

General Board
Review of Teaching and Learning Support Services

There will be a meeting of the Review Committee at 11.30 am on Monday 11 February 2008 in the Academic Secretary's room, The Old Schools, Trinity Lane, Cambridge

AGENDA

1. Introductions and Apologies for absence

A paper listing the membership of the Review Committee is enclosed (Paper No. 1)

2. Terms of Reference

A paper summarising the background to the establishment of the Committee and setting out the Committee's terms of reference is enclosed (Paper No. 2). The Chairman will report further.

3. Background information

The following papers are enclosed:

- Report of the General Board Departmental Reviews Committee to review the University Library (Paper No. 3a)
- Most recent planning statements and Annual Reports for the following institutions:
 - University Library (Paper No. 3b)
 - University Computing Service (Paper No. 3c)
 - Language Centre (Paper No. 3d)
 - Centre for Applied Research in Educational Technologies (CARET) (Paper No. 3e)
- Summary of funding of the above institutions (Paper No. 3f)
- Report of the Pedagogic Support Providers' Coordination Group (Paper No. 3g)

4. Procedure of the Committee

The Committee will need to discuss their approach to the terms of reference and their programme of work including:

(a) Consultation within the University

It would be normal practice to publish a Notice in the *Reporter* informing the University of the establishment of the Committee and inviting comments from interested parties.

(b) Interviews with key stakeholders

The following are suggested:

the University Librarian

the Directors of the University Computing Service, the Language Centre, and the Centre for Applied Research in Educational Technologies

Professor John Bell, Chairman of the General Board's Committee on Libraries

Ms Fran Butler, Assistant Director (Human Resources) responsible for Staff Development

Professor Dick Taylor, Director of the Institute of Continuing Education

(c) Further external advice

Are there other persons whom the Committee wish to consult?

5. Date of Next meeting

Please bring diaries.

General Board

Committee to review Teaching and Learning Support Services

Membership

Chairman

Professor Andy Cliff

PVC (Human Resources), Department of
Geography

Professor Tony Badger

Master of Clare College, Faculty of History and
Chairman of the Colleges Committee

Dr Nick Bampos

Department of Chemistry, Senior Tutor Trinity Hall

Mr Peter Coultard

Cambridge University Students Union (CUSU),
Academic Affairs Officer

Mr Simon Lebus

Chief Executive Cambridge Assessment

Professor Melveena McKendrick

PVC (Education), Department of Spanish and
Portuguese

Professor John Morrill

Faculty of History

Ms Jan Wilkinson

University Librarian and Director of the John
Rylands University Library, University of
Manchester

Professor Steve Young

Department of Engineering, Chairman of the
Information Strategy and Services Syndicate, and
Chairman of the Committees of Management of the
Centre for Applied Research in Educational
Technologies, and of the Language Centre.

Secretary

Graham Allen

Academic Secretary

Assistant Secretary

Julian Evans

Assistant Registry

(revised 5/10/07)

UNIVERSITY OF CAMBRIDGE

Paper No. 2

General Board

Proposed review of teaching and learning support

1. At their meeting on 6 June 2007 the Board considered proposals from the Pedagogic Support Providers Coordinating Group for the greater coordination of central support for teaching currently provided, albeit in a fragmented way, by various institutions including: the Language Centre, the University Computing Service, Centre for Applied Research in Educational Technologies (CARET), Staff Development and the Academic Division. In particular the Board considered whether to set up a Pedagogic Steering Group, as a first step, as recommended by the Education Committee. The Board agreed not to proceed immediately with that recommendation, but to await the outcome of further discussions by the officers about the appropriate structure, taking account also of the review of the future of CARET which is coming to the end of its current phase of funding.
2. In the course of 2006-07 an Advisory Committee was commissioned by the Vice-Chancellor to advise her on the future development of the University Library, in the context of the University's development programme. The Committee's principal strategic recommendations were :
 - a) the need for greater integration of the University's libraries and to accelerate progress towards a single Cambridge library system managed through a Director of Library Services; and
 - b) that a rapid expansion of the use of e content should become a key objective for the University Library and that consideration should be given to broadening its role to become a learning resource for undergraduates as well as the research community.

While not a prerequisite for future fund-raising, the Advisory Committee were of the view that opportunities for fund-raising would be enhanced if these recommendations were adopted.
3. Against this background, the officers have concluded that it would be appropriate for the Board to set up a Review Committee with the following terms of reference :

To review the University's provision for the support of teaching and learning, and to make recommendations for the future having particular regard to :

 - the provision of high quality, cost-effective services to students and staff of the University
 - ensuring a leading and innovative role in the use of e media in support of learning at both the undergraduate and graduate level

- the physical location of these activities and possible infrastructural requirements
- resource requirements and opportunities for fund-raising
- future arrangements for the organisational structure and governance of these activities
- the development of the University library system.

General Board Departmental Reviews

Standard Review of the University Library

The membership of the Review Committee was as follows:

Nominated by the University Library Syndicate and appointed by the General Board:

Professor R Parker (Faculty of Music, Chairman)

Professor J Sanders (Department of Chemistry)

Dr R Carr (Director of University Library Services and Bodley's Librarian, University of Oxford), External Member

Appointed by the Syndicate:

Dr C Howe (Department of Biochemistry)

Professor J Morrill (Faculty of History)

Secretaries:

Miss M Chalk

Dr P Harland

The Review Committee first met on 3 December 2003 for a preliminary discussion and were given a tour of the University Library on 18 February 2004. The Committee met again on 19 February 2004, at the University Library (UL), and had meetings with the University Librarian, the Chairman of the Library Syndicate, the Deputy Librarians, the Senior Management Team, middle and junior officers and assistant staff, a group of users, the librarians of the three dependent libraries and of five Faculty and Departmental Libraries.

Overview and main recommendations

The Committee were in general extremely impressed by the management, organisation and high quality of service provided by the UL. Particular praise should go to the University Librarian and his deputies, who have continued to produce enormously impressive results under very difficult financial circumstances.

There is, in the Committee's view, no need to institute a Full Review.

There are, however, a number of key issues that merit the attention of the General Board. These are outlined in detail in the full report, but can be summarised here. Unsurprisingly, most of the recommendations involve the deployment of additional resources, although the Committee have striven hard to suggest efficiency gains to offset the additions they think necessary.

1. Various services within the UL are close to crisis. There has been a relentless and unavoidable growth in the volume and relative cost of some key parts of the UL's holdings, such as journals, e-publications and databases. In addition, an ever greater number of staff and volume of renewable equipment is needed to service the UL's steadily increasing number of users. Pressures are especially acute in cataloguing, conservation and maintenance. These matters can best be highlighted by comparisons with the Oxford library system (see the Full Report, section 4), which demonstrate that Oxford funds its central libraries at a significantly higher level than does Cambridge (notwithstanding the various factors that lead to higher costs in Oxford). Unless further resources are found, or non-damaging efficiency savings identified, the situation of the UL is bound to deteriorate.

