the first fish at Farleyer on the upper Tay. The 11 pound salmon was taken on a Toby spoon, as was Mick Batty's second fish, a 9 pounder from the river Tummel at Pitlochry. Loch Tay yielded a salmon again this year, largely due to the persistence of Jim Forrester, who took the 9 pound fish on a red sprat while trolling near Firth itself. It was on the last day that the best catch of salmon was made, however. John Murray took 2 from the Tummel at Pitlochry, while Alan Baillie landed 3 more from the same stretch. The weights of these 5 fish ranged from 8 to 14 pounds, and all were taken on Devon Minnows.

Butterstone Loch, near Dunkeld, provided several good baskets of rainbow trout, and no-one returned empty handed from this water. The best trout weighed over 4 pounds, and took a large black fly designed for use in New Zealand.

The club would like to thank the staff at Firth for their splendid hospitality; also to apologise to them for the somewhat erratic schedule that tends to go with good fishing.

DR ANDREW WADDELL, Warden of Cowan House at the Pollock Halls of Residence, will, on 27 May, be appearing at Hampden Park when he referees the Scottish Junior Cup Final of which there will be a live television broadcast. **MR JAMES DUNCAN**, Technician in the Department of Psychology also features in this month's Scottish Football Programme, acting as a linesman at the Aberdeen v Rangers Scottish Cup Final at Hampden Park on 6 May.



100 years on
Football Club
celebrates centenary
of its foundation
after one of its most
successful seasons

Past and present members of Edinburgh University Football Club and their guests began the Club's centenary celebrations with a dinner in Teviot Row Union on 19 April.

EUFC, founded during the 1877/78 season, on the initiative of Godfrey Hunter and John Smith (whose faces figure on the first Club photograph, above left), has claims to be, next to Hearts, the oldest club in the East of Scotland League, but age has not withered its vigour. The Club was still going strong in the early nineteen thirties, when it won the Queen's Park Shield for Scottish University Clubs four years out of five; and members from the 1930/31 team (centre left) are among those joining the centenary celebrations this year. The Club's 100th season, in 1976/77, was one of the most successful of all with the winning of the East of Scotland Qualifying Cup and the King Cup, and quite apart from the team trophies won, ten Edinburgh players were chosen that season to represent the Scottish Universities—five of whom also played for the British Universities.

Mind you, perhaps that's no more than that rather confident-looking Victorian duo of Hunter and Smith would have expected.

Notice Board

Energy money

The University has been notified by the University Grants Committee that a grant of £46,000 has been approved for the purpose of energy conservation from additional funds made available to help the construction industry.

Application trends

According to the final in the series of reports from the UCCA on applications for University entry in October 1978, the number of candidates for admission to date this year has risen overall by some 2% (from 149,266 to 152,218) and UCCA estimates that the final number of candidates including late entrants etc. may total 157,000. The number of women candidates continues to rise by a higher rate (3.8%) than that of men candidates (1%). Home candidates overall have risen by 1.6% and overseas applicants also continue to increase at a higher rate (4.3%).

Amongst the most popular subjects, where numbers applying for admission have risen both absolutely and as a proportion of the total, are: Electrical, Mechanical, Aeronautical and General Engineering; Agriculture and Forestry; Mathematics including Computing; Physics, Business Management Studies; Accountancy; Biology; Combined Social Studies and Combinations of Social Studies with Arts; Combinations of Technical with other subjects and Home, Hotel and Institutional Management. The areas where there has been both an absolute and proportional decline in number of applicants are: Sociology; Architecture; Combined and General Arts; Combined Physical Sciences; Town and Country Planning; Welsh and Celtic Studies.

Fee support scheme (FSS) for postgraduate students from developing countries

Up to 600 awards are being offered by the Ministry of Overseas Development to assist, on grounds of hardship, selected postgraduates from developing countries who will be engaged on full-time studies at British universities, polytechnics and colleges of further education at the beginning of the academic year 1978-79, and who are assessed as overseas students for fees purposes. Award holders will be selected from those supported from personal or family resources, and who are following courses which, in the Ministry's view, are of development value. Awards will take the form of annual grants of £450, being a fixed annual contribution towards overseas postgraduate fee of £925 per annum, for up to 3 years starting in 1978, or pro-rata if the period of study is for less than a full academic year. The grants will not be payable in respect of courses commencing later than October 1978.