2. In the long term, radical solutions to the shortfall in funding will have to be found. However, additional central funds are unlikely to emerge in the present financial circumstances. The only realistic proposition is thus to identify where savings are possible. The principal manner in which savings can at present be made is by a thoroughgoing attempt to reduce duplication among the University's libraries. To mention the most obvious case, the cost of scientific journals is rising at a rate over three times that of inflation, and many journals are routinely duplicated. While the larger question of the escalating cost of scientific journals needs to be addressed at the highest level, and cannot be solved by this University alone, the situation at Cambridge could be substantially helped in the short term if more Faculties would agree to reduce duplications and transfer the savings to a fund managed on behalf of all. (Some initiatives in this area are under way, but experience with the biological and chemical journals scheme shows that reorganisation places a heavy burden on existing staff.) Although the major cost savings will be found in the Sciences, there is also avoidable duplication of resources in the Humanities. The General Board needs to help the UL in implementing this cost-cutting exercise as a matter of urgency and to ensure that savings are shared between the Faculties and the UL.
The Committee recommend that a senior post be created, under the direct supervision of the University Librarian. The immediate remit of this post will be to implement further co-ordination and sharing of resources between the various libraries under the jurisdiction of the General Board; a longer-term objective will be to find ways in which the University's entire library system can be streamlined and more effectively co-ordinated. The Committee are confident that the recurrent cost of such a post will easily be recouped by the recurrent savings made.

3. In light of the advent of the RAM, the representation of the UL at the highest financial levels needs reconsideration. The University's present committee structure is cumbersome, and sometimes allows decisions to be made without a view to their financial implications for the UL.
The Committee recommend that the General Board merge the Library Syndicate and the Committee on Libraries, forming a new body, perhaps called The Committee for Libraries in the University, and chaired by a Pro-Vice-Chancellor. The Committee further recommend that the University Librarian sit on the Planning and Resources Committee and that he receive the papers of the General Board.

4. Given the present financial situation of the University, it would be unrealistic to request the major funding increase that the UL urgently requires. However, the UL by its very nature inexorably expands, and now lives permanently on the edge of crisis.

The Committee recommend that, at the least, the UL be spared further cuts as a result of the University's financial situation, even if this results in a further drain on other resources.

Full report

- 1) *The Library's role both within the University and as a national legal deposit library, its arrangements for service provision and liaison with its users, and for the quality assurance and enhancement of those arrangements.*

A particular problem now facing the UL is the receipt of electronic materials both by subscriptions and under an extension of the legal deposit arrangements. These additional new materials are bringing significant challenges in terms of administration, particularly in making them accessible and in archiving them for the long term. Enduring access to electronic publications is more problematic than for paper copies, and the costs of long-term curation are not trivial. No financial assistance is currently provided for Oxford and Cambridge from the funding council in respect of the receipt and storage of electronic legal deposit materials. Although £1.3 million p.a. is received in respect of non-electronic materials, this is not enough to cover existing costs, let alone the added ones involved.

The UL routinely monitors its services. Users can fill in comment forms, which are read by the University Librarian and a Deputy Librarian, who either deal with the matter themselves or pass it on to others for action. The users group were extremely complimentary about the standard of service they received, and felt that their views were invariably taken seriously.

In an earlier review of the UL it was suggested that a printed handbook of all library resources be made, as has happened at the University of Oxford. The Committee concluded that there is now no need for the UL to produce such a handbook, as all the necessary information is conveniently available on the web.

- 2) *The resources available to the Library, including staff, accommodation, equipment, etc.*

A) Staff

UL services are maintained with great difficulty owing to an acute shortage of staff. The Head of Reader Services regularly has to rely on the willingness of staff to undertake voluntary late duty to cover for sickness; senior staff are often obliged to carry out routine tasks because there are not enough people to whom they can delegate—on occasions the University Librarian himself has had to close down the library at night, a task that takes more than one hour to complete. In part because of these shortages, the Senior Management Team feel that their portfolios of responsibilities are often too great. The constant increase in the collection also means that ever more staff are needed for cataloguing and repair. There are backlogs of repairs to books as well as a lack of money for basic maintenance. The situation is aggravated by rates of pay outside the University, which make recruitment of certain categories of assistant staff very difficult. Finding maintenance staff has become particularly problematic. Even for more specialised posts, the range of candidates applying is not as good as the UL needs it to be.

Staff in the UL spend an increasing amount of their time in teaching people (especially M Phil students) how to use the facilities of the library, particularly the electronic resources. The users group confirmed that such induction is very well done, a fact the Committee applaud. The UL also has a Staff Development Group, which oversees a programme of training both for its staff and for those in the dependent libraries. A number of staff are pursuing further study and some are given day release to attend courses in London and those organised by CILIP. Time has been spent on finding out how libraries of other universities undertake staff development so that good practice can be followed. Staff are encouraged to undertake training, and are in general enthusiastic about the opportunities offered them.

Staff are helpful to those with special needs and a room is currently being converted near the Newton terminals, housing equipment for disabled people. All those with special needs have an interview with a member of the UL staff to assess their requirements. However, it was suggested that wheelchair access could be improved. The users group also mentioned that children are not allowed to accompany parents into the UL and that some student parents found this has an adverse effect on their studies.

B) Space

The UL, in common with most libraries, is constantly in need of further space. The new extension currently being built on the west side of the UL will provide for about ten years' growth, and represents the penultimate phase in the current building programme. The final phase, providing accommodation for about another ten years' intake, has been approved but not yet funded. There is land beyond the west end of the library that could be used for further expansion.

Despite the vast increase in electronic media, there is little sign that the need for hard copy material is diminishing. One possibility might be for the Universities of Oxford and Cambridge to investigate the sharing of storage facilities. However, this would be hard to achieve in practice, particularly as it would involve off-site premises: off-site stores are costly to run, particularly in terms of staff, and they also bring service delays to library users.

The Committee recommend that the next Standard Review, in six years' time, give the matter of future space provision very careful consideration.

C) Cataloguing

The general lack of resources has led to a major cataloguing backlog, one at present growing ever larger. Over 120,000 books come into the UL under legal deposit each year; the current backlog in cataloguing is about 500,000 items. While the backlog will be eradicated only by a major injection of additional resources, some improvement could come with further harmonisation (and thus sharing) of catalogue records between the UL and Faculty and Departmental libraries.

Although users find the staff extremely helpful, the catalogues can be difficult to use and are not sufficiently well integrated.

D) Opening hours

Saturday afternoon opening, an important and greatly-valued extension of the UL's service, is being maintained, but there remains concern about how to fund this in the long term. The cost is £90,000 per year, of which the General Board has guaranteed one third; Trinity College has supplied another third for five years (but is unlikely to renew its grant), with the remaining money coming from HEFCE/RSLP access funding. When the Trinity fund expires, Saturday afternoon opening will again be in jeopardy.

E) Equipment

Lack of resources means that the replacement cycle for equipment is lengthy, and that more is spent on repairs than the UL would like. Automation equipment forms a large part of the expenditure and a major investment was made in the last upgrade. The bindery and conservation department also requires expensive equipment. Owing to the recent round of cuts, the UL at present receives no more than half of what it needs for equipment funding.

3) *The organisation, management and administration of the Library.*

It is widely felt that the division between the Library Syndicate, which supervises the UL, and the Committee on Libraries, which advises the General Board on Faculty and Departmental Libraries, is cumbersome, and sometimes allows decisions to be made without a view to their effect on the UL. What is more, the network of Faculty and Departmental Librarians does not provide the basis for optimal co-operation. The Sidgwick Site Libraries Group, for example, has not met for two years.

The Committee recommend that the General Board merge the Library Syndicate and the Committee on Libraries, forming a new body, perhaps called The Committee for Libraries in the University, and chaired by a Pro-Vice-Chancellor.