Eligibility is confined to those students who are already following advanced courses in Britain. Applications from students who are in receipt of major awards from other sources (e.g. their own government, research councils, international agencies) OR who have received major awards from the British Government in the past, cannot be considered. It is also a condition of these awards that students should return to their countries of origin on completing their period of study in Britain.

Forms of application are available from Miss C. E. Giles, Assistant Secretary, Old College. The closing date for the receipt of completed applications in Edinburgh is 28 June, 1978.

Canadian and British radical politics under comparison at seminars this week

The Centre of Canadian Studies at the University is to sponsor a three-day seminar from 18 to 20 May on the subject of "Radical Political Thought in Canada and the UK: Compared and Contrasted". Since accommodation is strictly limited, those members of the University or the public who wish to attend should enquire in advance to the Secretary at the Centre of Canadian Studies (Mrs White) on 667 1011 ext 6801.

The outline programme for the seminar is reproduced below:

- Thursday, 18 May**—Room 116/117, William Robertson Building
- 10.30 Speaker: Professor Alan C. Cairns, Visiting Professor in Canadian Studies, University of Edinburgh.
RADICAL THOUGHT AND POLITICAL PRACTICE IN CANADA AND THE UK (an introductory paper).
- 2.00 Speaker: Professor Marcel Rioux, Department of Sociology, University of Montreal.
RADICALISM AND NATIONALISM IN QUEBEC.
- 3.45 Speaker: Professor D. N. MacCormick, Department of Public Law, University of Edinburgh.
RADICALISM AND NATIONALISM IN SCOTLAND.
- Friday, 19 May**—Conference Room, David Hume Tower
- 9.30 Speaker: The Rt Hon Ed. Schreyer, formerly Premier of the Province of Manitoba and currently Leader of the Opposition in that Province.
THE CCF/NDP—POLITICS AND GOVERNMENT IN THE CANADIAN PROVINCES*.
- 11.10 Speaker: Professor R. T. McKenzie, London School of Economics and Political Science.
THE CCF/NDP, AND THE LEFT IN BRITAIN AND THE UNITED STATES.
- 2.30 Speaker: Professor John P. Mackintosh, MP, Department of Politics, University of Edinburgh.
HAS SOCIAL DEMOCRACY WORKED IN BRITAIN?
- Saturday, 20 May**—Conference Room, David Hume Tower
- 9.30 Speaker: Professor Walter Young, Department of Political Science, University of Victoria.
POLITICAL PARTIES AS VEHICLES FOR RADICALISM: THE CANADIAN CASE.
- 11.15 Speaker: Professor Tom Bottomore, Department of Social Sciences, University of Sussex.
RADICAL THOUGHT IN THE SOCIAL SCIENCES.

*Title subject to revision.

Since accommodation is strictly limited those staff, students or members of the general public who wish to attend should please confirm with the Secretary, (Mrs White), Centre of Canadian Studies, 667 1011, ext. 6801.

The British Council leaflet on the Programme of Cultural, Educational and Scientific Exchanges between Britain and Hungary 1978/1980 is available from Miss P. A. Rodgers, Old College.

Sept/Oct exams entry

Entries for examinations which will be held in September and October 1978, should be made at the Matriculation Office, Old College, by Monday, 7th August 1978.

Examination entry forms must be accompanied by a Matriculation card for 1977-78 and, where applicable, the re-appearance fee of £10 per subject. The office hours during vacation are 10 a.m. to 1 p.m. Mondays to Fridays. LATE ENTRY. Candidates who do not enter their names and pay the applicable fees on or before the advertised date may be allowed, in exceptional circumstances, to make a late entry on payment of an additional fee of £10.

Surplus equipment

The following surplus equipment is available from the Department of Oral Medicine and Oral Pathology, Old Surgeons Hall, High School Yards: 1 MSE Rotary Microtome, 1 Baird and Tatlock rotary microtome, 1 MSE Freezing microtome, 1 150mm lens for a Zeiss projector, 1 Film transporter for a Pullin projector, and 1 de Vere photographic enlarger (¼ and ½ plate). Further details from: John M. Mitchell, Chief Technician. Tel. 667 1011, ext. 4396.