In light of the advent of the RAM, the representation of the UL at the highest financial level also needs reconsideration.

The Committee recommend that the University Librarian sit on the Planning and Resources Committee and that he receive the papers of the General Board.

4) *The future development of, and prospects for, the Library's work.*

In part for the reasons outlined above (see 2 and 3), various services within the UL are close to crisis. There has been a relentless and unavoidable growth in the volume and relative cost of some key parts of the UL's holdings, such as journals, e-publications and databases. In addition, an ever greater number of staff and volume of renewable equipment is needed to service the UL's steadily increasing number of users. Pressures are especially acute in cataloguing, conservation and maintenance. These matters can best be highlighted by comparisons with the Oxford library system: the University of Oxford funds its central libraries at a significantly higher level than does Cambridge (notwithstanding the various factors which contribute to higher costs in Oxford). Unless further resources are found, or

non-damaging efficiency savings identified, the situation of the UL is bound to deteriorate.

Central libraries in Oxford and Cambridge: a comparison (Figures at July 2002)

	Oxford	Cambridge
Total space (m ²)	66,312 (62,546 OULS + 3,766)	60,393
Total staff (ftes)	585 (558 OULS + 27)	413
Total staff expenditure (£millions)	12.775 (12.25 OULS + 0.525)	8.28
Total expenditure (£millions)	21.9 (20.57 OULS+ 1.33)	16.41
University allocations to central libraries as % of total Univ. exp.	3.37% (=£13.81m: £410m)	2.17% (=£9.8m: £450.24m)
Total central library exp. as % of total Univ. exp.	5.34%(=£21.9m: £410m)	3.64% (= £16.41: £450.24m)

["Central libraries" includes the UL, dependent, faculty and department libraries, but not college libraries.]

(A) Reduction of duplication

A principal manner in which savings could be made is by a thoroughgoing attempt to reduce duplication among the University's libraries. To mention the most obvious case, the cost of scientific journals is rising at a rate at least three times that of inflation, and many journals are avoidably duplicated. (Departments in the School of the Biological Sciences have pooled their journals acquisition budgets with those of the UL and its dependent libraries; however, only the Department of Chemistry from the School of the Physical Sciences has joined the scheme.) The UL's finances could be significantly aided if more Faculties would agree to reduce duplication and transfer the savings to a fund managed on behalf of all. Although the major cost savings would be found in the Sciences, there is also avoidable duplication of resources in the Humanities. The General Board needs to help the UL in implementing this cost-cutting exercise as a matter of urgency and to ensure that savings are shared between the Faculties and the UL.

The Committee recommend that a senior post be created, under the direct supervision of the University Librarian. The immediate remit of this post will be to implement co-ordination and the sharing of resources between the various libraries under the jurisdiction of the General Board; a longer term objective should be to find ways in which the University's entire library system can be streamlined and more effectively co-ordinated. The Committee are confident that the recurrence cost of such a post will easily be recouped by the recurrent savings made.

B) The cost of scientific journals

The high price of some journals in the sciences is a serious concern, particularly those published by Elsevier. The issue is likely to come to a head at some stage. The quality of the journals that Elsevier produces varies across different subjects, but the University has to sign up to an entire, and extremely costly, package. Some academics are refusing to publish with Elsevier, but this seems at present to be having little impact. This matter

clearly needs to be addressed at the highest level, and cannot be solved by this University alone.

The Committee recommend that the University actively work towards co-ordinating with other major research Universities to find ways in which the spiralling cost of scientific journals can be controlled.

C) External users

The issue of whether some external users should be charged for access to the UL's facilities is fraught with problems, but should be addressed.

Cambridge MAs not otherwise attached to the University are at present permitted to borrow from the library free of charge. They constitute a large proportion of the UL's total user pool. It would probably be unacceptable to charge this group for access, but an annual fee for borrowing might be possible. Those who use the UL for commercial purposes should certainly be charged if it is economical and feasible to do so.

The Committee recommend that serious consideration be given to charging certain categories of external users of the UL.

5) *The relationship of the Library with Faculties and Departments.*

Some progress has been made since the 1992 Review in improving the co-ordination of Faculty and Departmental libraries across the University, though not as much as that report recommended. The business of reducing duplication between libraries is addressed above (see 4A).

The question of whether the University Librarian should become the Director of Library Services in the University in order to improve co-ordination and the management of resources needs to be considered further. Such a change would, however, only be viable if the Librarian also had some control over the libraries' budgets. There would be considerable financial advantages if more Faculty and Departmental libraries became dependent libraries of the UL.

More radical still, there is long-term potential for considerable savings on several sites if certain departmental libraries were physically merged. Given that disciplinary boundaries are becoming blurred, there is increasing overlap between subjects taught on the Sidgwick Site, for example. A single library for all subjects on the site would offer substantial savings in terms of staffing. Similarly, having just one library on the Downing site would both save money and improve co-ordination.

One problem with further integration is that libraries have different rules about borrowing rights for undergraduates. Some allow students from other Faculties/Departments a generous borrowing allowance whereas others are more restrictive. The General Board might take a view on whether equality of borrowing should be imposed. This could be a first step to a more unified system.

The Committee recommend that further consideration be given to making the University Librarian the Director of Library Services, with control over the necessary budgets, and to possible mergers between departmental libraries. Even when libraries cannot be brought together, borrowing rights and other matters might be more fully co-ordinated.

6) *The income and expenditure attributable to the Library.*

Given the present financial situation of the University, it would be unrealistic to request the major funding increase that the UL urgently requires. However, the UL by its very nature inexorably expands, and now lives permanently on the edge of crisis.

The Committee recommend that, at the least, the UL be spared further cuts as a result of the University's financial situation, even if this results in a further drain on other resources.

The University Librarian has been successful at raising large sums of money for new projects and buildings, but there is no one in the UL whose sole job it is to raise funds. There may be advantages in having one person whose sole responsibility is library fundraising, especially fundraising in support of more routine needs.

The Committee recommend that further consideration be given to improving the UL's arrangements for fundraising.

Professor R Parker (Chairman)

Dr R Carr

Dr C Howe

Professor J Morrill

Professor J Sanders

CAMBRIDGE UNIVERSITY LIBRARY

LIBRARY SYNDICATE

RESPONSE FROM THE LIBRARY SYNDICATE TO THE REPORT OF THE
GENERAL BOARD'S STANDARD REVIEW OF THE UNIVERSITY LIBRARY

The Library Syndicate welcomes the main findings of the report and, in particular, notes with gratification the recognition of the high quality of service provided by the Library staff under very difficult financial circumstances. Though recognising that, in the University's present financial situation, it would be unrealistic to expect that the University Library to receive significant additional funding from the UEF, the Syndicate strongly supports the recommendation that the Library should be spared any further financial cuts, even if this places further strain on resources available to other areas.

The Syndicate has been clear for some time that pressure to maintain services to readers with an inadequate number of staff has placed a considerable strain on the senior management of the Library, with the result that some staff work very long hours and are frequently required to carry out routine duties, at the expense of planning and strategic development. This general shortage of staff is exacerbated by the problems of recruitment, particularly in T and M grades, which have been drawn to the attention of the General Board on a number of occasions. The failure to fill these posts has a direct impact on readers. Such postholders would be trained to operate the alarm system and thus be part of the pool of staff required to close the building in the evening, without whom early closures will continue to be inevitable. The Syndicate urge the Board and the Personnel Committee to give urgent attention to this problem of recruitment, which, as far as is understood, is by no means confined to posts in the Library.

The report correctly draws attention to the backlog of uncatalogued books, something on which the Syndicate has also reported on a number of occasions. However, it should be noted that books are allocated various levels of priority on receipt, so that those most in demand are put through the cataloguing process rapidly, whilst those left as the lowest priority are mainly books with non-academic content received under legal deposit, which by their very nature are unlikely to be wanted in the short-term. Nonetheless the comparison with the situation in Oxford is telling, and the backlog is, for the most part, a direct result of lower (insufficient!) staffing levels.

The Syndicate is aware of the need to improve the integration of the catalogues. The introduction of the Newton system in 2002 provided the basis for this, by permitting several of the disparate databases to be merged. The Greensleeves Project, due for completion in 2005, will allow access via Newton to all 1.6 million records in the guardbook catalogue, and the Library's *Strategic Directions 2003-2005* sets out aspirations for further integration of the catalogues.

The report refers on a number of occasions to the need for greater co-ordination of library services across the University. The Syndicate strongly supports the view that this matter should be addressed, and notes that, with the introduction of the Voyager library management system and the holding of workshops on the crisis in scholarly

communication, the University Library is already taking a lead in addressing some aspects of collaboration. However, there is resistance from some schools to an extension of the money-saving scheme for the co-ordination of journals holdings which currently operates in the biological sciences and chemistry. The Syndicate supports the recommendation of the Review Committee that the time may shortly be ripe for the establishment of a post of Director of Library Services, with direct managerial responsibility for all the University's libraries, along the lines of the Oxford model. The Syndicate believes that the General Board should provide more active support for the Librarian's efforts to bring greater co-ordination and reduced duplication of resources within the University's library system, even if this means a loss of autonomy at faculty level. The Syndicate views the recommendation that a new post should be created to assist the Librarian in implementing such co-ordination as a major step in the right direction and urges the General Board to approve the funding for such a post as soon as is financially prudent to do so. The Syndicate hopes that the General Board will ask the Pro-Vice-Chancellor with Special Responsibilities to take forward these ideas with the University Librarian in a timely manner.

Similarly, there would be an inescapable logic in having one body responsible for the libraries of the University and the time should come when a merger of the Library Syndicate and the Committee on Libraries would be appropriate. However, the two bodies currently have quite different roles: the Syndicate has a clear responsibility to supervise the management of the University Library, whilst the Committee on Libraries simply advises the General Board and has no managerial or other authority. The Syndicate believes that such a merger should take place either in the wake of other changes to the system, or when such changes have been agreed, and when the new body could be given the responsibility of implementing them.

In the meantime, the Syndicate strongly support the recommendation that the Librarian should become a member of the Planning and Resources Committee and receive the papers of the General Board.

Other recommendations in the report, such as the possibility of charging for borrowing by non-resident MAs and greater support for fundraising, will be addressed by the Syndicate during the coming academic year.

A.D. Cliff
Chairman

May 2004

CAMBRIDGE UNIVERSITY LIBRARY

1. OPERATING STATEMENT FOR 2008-9

2. OPERATING STATEMENT FOR 2007-8 (SHOWING ACHIEVEMENTS TO DATE AGAINST PLAN)

3. OPERATING STATEMENT FOR 2006-7 (SHOWING ACTIVITY AGAINST PLAN)

1. OPERATING STATEMENT FOR 2008-9

- If SRIF4 funding is approved, Phase 6 extension works to be on site
- Transfer of the Agency for the Legal Deposit Libraries from Cambridge's administration to the National Library of Scotland
- Changes to Journals Co-ordination Scheme to be implemented as determined by Steering Committee and RMC
- Recommendations of the General Board's Review of Teaching and Learning Support to be implemented
- Recommendations of the review of the Central Science Library to be implemented
- Digitisation programme for manuscripts and other special collections to be started
- Medical Library refurbishment and withdrawal of stock

2. OPERATING STATEMENT FOR 2007-8 (SHOWING ACHIEVEMENTS TO DATE AGAINST PLAN)

- If SRIF4 funding is approved, begin work on Phase 6 extension
Approved by PRC and funding in place once SRIF4 announced
- Review the Library's estates policy in the light of consultation about long-term storage for little-used print journals, especially in science and medicine
Review of Central Science Library under way, plans for offsite storage of material from Medical Library in hand
- Continue process of co-ordinating selection, purchase, and cancellation of both print and electronic journals across the University
Steering Committee established from early 2008
- Continue replacement of mobile bookstacks with no break in service to readers
Project on schedule for completion in 2008
- Using 2006 Wolfson grant, undertake refurbishment of Map Department
Project on schedule for completion in 2008
- Establish 'Visiting Committee' to support fundraising.
Committee established. First meeting took place October 2007

- Develop ongoing digitisation programme for manuscripts and other special collections
Was awaiting appointment of new head of Imaging Services. Now in post and plans being drawn up
 - If a second Wolfson grant application is made and is successful, begin physical restructuring of Medical Library
Applications successful (£200,000). Work to take place 2008
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3. OPERATING STATEMENT FOR 2006-7 (SHOWING ACTIVITY AGAINST PLAN)

- Ensure continuation of co-ordination post
Now included in recurrent budget
- Implement a co-ordinated system of journal selection, purchase, and cancellation across the University, with appropriate transparency and consultation mechanisms
CSBS, CSCS, CSPS, CHSS and ?CST now agreed to join scheme
- If funding application to Mellon for conversion of catalogue of 19th-century secondary legal deposit material is successful, begin conversion work
Application successful (\$1 million). Project under way.
- Continue replacement of mobile bookstacks with no break in service to readers
Project on schedule for completion in 2008
- Implement technology changes funded through SRIF3
On target for completion spring 2008
- Roll out DSpace as a full service to the University
Delay in filling of posts in 2006-7. Posts now filled and liaison with departments in the University about to start

P.K. Fox
Librarian

November 2007

CAMBRIDGE UNIVERSITY LIBRARY

Planning Round 2007

⌚③ Are there significant changes to your plan?

- Requests for an increase of £79,000 to cover exceptional increases in journals costs and £111,000 as a contribution towards staff costs that cannot be met from within the capped figure.
- The planned transfer of the Agency for the Legal Deposit Libraries from Cambridge's administration to the National Library of Scotland during 2008 will have an impact on the trading accounts but will be largely cost-neutral.
- No other significant changes are envisaged unless the Journals Co-ordination Steering Committee recommends (and RMC approves) the transfer of budgets for journals expenditure from the UL and Schools participating in the Journals Co-ordination Scheme (CSBS, CSPA, CSHSS and ?CST) to Administered Funds for 2008-9. This proposal is to be discussed at the Journals Co-ordination Steering Committee meeting in January 2008.
- Request for an increase of £40,000 to cover additional services at the Medical library – this all to be met as an additional charge on the Clinical School agreed by the School.

⌚③ What are the recent developments in your service delivery?