Careers course for students on management functions 17-20 June

Over the last weekend of the present term, a course will be run at the Riccarton campus of Heriot-Watt University, open to undergraduates of both Edinburgh and Heriot-Watt Universities. Aimed particularly at those who will be graduating in 1979, the course gives an insight into the nature of different management functions in a variety of industrial, commercial and governmental organisations, how they inter-relate, what typical problems are involved and how decisions are made. There are exercises in personnel, finance, marketing and production, and a business game requiring decisions throughout the course. Young managers, recent graduates of both universities, will work with small groups of students to provide first-hand practical guidance, and to talk informally about their own employment experiences.

It will run from midday Saturday 17 June to 5.30 p.m. Tuesday 20 June. Each student will be asked to pay £8 towards the cost of the meals provided. All other costs will be met from funds raised by the universities and by CRAC (Careers and Research Advisory Centre), the joint course organisers. Transport to Riccarton will be provided.

Similar courses have already taken place this year at Cambridge, East Anglia and Exeter Universities. Reports from the students involved were very favourable.

Further details, and a booking form are available from:—

Careers and Appointments Advisory Service,
33 Buccleuch Place,
Edinburgh
EH8 9JT

Student Advisory Service,
King's Buildings,
Mayfield Road,
Edinburgh

Bookings will close on 19 May.

Agriculture research grant

The following grant has been made to the Edinburgh School of Agriculture:

MINISTRY OF OVERSEAS DEVELOPMENT

£16,108, over a period of one year, for the analysis, evaluation and interpretation of cattle research data on the growth, breeding and slaughter of cattle in Zambia, under the direction of Dr J. H. D. Prescott, Edinburgh School of Agriculture.

GAAS on 17 May

There will be a meeting of GAAS at 1 p.m. on Wednesday, 17 May in the New Senate Hall. Among the motions under discussion will be one relating to the

issue of academic freedom and the application of Berufsverbot in Western Germany.

November symposium on 250th anniversary of birth of Joseph Black

A one-day symposium commemorating the 250th anniversary of Joseph Black, the greatest chemist of the Scottish enlightenment, will be held at the Royal Scottish Museum on Saturday 4 November 1978.

Joseph Black after teaching at the University of Glasgow between 1756 to 1766, held the Chair of Medicine and Chemistry at Edinburgh until his death in 1799. The papers at the symposium will deal with the work of Joseph Black and some of the wider aspects of Science in 18th century Edinburgh. There will also be an opportunity to see some apparatus and manuscripts associated with Joseph Black.

For further details on the symposium contact A. Q. Morton, Department of Technology, The Royal Scottish Museum, Chambers Street, Edinburgh EH1 1JF.

Teaching, Learning and Mathematics

continued from page 8

a lack of motivation when a student felt that mathematics was not relevant to his main interest. However, in a large number of cases it was caused by a failure to grasp some basic techniques. These elementary difficulties have produced 'mental blocks' in the minds of some students and prevented their making satisfactory progress. These elementary difficulties have arisen not only from new material being presented in their courses but also from material ill-understood at school.

During the 1972-73 session an experimental scheme was introduced for a first-year class to provide remedial help in a particular area of numerical mathematics, the Gaussian elimination method for solving simultaneous linear equations. The results were very encouraging.

It consisted of a booklet and audio-tape sequence which took the student through the procedure step-by-step, each step requiring a response from the student. It enabled the student to work at his own pace, repeating if necessary steps which caused difficulty. Because he was doing the work himself, the student gained confidence to tackle similar problems himself. The sequence was intended as a supplement to lecture material not as a replacement. The aim was to teach the basic principle of the method and so elaborations of the technique were ignored. The tape-booklet sequence was placed on open access in the University Library. Some 15 per cent of the class made use of it, and in answers to a short questionnaire their reactions were entirely favourable to this method of teaching.

Subsequently several sequences were produced and the work was partially supported by a small grant from the Nuffield Foundation.

The students for whom the sequences were intended have made good use of them and there has been an improvement in the quality of their work. The feedback obtained from the students by a questionnaire to the whole group and by (un-systematic) discussion in tutorial sessions has been extremely encouraging. Students like this method of self-paced self-help instruction. We have been fortunate in that the librarian-in-charge of the undergraduate reading room has been very helpful. Students are able to use the tape-booklets in the same place as they normally use for work or consulting textbooks. We have thus been able to avoid the unnecessary complications of a separate resource centre.

Nineteen different sequences have now been prepared covering work in calculus, algebra and numerical methods. Some are suitable for use in schools and colleges as well as in Universities and have been offered for sale on a non-profit basis.

This method of teaching could be used at all levels of mathematics. It has also been used successfully in Medicine and Engineering. Essentially the method relies on 'learning by doing'. The student is led step-by-step through examples which show the essential principles. When a sequence is constructed, the examples are chosen first and a booklet is constructed in rough, allowing only one step per page. Then an informal commentary is recorded on a cassette and the commentary and the booklet is tried out on a colleague. After the commentary and booklet have been corrected, the final versions are prepared.

Usually the student works by himself with headphones so that he does not distract other students and is not easily distracted himself. At one University the tape-booklets are being used in a language laboratory with groups of students up to twenty at a time.

The tape-booklet method provides an inexpensive but efficient method of giving individual help to students in difficulties. It is a resource that has yet to be fully exploited.

D. W. Arthur, J. W. Searl

Coming Events

GRADUATION CEREMONIALS	June
Degrees in Medicine and Dentistry. McEwan Hall, 11 a.m.	28
	July
Degrees in Divinity, Music, Social Sciences and Veterinary Medicine. McEwan Hall, 11 a.m.	13
Degrees in Law and Arts. McEwan Hall, 11 a.m.	14
Degrees in Science. McEwan Hall, 11 a.m.	15
MEETINGS	May
P and D Group; Press Committee	18
Senatus Postgraduate Studies Committee	25
Faculty of Medicine	26
University Court	29
Academic Group; Faculty of Science (provisional)	31
	June
Faculty of Divinity	7
P and D Group	8
Travel and Research Committee	9
E P Committee	14
Finance Committee	19
TLA Committee; Library Committee, Student Affairs	21
Faculty of Medicine	23
General Council	24
Staff Committee	26
Works and Buildings; Faculty of Veterinary Medicine	27
Faculties of Music and Science	28
Faculty of Law	29
Faculty of Social Sciences	30
CONCERTS AND RECITALS	May
Bach at St Cecilia's Hall— Piano Transcriptions of Bach —Peter Evans (piano). Tickets £1, (students 50p), 8 p.m.	20
Bach at St Cecilia's Hall— Inaugural Recital of the New Organ in the Reid Concert Hall —David Lumsden (organ). Reid Concert Hall. Tickets £1, (students 50p), 8.30 p.m.	21
Bach at St Cecilia's Hall— Cello Suites —Wouter Moller (baroque cello and violoncello piccolo), and Three-part Inventions —Colin Kingsley (clavichord). Tickets £1, (students 50p), 8 p.m.	27
Bach at St Cecilia's Hall— Cello Suites —Wouter Moller (baroque cello), and Three-part Inventions —Colin Kingsley (clavichord). Tickets £1, (students 50p), 8 p.m.	28
	June
Bach at St Cecilia's Hall— Italian and French Music for Voices —St Cecilia Singers directed by Herrick Bunney; Nigel Waugh (baritone) and Andrew Dean (harpsichord). Tickets £1, (students 50p), 8 p.m.	3
Bach at St Cecilia's Hall— Works for Lute —Nigel North (baroque lute) and Fantasia in C minor, Capriccio —Lucy Carolan (harpsichord). Tickets £1, (students 50p), 8 p.m.	4
Bach at St Cecilia's Hall— 20th Century Music for Harpsichord —Kenneth Leighton and Peter Williams (harpsichords). Tickets £1, (students 50p), 8 p.m.	10
Bach at St Cecilia's Hall— The Goldberg Variations —Peter Williams (harpsichord). Tickets £1, (students 50p), 8 p.m.	11
Bach at St Cecilia's Hall— a jazz invention —Raymond Monelle Trio. Tickets 75p, 8 p.m.	13
EXHIBITIONS	May
Tapestries by Maureen Hodge and Fiona Matheson (also on sale). Talbot Rice Art Centre, Old College, South Bridge, 10.00 a.m. to 5.00 p.m. (Monday to Saturday)	24 to 10 June
	June
Exhibition of paintings by Leonid Pasternak the first illustrator of Tolstoy's work. Also well-known for the portraits of his contemporaries and son Boris. Talbot Rice Art Centre, Old College, South Bridge, 10 a.m. to 5 p.m. (Mondays to Saturdays).	21 to 14 July