- Technology changes funded through SRIF3 are in process of being implemented:
 - introduction of software (OpenURL resolver) allowing users of the Newton catalogues, Google Scholar and commercial databases to link directly from references to full-text articles in e-journals
 - linking from Amazon to Newton
 - improved A-Z portal for e-journals and user-friendly tools for searching Newton from browser toolbars
 - additional servers and other hardware acquired to support DSpace expansion; tender in progress to acquire further hardware to accommodate additional content over the next 3-4 years
 - all public computers equipped with flat screens and additional PCs provided for public use in main University Library reading rooms and Medical Library
 - tender in progress for federated search software to facilitate searching across multiple databases; target implementation date summer 2008.
- Roll-out of wireless access in the Squire Law Library, Medical Library and several parts of the main University Library building.
- RSS feeds established from main the University Library and Medical Library.
- Two major new packages of e-journals: Project Muse (Social Sciences and Humanities) and PsycINFO (Psychology and Biological Sciences).
- DSpace posts now filled – institutional digital repository being rolled out as a full service to the University.
- Map Room refurbishment - on target and due for completion spring 2008. Funding: Wolfson Foundation + UL.

- Replacement of mobile bookstacks - on target and due for completion 2008. Funding: SRIF3.
 - Online conversion of catalogue of 19th-century secondary legal deposit material - on target for completion 2010. Funding: Mellon Foundation.
 - Direct electronic document delivery of inter-library loan requests to desktops is now provided by the Medical Library.
- ⌚③ Do you anticipate any significant changes driven by activity in Academic Faculties or Departments, other institutions, or by external factors? Of what type?
- The outcome of the General Board's Review of Teaching and Learning Support could have major implications for the Library's future role and direction. Report expected summer 2008?
 - Increasing demand for electronic services will require a shift of resources to these, possibly at the expense of print - it is likely that journals in Science, Technology and Medicine will move to e-only over the planning period.
 - The future use of the Central Science Library is currently under review by the Library Syndicate. Report expected summer 2008.
- ⌚③ Do you have spare capacity? Of what type and what do you propose to do with it? ("Capacity" in this context may be physical or human.)
- Physical and human capacity are both under-resourced rather than over-resourced. There are serious space problems in the main University Library building which cannot be resolved until the completion of Phase 6 extension (2010-11).
- ⌚③ Are there new areas of activity which you hope to invest in? Is funding available? Can you recycle resource to achieve investment? What activities do you expect to decline?
- As part of the Library's strategy to increase access to its collections, a major digitisation programme for manuscripts and other special collections is being planned for implementation over several years starting 2008. Funding: Trust Funds + external sources as they become available.
 - The demand for and provision of electronic resources will continue to increase; this may have to be at the expense of print provision.
 - Once the Agency for the Legal Deposit Libraries has been embedded into the National Library of Scotland (2009?), it is expected that the processing of legal deposit intake will be rationalised and efficiencies achieved.
 - The Medical Library, with the Clinical School's support, plans to spend an additional £40,000 p.a. (chargeable to the School's RAM allocation) on stock and other resources for clinical students, and on establishing an assistant post previously funded from trading activity.
- ⌚③ What interactions with Schools or other institutions have been or will be established, particularly to achieve improved efficiency or effectiveness?
- The University Library works with Schools, NSIs and colleges to support University-wide library services, such as the Voyager library management system, the e-journals@cambridge and e-books@cambridge services.
 - The University Library, with the Computing Service, provides DSpace as an institutional repository for digital information created in faculties and

departments. Major contributors include Archaeology, Chemistry, Economics, English, Law, Materials Science and Metallurgy, Philosophy, and Social Anthropology. Departments planning to deposit in the near future include Chemical Engineering, Earth Sciences, Social and Political Sciences, Scott Polar Research Institute.

- A co-ordinated system of journal selection, purchase, and cancellation across the University, with appropriate transparency and consultation mechanisms, is now almost complete.
- It is expected that this level of co-ordination will extend to e-books as their use grows over the next few years.
- The Medical Library and the Clinical School are collaborating in a phased transfer of space from library shelving to study rooms and related educational activities that will eventually be administered by the Clinical School.#

③③ How do you anticipate your staff profile changing over the planning period? Do you have any plans for reorganisation of staff?

- The staff profile is unlikely to change significantly – the gradual shift of staffing resources to support electronically-based services will continue.
- The management of the Medical & Science Libraries was restructured in 2007.
- With the probable retirement in 2008-9 of the Head of Special Collections and Collection Management the management of those activities will be reviewed.

③③ What contribution is the 800th Campaign making to your plans?

- A Visiting Committee has been established with the collaboration of the Vice-Chancellor and the Development Office to provide support and advice for development activities.
- Potential donors are being cultivated and a 'shopping list' of funding opportunities has been agreed with the Development Office. These are both incremental and substitutional in nature.
- A donation of \$500,000 from a private benefactor was obtained in August 2007, £200,000 from the Mellon Foundation in September 2007, a very significant in-kind gift is expected in early 2008, and further solicitation plans are in hand.

③③ How are you intending to make use of reserves and income sourced from outside the Chest?

- It has been agreed during past Planning Round reviews that reserves will be maintained at a roughly constant level to allow for major one-off purchases (e.g. Newton Papers in 2000, Hengrave Papers in 2006) and to have funds available to meet matching-funding requirements of grant offers (e.g. Wolfson Map Room refurbishment in 2006).
- Some Trust Funds are already allocated as appropriations in aid.
- Remaining Trust Funds are being used as required by their rules. Where there is discretion over their use, they are being spent down to reduce demands on the Chest.

③③ Are there any Capital Projects in development?

- Phase 6 extension. The full case has been approved by PRC and is awaiting SRIF4 decision (all other funding, including recurrent, is in place). Planned start 2008.

- Medical Library refurbishment to take place 2008-9. Funding: Wolfson Foundation + School of Clinical Medicine.
- Replacement or major upgrade of Voyager library management system. A review of the system will be required in 2010 but technology changes mean that it is likely that any upgrade will be modular and incremental rather than total. Funding is included in Centrally Administered Funds (Technology Developments). See RMC Minute 3.3. of March 2006.

⌚③ Are there any significant changes in plan for implementation in 2008-09 to 2011-12 not covered above?

- All planned changes are included above.

Are there any issues of Governance to be attended to at this point?

- The outcome of the General Board Review of Teaching and Learning Support could have implications for the Library's future governance.

⌚③ Are there any other issues for a General Board and Council summary of Planning Round submissions?

- No.

P.K. Fox
Librarian

30 November 2007

CAMBRIDGE UNIVERSITY LIBRARY

ANNUAL REPORT FOR THE YEAR 2006-2007

HIGHLIGHTS

Planning for the future development of the collections (both print and electronic), and their preservation and storage, assumed a high priority this year.

In the area of collection building, all academic Schools except Arts and Humanities have now agreed to join the Journals Co-ordination Scheme. Expenditure from the scheme exceeded £1.5 million during 2006-7, and with the Schools of Humanities and Social Sciences, Technology and the remainder of Physical Sciences joining in 2007-8 this amount will grow considerably. During the year, 70 titles were cancelled, most of them duplicates held in more than one Cambridge library. Fifteen new journals were added as part of the Co-ordination Scheme, as well as one new package (Wiley Interscience Journals).

The University now has access to about 30,000 current electronic journals, either through the Co-ordination Scheme or via subscriptions funded by the University Library. There is still, however, a growing demand for more journals - principally in electronic form - and the establishment of an agreed mechanism to determine the allocation of resources, and increases to those resources, especially from the participating Schools, will be a major issue for the coming year if Cambridge is to continue to provide its users with the materials they require to support their research.

Despite the availability of a growing range of electronic resources, the number of books being published, and the demand for them, show no sign of decline, and space has to be found for the physical volumes of both books and printed journals. The situation in the West Road building has become acute, to the extent that the readers' tables on a number of open-access floors have had to be commandeered to accommodate the overflows from nearby shelves, forcing readers to work on an adjacent floor. The problem is being exacerbated in the short term by the fact that part of the closed stacks is having to be used as decanting space for books and journals temporarily removed from the 1970s mobile cases that are in the process of being replaced by state-of-the-art, easily maintained mobile shelving. That work is on schedule for completion in August 2008, by which time an additional 6.5 km of closed-access shelving will have become available.

It had been hoped that approval would have been given during the year for a start to be made on the final (Phase 6) stage of the extension to the West Road building, which will provide a further 30 km of storage space and release one complete floor of the 1970s West Bookstack (5 km of shelving) for open-access collections. Although the plans proceeded on schedule through the various University committees, the announcement of HEFCE's Science Research Infrastructure Fund (SRIF4) funding, from which much of the cost will be met, was delayed, and at the end of the year that announcement was still awaited.

In the meantime - and given that, even when this extra space becomes available, the amount of shelving for open-access books will be limited - a number of measures have been implemented to ensure that the most recent and most heavily-used books and journals are most easily accessible to users. Most nineteenth-century books and some periodicals have

now been withdrawn to closed-access shelving, in order to give greater protection to the relatively fragile materials for which unsupervised use is no longer appropriate, and the open-access Official Publications have also been moved to closed areas.

As part of the policy of placing materials in the most appropriate building for their principal users, the physical relocation of journals in subjects appropriate to the Betty and Gordon Moore Library began in February 2007. Several titles are being transferred each week and, by July 2007, 335 titles, comprising 10,000 bound volumes, had been moved - approximately 65% of the total scheduled for transfer.

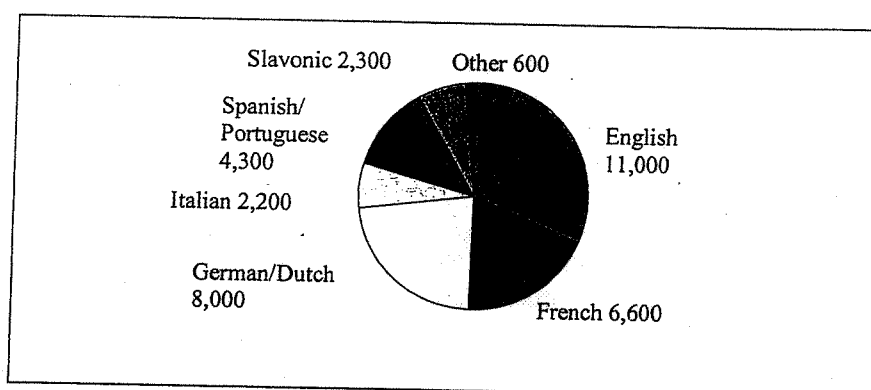
These moves will enable an extensive re-spacing exercise to take place on the South Front and South Wing to restore books to the shelves and return the tables for readers' use. Unfortunately the same relief is not in immediate sight for the north side of the building. Short-term solutions to these problems will be sought, but it is unlikely that there will be significant improvements until the mobile-shelving replacement programme releases some space in 2008.

A switch to electronic-only journals is now being contemplated in some STM (science, technology and medicine) subjects, though many scientists remain cautious about abandoning print altogether. As this switch proceeds, the Library is considering various options for off-site storage and possible de-accessioning, especially of STM journals for which electronic versions exist. The UK Research Reserve programme for the co-ordinated retention of journals across the country means that such an initiative can now be contemplated, and the Library has indicated its willingness to participate in the UKRR programme. Bilateral discussions have also been taking place with University College London Library Services to explore the possibility of sharing the storage of some lesser-used journals in medicine and physics. Once the feasibility of this approach has been tested, users will be consulted on titles to be selected for participation in the scheme.

The Wolfson Foundation's announcement in October 2006 of a second round of bids for capital grants under its CURL Library Programme offered a timely opportunity for the Medical Library to put together a proposal that would help to address two urgent issues: the physical limitations of the building and a shift in priorities towards a greater dependence on e-resources and away from the storage of printed materials. The Foundation awarded the Library a grant of £200,000 towards an estimated cost of £1 million, with the balance to be met principally by the Clinical School, on the basis that this was an important first step towards restructuring the entire upper library floor of the Medical Library as space that could be transferred over the next ten years to the School. Work is scheduled to take place in summer 2008. The project includes conversion of part of the upper library floor into an IT study area to replace more than 1,000m of shelving for journal back-sets. Refurbishment of the lower library floor will include a complete redesign of the entrance area, relocation of the staff workroom, and the creation of small meeting/training rooms for use by both the Library and the School. By undertaking the project the Medical Library has committed itself to deselecting a substantial proportion of its journal back-sets, and, with the aid of a three-month survey of usage, appropriate titles have been identified as candidates for deselection. The proposals will be circulated for consultation among the Library's University, National Health Service and Medical Research Council clientele in preparation for a submission to the Library Syndicate during the coming academic year.

STRENGTHENING THE COLLECTIONS

The continuing weakness of the dollar and a modest increase to the acquisitions budget, made possible principally by greater use of trust funds, permitted a small increase in the number of modern books purchased. About 35,000 books in European languages (including non-UK English-language books) were bought, representing an increase of about 1,000 over the previous year. This compares to about 55,000 volumes received under legal deposit, roughly the same as in 2005-6. The table below shows the breakdown of purchased books by language.



Purchased monographs by language

The provision of full-text electronic resources developed substantially in both the sciences and humanities. The main drivers for growth were the demand for e-journal packages, which led to the acquisition of *Project Muse* and *PsycArticles* journals and four further *JSTOR* collections, the availability of a number of important collections through JISC agreements (*House of Commons Parliamentary Papers: 19th century*, *18th-century British Official Parliamentary Publications*, *Archival Sound Recordings*, and the *Institution of Civil Engineers Virtual Library*), and increased demand for full-text resources for use in teaching and research. MDL Elsevier's *DiscoveryGate* was taken as a replacement for the Beilstein *Crossfire* and *Gmelin* services, adding a further fifteen databases covering bioactivity, pharmacology, metabolism, toxicology, physical properties, chemical sourcing facts and materials science. Through the generosity of Cambridge University Press access became available to its immensely popular *Cambridge Companions Online* series and to the *Historical Statistics of the United States Online*.

The *Oxford Reference Online* collection was acquired to provide the basis of a 'digital reference shelf', making available electronically many of the key reference titles currently housed in the main Reading Room. Recommendations from departments resulted in the acquisition of *Empire Online*, the *Oxford African American Studies Centre*, and *BMJ Clinical Evidence*. The full text literary collection *Literary manuscripts: 17th and 18th century poetry from the Brotherton Library* was acquired jointly with the Faculty of English. Some of the last remaining titles on the CD-Rom network, the *Wellesley Index to Victorian Periodicals* and the *Nineteenth-Century Short Title Catalogue*, migrated to online versions.

The University Library is also supporting ebooks@cambridge, an initiative of the college libraries to provide access to electronic versions of several hundred of the books most used by

undergraduate students. The ebooks@cambridge collection covers all Tripos subjects, and plans for expanding the collection are being developed.