THEATRE	May
Edinburgh Graduate Theatre Group— The Importance of Being Earnest —by Oscar Wilde. Adam House Theatre, Chambers Street, 7.30 p.m. (Tickets 80p with reductions for students).	16-20
Two Performances of Feydeau's Classic Farce— Le Systeme Ribadier —will be given in French at the French Institute, 13 Randolph Crescent, Edinburgh, 8.30 p.m.	25 and 26
RELIGIOUS SERVICES	May
Midweek Service— The Kingdom: Belonging —Miss Charlotte M. Clunie, Assistant Chaplain, Royal Edinburgh Hospital. Chaplaincy Centre, Bristo Street, 1.10 p.m.	24
Midweek Service— The Kingdom: The Conflict of Power —Mr Derek E. Bowman, Department of German. Chaplaincy Centre, Bristo Street, 1.10 p.m.	31
	June
Midweek Service— The Kingdom: The Saints —Revd Hamish Smith, Chaplain to the University. Chaplaincy Centre, Bristo Street, 1.10 p.m.	7
Midweek Service— The Kingdom: The Life Everlasting —Revd Robert Mackie, Formerly World Council of Churches, Geneva. Chaplaincy Centre, Bristo Street, 1.10 p.m.	14
LECTURES AND SEMINARS	May
Vision in Action (illustrated)—Dr D. N. Lee, Department of Psychology. Sixth Level Common Room, JCMB, King's Buildings, 1.10 p.m.	18
Scottish Philological Society— Recent Work in French Dialectology —Professor D. McMillan, Department of Romance Linguistics. Conference Room, School of Scottish Studies, 27 George Square, 8 p.m.	18
Munro Lectureship Foundation— The Iron Age in Eastern England —Mr Jeffrey May, Lecturer in Archaeology, University of Nottingham. Lecture Hall B, David Hume Tower, 5.15 p.m.	18
Local Councillor —Mr Willy Roe, Chaplaincy Centre, Bristo Street, 1.10 p.m.	23
School of Scottish Studies— Im Thurn—Epic and Ballad Tradition in the Komi Autonomous Republic —Dr J. G. Coates, Finno-Ugrian Studies, University of East Anglia. School of Scottish Studies, 27 George Square, 5.15 p.m.	24
Sandoz Foundation Lecture—Department of Psychiatry— Behaviour Therapy and Psychosomatic Disorders —Professor Michael Gelder, W. A. Handley, Professor of Psychiatry at the University of Oxford. Lecture Hall B, David Hume Tower, George Square, 5.30 p.m.	24
Department of Politics— T. H. Green on the individual and society —Craig Smith, Department of Politics. Politics Seminar Room, 31 Buccleuch Place, 5.15 p.m.	25
Metchnikoff Club— Biochemistry and Biology of Ia antigens —Dr C. Parish, Department of Zoology, University College London. Pfizer Institute, Hill Square, 8 p.m.	25
Nursing Research Unit/Department of Nursing Studies— Why use computers in hospitals? —Mr Trev. Jones, Research Fellow, Nursing Research Unit, Edinburgh University. Nursing Research Unit, 12 Buccleuch Place, 4 p.m.	30
Department of Psychiatry— Psychological and Social Adjustment of Asian Immigrants to Britain —Dr Ray Cochrane, Department of Psychology, University of Birmingham. Departmental Lecture Theatre, 5.30 p.m.	31
	June
Medical Research Council— How Corticosteroids work on the lymphoid system —Dr Henry M. Clayman, University of Denver Colorado. MRC Seminar Room, Genetics Building, Western General Hospital, 4 p.m.	1