Under the auspices of the Legal Deposit Advisory Panel, the statutory body that advises the Secretary of State for Culture, Media and Sport on matters to do with legal deposit, the Library is participating in a scheme to encourage the voluntary deposit of offline electronic publications (CD-ROMs, etc). The voluntary scheme is scheduled to run for the whole of 2007, and its success or otherwise will then be assessed, with a view to recommending whether legislation under the terms of the Legal Deposit Libraries Act 2003 is required to ensure deposit of these materials.

Legal deposit accounts for about half of the Library's acquisitions of printed music, including both scores and parts. Over recent years there have been two significant changes in the pattern of music publishing which are causing concern for future acquisitions. First is the increase in the number of small, desk-top publishers, not only of newly composed music but also of scholars preparing editions of non-copyright music. These small publishers often slip through the legal deposit net, with the result that good new music and good editions of old music are not being added to the national collections. The second is the amalgamation of established publishing companies, and the consequent move of production out of the United Kingdom, with the result that their publications are no longer being deposited.

MAJOR PURCHASES

Manuscripts

- Miscellaneous papers of the four Macdonald sisters and their husbands: Sir Edward Poynter, Sir Edward Burne-Jones, Alfred Baldwin and Lockwood Kipling, among whose descendents were Rudyard Kipling and Stanley Baldwin
- Autograph letter of Charles Darwin to the geologist David Forbes, 1860
- Further notebooks of lectures of Nicholas Saunderson, the blind Lucasian Professor of Mathematics, 1712-39
- Notebooks of Francis Fry concerning editions of Cranmer's Bible, c.1860
- An English legal commonplace book, c.1620
- Treatises on Spanish monarchy by José Arnolfini, 1662 and 1665
- An autograph poetical notebook of Siegfried Sassoon dated 1952
- The manuscript of Wilson Harris' novel *The Ghost of Memory*

Maps

- Current maps of Malaysia (1:50,000 and 1:25,000), Poland (1:50,000), and Israel (various scales)
- *A map of Friston Hall Estate situate in Friston, Snape, Sternfield, and Knoddishall, Suff: : the property of Richd. Willm. Howard Howardvyse, Esqr. 1823*
Bought with the assistance of the Friends of the Library:
- *A survey & ground plot of the Royal Palace of White Hall: with the Lodgings & Apartments belonging to their Majesties Ao. D. 1680, (London? 1747)*
- *Andrew's new and accurate map of the country thirty miles round London: on which are delineated... His Majesty's palaces, noblemen and gentlemens seats, cities, market towns... all the turnpike & most of the cross roads, with the distances from town to town according to the mile stones (London 1782)*
- *A new map of London (London 1802), possibly the earliest known edition*

- *The environs of Brighthelmstone* (London 1833)

Music

- *Preces que se devem cantar nos dias de Novena, e festa do glorios patriarcha S. Joseph, dignissimo esposo de Maria Santissima Senora Nossa, e pay putativo de Christo* (Lisboa 1724), the bass part of a set of choir part-books for a sequence of litanies and antiphons in honour of St Joseph as celebrated in Lisbon.
- J. Burgmein, *Carnaval vénitien: suite mignonne pour piano à 4 mains* (Milan 1897)
- *La forêt bleue: conte lyrique en 3 actes (d'après les contes de Perrault); poème de Jacques Chenevière; musique de Louis Aubert* (Paris 1912)
- *The favourite songs in the opera call'd Siroe, by Sigr. Hasse* (London 1736)
- *Die Könige in Israël: Oratorium in zwei Abtheilungen..., gedichtet von Dr. W. Smets; in Musik gesetzt von Ferdinand Ries* (Bonn 1837)
- Malcolm Williamson, *Mass of Christ the King* (London 1978), commissioned by the Three Choirs Festival and the Royal Philharmonic Orchestra to celebrate the Queen's silver jubilee and to mark the 250th Three Choirs Festival.
- Manuscript score of G.A. Macfarren (Professor of Music in the University), *Concerto for violin* (1874?)

Rare books

- Jacinto Arnal de Bolea, *El forastero* (Cagliari 1636), the only edition of the most important work of Spanish Baroque literature to spring from the Sardinia of the Golden Age
- Christen Sørensen Severin [Longomontanus], *Introductio in theatrum astronomicum* (Copenhagen 1639), a description of the Tychonic system, by the former assistant of Tycho Brahe at Uraniborg
- Alessandro Senese, *Il vero maneggio di spada* (Bologna 1660), an Italian fencing manual with a superb series of illustrations in the Baroque style by the artist Giuseppe Maria Mitelli.
- Justine Dietrich Siegemund, *Die Chur-Brandenburgisch Hoff-Wehe-Mutter* (Berlin 1690), the first edition of this celebrated work on obstetrics by the court midwife to the King of Prussia.
- Pietro Arduino, *Animadversionum botanicarum specimen [-specimen alterum]* (Padua 1759-64), the first botanical work by Arduino, *custode* of the botanical garden in Padua, containing 32 engraved plates depicting plant specimens
- Johann Hermann Knoop, *Pomologia* (Nuremberg 1760-66), augmented German edition of an important early Dutch treatise on apples, pears and other fruits, illustrated with 44 hand coloured plates
- Edme Ansberque, *Flore fourragère de la France* (Lyon 1866), an entirely lithographed botanical work, with the images of plants achieved 'phytoxigraphically' by inking them and pressing them directly on the lithographic stone.

DONATIONS

Manuscripts

- Additional papers of Henry S. Barlow and companies associated with him (Mr Barlow)
- Manuscripts accepted as part of a significant donation of geological and gemmological works (Mr Michael O'Donoghue)

- Correspondence and papers relating to the establishment of the China Association, 1889-90 (Matheson & Co. Ltd)
- Letters of J. Forster of Trinity Hall, 1790-91 (Mrs A.M. Kempster)
- Additional papers of the Cambridge University Liberal Club (Mr Derick Mirfin)
- Letters to Oliver Zangwill from Olive Fraser and Annie Patricia Llewellyn-Davies, c.1934-40 (Mrs Shirley Zangwill)
- Additional papers of G.E. Moore and his wife Dorothy (bequeathed by the late Juliet Moore).

Modern collections

- Cambridge University Press books for the Central Science Library, Medical Library, Moore Library and Squire Law Library (CUP)
- About 1,500 Japanese books on social and political sciences (Professor Makoto Iokibe)
- About 1,200 books on gemmology ((Mr Michael O'Donoghue)
- Books for the Moore Library (Professor P.W. Hawkes through the Friends of Cambridge University Library)
- Books in medical genetics and blood grouping from the collection of the late Dr Hermann Lehmann (Whipple Library)

Maps and music

From the bequest of Professor Sir Nicholas Shackleton:

- further substantial gifts of music
- *Atlas topographique et militaire: qui comprend les états de la couronne de Bohême & la Saxe électorale avec leurs frontières* (Paris 1758)
- *L'Arménie, la Géorgie, et la Daghistan* (Paris c.1720)

Rare books

- 2,500 books for the Waddleton Collection (Mr Norman Waddleton)

TRANSFERS

Manuscripts and University Archives

- Senior Tutors' Committee subject files, 1976-2006, covering student admission, finance and welfare (transferred by the Education Section, University Offices)
- Records of the Strathspey and Reel Club, 1954-98; the Cognitive Society, 1991-5; Cambridge University Students' Union, 1974-2000; Footlights Dramatic Club, 1967-2001 and the Athletics Club, 1996-2003

ENHANCING ACCESSIBILITY OF THE COLLECTIONS

A complete revision of the Library's web pages was undertaken, introducing a new style and layout, using templates which brought a much greater degree of consistency to the site. Library departments were provided with software and training to encourage them to take responsibility for updating their own information, with a high level of success. The information provided is therefore more current than previously. Following extensive user testing, a redesign of the Newton online catalogue was launched in July 2007. The catalogue

interface was overhauled to provide a cleaner look and allow for the display of more information on screen. The main search interface was also redesigned and a new introductory webpage with quick-search facility was also launched.