Coming Events

LECTURES AND SEMINARS (contd.)	June
Nursing Research Unit/Department of Nursing Studies— Communication with patients; the student nurse's role —Mrs Ann Faulkner, SHHD Research Training Fellow, Department of Psychology, University of Aberdeen. Nursing Research Unit, 12 Buccleuch Place, 4 p.m.	6
Department of Psychiatry— Can psychotherapy be validated in an uncontrolled study? —Dr D. H. Malan, Tavistock Clinic. Departmental Lecture Theatre, 5.30 p.m.	7
Department of Psychiatry— Precipitating factors in psychiatric consultation —Dr Malan, Tavistock Clinic. Departmental Lecture Theatre, 9.30 a.m.	8
Nursing Research Unit/Department of Nursing Studies—	

LECTURES AND SEMINARS (contd.)	June
A preliminary study of medical specialities —Dr Marion MacLeod, SSRC Conversion Fellow, Department of Sociology, Edinburgh University. Nursing Research Unit, 12 Buccleuch Place, 4 p.m.	13
Department of Psychiatry— Psychiatry: Meaning and Purpose —Dr R. J. Badcock and The effects of the new feminism —Dr H. M. Burnett. Departmental Lecture Theatre, 5.30 p.m.	14
Department of Psychiatry— Shoplifting —Dr R. S. Buglass, Midland Centre for Forensic Psychiatry, Birmingham. Departmental Lecture Theatre, 5.30 p.m.	21
Metchnikoff Club— T cell killing of Influenza virus infected cells in mouse and man —Dr B. A. Askonas, Mill Hill, London. Pfizer Institute, Hill Square, 8 p.m.	22

Current academic and academic-related vacancies

Further particulars from the Secretary's Office (667 1011 ext. 4315).

	Posts	Closing dates
Accountant's Office	Snr. Administrative Officer	16 May
Restorative Dentistry	Lectureship	19 May
Library	Sub-Librarian	19 May
Sociology	Lectureship	22 May
Veterinary Medicine	Univ. Demonstratorship	26 May
Microbiology	Univ. Demonstratorship	31 May
Psychiatry	Lectureship	31 May
Physical Education	Graduate Assistant	31 May
Botany	Univ. Demonstratorship	9 June
Chemical Engineering	Temporary Lectureship	15 June
Veterinary Pharmacology	Univ. Demonstratorship	19 June
Veterinary Pathology	Lectureship	23 June

MALCOLM MUGGERIDGE RETURNS TO EDINBURGH

In 1968, Malcolm Muggeridge resigned, in a welter of publicity, as Rector of the University. He has now accepted an invitation from the Journalism and Shaftesbury Societies to come back to Edinburgh and deliver a lecture around the theme of Ten Years After. Mr Muggeridge will be giving his talk at 5.15 p.m. in Lecture Hall A of the David Hume Tower on Wednesday, 24 May.

Architects' presentation to Calder Community Group



On Friday 28 April Chris Perry—a second year Architecture student—presented a cheque for £200, raised from the proceeds of the Architects February Charities Carnival to Bill Millar of Calder Tenants' Association. The money will be used to help the Association establish a pre-school playgroup or to help provide facilities for the elderly.

PLEASE NOTE THAT THE INCORRECT TELEPHONE NUMBER WAS QUOTED IN THE BELL-RINGING IN EDINBURGH ARTICLE IN A RECENT ISSUE OF THE BULLETIN. THE CORRECT NUMBER TO CONTACT IS 664 5841 (DAVID RYDEHARD).

Registration for Graduation

Students who are due to graduate must register at the Matriculation Office, Old College, South Bridge, as soon as possible after receiving degree examination results, and NOT LATER THAN THE MORNING OF THURSDAY, 6th JULY, 1978.

This applies to both postal and personal registrations. (To avoid possible delay, 1st CLASS MAIL is advised for postal registrations).

Public Lecture SANDOZ FOUNDATION LECTURE

PROFESSOR MICHAEL GELDER W. A. Handley, Professor of Psychiatry at the University of Oxford

will deliver a lecture on **Behaviour Therapy and Psychosomatic Disorders** in Lecture Hall B, David Hume Tower, George Square on 24 MAY 1978, at 5.30 p.m.

REGULATION

FOR THE

DISTRICTS OF TIVOT-ROW and LAURIESTON, GEORGE'S SQUARE, BRISTO and POTTER-ROW, N. B. STREET, CROSSCAUSEWAY, CAUSEWAY-SIDE, and SALISBURY ROAD, or St LEONARDS, made by the Commissioners, at their General Annual Meeting, held at the Chapel of Ease on Monday the 17th May 1772, conform to the Powers given them by Act of Parliament; and again Approved of and Confirmed at their General Annual Meeting, 18th May 1801.

I. NO person shall throw out, at any time, from any window or door within the Affiliated Districts, any water, ashes, filth, or refuse of any kind, under the penalty of 2s. 6d. for the first offence, 5s. for the second, and 10s. for the third, and every other offence; to be levied from the pollsters of those houses from whence such nuisance is thrown, or the person actually guilty of the transgression, without prejudice to any other person thereby aggrieved to sue for indemnification.

II. No person shall carry out, or lay down, upon any of the streets, lanes, squares, &c. any filth, ashes, foul water, or other nuisance, after 7 o'clock in the morning, from the 1st day of March to the 1st day of October; or after 8 o'clock in the morning, from the 1st day of October to the 1st day of March, under the penalty of 1s. for the first offence, and 2s. 6d. for the second, and every other transgression.

III. No person shall lay out any filth or nuisance, of any kind, upon any of the streets, &c. upon Saturday's night, or at any time of the day on Sunday, under the penalty of 1s. for the first, and 2s. 6d. for the second, and every other transgression.

IV. No person, except an inhabitant or servant in the District, shall riddle any ashes, upon any of the streets, &c. under the penalty of 1s. for the first offence, and 2s. 6d. for the second, and every other offence, besides forfeiture of the riddle to be used; nor shall such inhabitant or servant riddle upon any of the streets, &c. any ashes, after 7 o'clock in the morning, from the 1st day of March to the 1st day of October; or after 8 o'clock in the morning, from the 1st day of October to the 1st March, under the like penalty.

V. No person shall, at any time, riddle or lay down ashes or filth of any kind, upon any plantations, foot-paths, or areas between the houses and the streets, or in any of the drains or water-courses, under the penalty of 2s. Sterling for each transgression.

VI. No person shall empty any chaff-bed upon any of the streets, lanes, &c. under the penalty of 2s. Sterling for each offence.

VII. No person shall lay down upon any of the streets, &c. any trencher-ashes, rubbish of earth or stone, carth dung from the foundation of buildings, dung, bark, timber, whins, or any such like obstructions, unless the same are immediately to be carried away, under the penalty of 5s. Sterling for each offence. And if any dung be found to have lain upon the streets, &c. for the space of three hours, the tackman of the street-dung is hereby authorized to carry the same away for his own use.

VIII. No person shall hew any stones upon the streets, without permission from two of the Commissioners of the District in writing, under the penalty of 5s. for each day's work of a man so employed.

IX. No swine shall be permitted to feed or straggle upon the streets, at any time, otherwise the owner shall be liable in the penalty of 2s. 6d. for each transgression.

X. No person shall shake any carpet or floor-cloth over any window whatever, at any time; or even in any part of the street, after 7 o'clock in the morning in Summer, and 9 in Winter, under the penalty of 2s. 6d. for each offence.

XI. The pollster of every house shall sweep, at least once every week, the common stair immediately below his own house, and

keep the same clean; and if the floor immediately below his own is not tenanted or possessed, he shall sweep down stairs of the floor which shall be polluted, under the penalty of 1s. Sterling for each week's neglect.

XII. As timber spouts, for carrying nuisances from houses, by experience, been found to be inconvenient for the neighbourhood, and extremely prejudicial to the walls and foundations of the houses, they are hereby prohibited, and any such spout to be removed within thirty days after this date, under the penalty of 10s. Sterling.

XIII. The proprietors of ground lying along the foot-roads shall be obliged, either to build parapet walls, or put up railings, railing along such of their ground as lies lower than the foot-roads, so as to prevent passengers from falling, under the penalty of 10s. Sterling, if the same is not done within eight days after such proprietor is required to do so, in written order under the hand of two Commissioners.

XIV. No person shall tie or make fast any horse, or other beast, to any lamp-post, iron or wooden rail, under the penalty of 10s. Sterling for each offence.

XV. No person shall carry, or drive, on any of the foot-paths within the districts, any tier, sedan-chair, sledge, wheel-barrow, coach, cart, or other carriage; or drive any horse, ass, or other cattle, under the penalty of 5s. for the first, 10s. for the second, and 20s. for the third offence.

XVI. No person shall play at foot-ball, throw stones, squibs, rockets, or any kind of fire-work, or any thing which endangers passengers, in any of the streets, areas, &c. under the penalty of 2s. 6d. for each transgression.

XVII. All signs, of every kind, projecting out from the houses, are hereby prohibited, and appointed to be taken away, under the penalty of 10s. Sterling.

XVIII. No person shall wilfully take away, break, throw down, or damage any of the lamps, lamp-posts, or irons, or extinguish the lamps; under the penalty of 2l. Sterling for each lamp, lamp-post, or iron, extinguished, damaged, taken away, or thrown down, besides making full satisfaction for such damages.

XIX. NOTWITHSTANDING what is contained in article 7th relating to the earth dug out from the foundation of houses being immediately carried away, it shall be lawful for any two Commissioners, by a mandate under their hands, to grant permission for such earth to lie for twenty-four hours, in case the person concerned shall confine in their hands 10s., to be forfeited in case the same is not by that time carried off.

Note, THAT by the word nuisance, is meant all dung, filth, herbs, ashes, dust, bark, rubbish, whins, and foul-water; and the word streets, comprehends all streets, alleys, squares, lanes, closes, areas between houses and the streets, avenues, or passages, within the Districts.

WHOEVER gives information to the Commissioners in any District, of any person guilty of any of the above offences, shall be entitled to one half of the penalty incurred by such offence.

THE General Meeting appoint the above Regulations to be reprinted, and dispersed through the Districts, and all public places therein, that none may pretend ignorance.

N. B. The Commissioners hereby give Notice, That the Constables of the Districts are empowered to enforce the Strict Observance of these Regulations, and to demand the same of the Transgressors; and all Masters and Mistresses of Families, are required to give strict Directions to their Servants to pay due Obedience to them.

18th MAY 1801.

BULLETIN CONTACT

The Editor of the Bulletin is Ray Footman, University Information Officer.

Contributions — including letters — intended for the next issue of the Bulletin, the last this term, should reach the Editor as soon as possible and not later than morning post on Monday, 29 May. Information Office, Old College, Tel. 667 1011 ext. 4254.

Renaissance Singers in Rome

Fourteen people under the Singers' musical director, Colin Heggie, recently spent 2 weeks in the Castello Caetani, Sermoneta (Latina), and sang at the following places: St Andrew's Presbyterian church and St Paul's Episcopal church, Rome; Sermoneta cathedral; the Gregorian university, the Scots College and the Centro pro Unione, Rome. In addition, the group recorded for Tele-Lazio and, after attending a papal audience, for Radio Vatican's "Four Voices" programme.

For this, their first trip abroad, the group gratefully acknowledge financial assistance from the following sources: The Norman Kemp Smith Fund (EU), the EU Students' Association, the Centro pro Unione and the Fondazione Caetani.

Art History students in the National Galleries

Seven art history students from Edinburgh University are taking part in a new programme organised by the National Galleries of Scotland in conjunction with the University's Fine Art Department.

The first of its kind in Britain, the programme SPEAKING ABOUT ART is an attempt to give students a more detailed introduction to the workings of art museums and at the same time give them an opportunity to make some practical use of their studies by lecturing to the public.

The organisers of 'Speaking about Art' are Christopher Johnstone, Assistant Keeper in charge of Education and Information for the National Galleries of Scotland and Elizabeth Childs, a post-graduate student at the University with considerable experience in museum education gained at the Metropolitan Museum of Art, New York and elsewhere. Ms Childs has been employed as a consultant by the Galleries and has been instrumental in the setting up of the programme at this time.

SPEAKING ABOUT ART lectures are being given in the rooms of the National Gallery and are free. No reservations or tickets are required. The lecture programme details are being announced in the press and are also available from the Galleries.

The 1900 version of the regulations for the George Square Gardens, published in Bulletin No. 7 prompted one of our readers to produce an earlier set for George's Square and the surrounding areas. Our thanks go to the Anglican Chaplain for the loan of his print.

Court meets the next time this term on 29 May. Senatus meets for the last time this session on 5 July.