The arrangements for the admission of new readers, borrowing rules and the Entrance Hall procedures were reviewed and amended with the intention of making the operations located in and around the Entrance Hall a more pleasant experience for users and potential users. A number of operational changes have also been introduced, to ensure more stable levels of cover in the Entrance Hall, especially over the lunch period.

The revised arrangements for dealing with applications from new readers, which reflect those that operate successfully at the British Library, are designed to streamline the process. Following requests from postgraduate students, data on new graduate students are now downloaded from the University Card Office into the Library system in the same way as those for undergraduates, which means that, for the majority of new graduate students, individual validation of their University card by the Library should no longer be necessary.

The Library Syndicate agreed to changes to the borrowing regulations with effect from October 2007. These should bring substantial improvements to the level of service. Readers will be able to renew loans online, but, at the same time, they will be restricted to one renewal only (either online or in person), before a loaned book has to be returned to the shelves. This will ensure that materials are kept in circulation, allowing more readers regular access to the materials than previously, when loans could be re-issued indefinitely. Arrangements have also been introduced to encourage the more rapid return than has often been the case in the past of borrowed books required by another reader. For third-year undergraduates, a vacation loan period for the Christmas and Easter vacations has been introduced.

An additional service point, viewed initially as a temporary measure, was installed on the landing opposite the entry stairs from the Entrance Hall to provide a welcome and general guidance to the large number of new readers arriving at the Library for the first time in the early part of Michaelmas Term. The General Enquires Helpdesk was equipped with a PC for demonstrating the catalogue, electronic resources, etc. and it was staffed by experienced personnel from within the Reader Services Division. In the first two weeks of operation, it received almost 1,200 enquiries and it was clear that it was providing an important service. The decision was taken, therefore, to keep it in place during term times throughout the year, and by the end of the Easter Term it had received almost 8,000 enquiries. Though new readers probably took the service for granted, many appreciative comments were received from regular users.

Almost 1,300 readers attended sessions of the Research Skills programme. It is noticeable that, over the course of the last few years, attendances at library induction sessions, those on the library catalogues and Newton hands-on sessions have all declined significantly. This may be a consequence of recent initiatives to make the Library more accessible to new readers, through the redesign of the web pages and of Newton itself, the publication of *A beginner's guide to Newton*, *A beginner's guide to finding journals in Newton*, a revised *Introduction to the Library* and the opening of the General Enquires Helpdesk.

On the other hand attendances have increased markedly at electronic resources sessions and at subject-specific seminars, which themselves place considerable emphasis upon electronic materials. A new initiative in 2006-7 has been to take the Library's expertise in information-skills training out of the building and into departments. To date successful sessions have been

conducted in Earth Sciences, Engineering, Materials Science and Metallurgy, and Modern and Medieval Languages. Thus the Research Skills programme can be seen to reflect and be responding to a general move by users away from traditional materials and towards electronic media. Colleagues from other libraries in the University have helped with many of these sessions, and the University Library is grateful to them for their support.

A small Digital Resources Area was opened in the Central Science Library, providing much improved access for readers to electronic journals and datasets. Six workstations have been provided together with a facility to download and print journal articles on site. It is run as part of the main Library's Digital Resources Area with accounts being valid at either site.

The West Road building has procedures in place to enable the rapid cataloguing of books that readers are expected to need urgently or for which individual readers have expressed a request. However, there has been concern for some years at the time it takes for many books of academic importance, especially those received under legal deposit, to reach the shelves. After a period of experiment, an accelerated workflow was established to provide at least provisional catalogue access to new books, and this went into full operation in June 2007. If the success of the experiment is borne out over the next year, an annual figure of about 18,000 additional catalogue records should be created, with the result that this number of books will reach the shelves much more rapidly than in the past. The procedure will be particularly valuable for hardback books, but paperbacks destined to be borrowable from the open shelves will still have to pass through the binding process.

In the Moore Library, reclassification of the 4,500 books transferred *en bloc* from the West Road building was completed, as was the re-cataloguing of the legacy collection of around 6,500 volumes from the former library of the Department of Applied Mathematics and Theoretical Physics.

Following last year's receipt of a grant of \$1 million from the Andrew W. Mellon Foundation, what has become known as the 'Tower Project' began in early 2007, and by July approximately 15,000 books received during the nineteenth century under legal deposit and regarded at the time as being of secondary significance had been processed and added to the Newton catalogue. The project team participated in a conference 'What the Victorians learned', organised by the Cambridge Victorian Studies Group in January 2007 and based on books from the tower collection. Remaining staff from the now-completed Greensleeves project spent time correcting some of the catalogue errors that had inevitably resulted from the conversion of about three million printed slips from the guardbook catalogue; readers and staff are being encouraged to point these out so that they can be corrected.

The Trustees of the Appeal to Save the Royal Commonwealth Society Library for the Nation agreed last year to release the outstanding £600,000 from the residue of the appeal, and this funding has allowed work to begin on improving access to the important collection of official publications in the RCS collection. The project is concentrating on cataloguing the rare runs of Blue Books, and monographs and serials published in Africa, Malaysia and Hong Kong, as well as frequently requested directories and yearbooks. Over 6,000 new catalogue records have been created and added to Newton. The results of the research necessarily undertaken to determine the jurisdictional history of bodies and state boundaries resulted in 89 new Name Authority records being contributed to the international co-operative database of authorised forms of heading, hosted by the Library of Congress. The increasing availability of information about the RCS collections is leading to a rapid growth in interest. Visits to the RCS web catalogues on the University's Janus server have increased from about 5,000 a

month in June 2004 to 40,000 a month in June 2007, with the cumulated number of hits over that period topping the million mark.

Cataloguing of several manuscripts collections was completed during the year, including the papers of various members of the Baldwin family: Oliver (2nd Earl Baldwin), Lucy Countess Baldwin and Windham (3rd Earl Baldwin); the papers of Major A.G. Church, C.R. Fay and Sir Edward Fry; and additional papers of G.E. Moore and his wife Dorothy. The project to provide online access to the catalogue of the Royal Greenwich Observatory Archives continued according to plan, and, thanks to a generous donation of £212,000 from Matheson & Co., the preparation began of an online catalogue of the entire (and very extensive) Jardine Matheson Archive.

Records for all significant classes of the University Archives are now accessible online via the Janus webserver, with the exception of the records of the General Board, whose catalogue requires substantial overhaul before publication. The Library received a grant of \$25,000 from the Gladys Krieble Delmas Foundation to assist in the preparation of a catalogue of those records of University clubs and societies which have little or no descriptive information to aid research; it is planned that the 70 metres of such records, ranging from the Detective Fiction Society to the Labour Club, will be incorporated into the University Archives and the resultant catalogues published on Janus.

The sorting and documentation of the archive of the composer William Alwyn, presented to the Library in 2004, are well under way. The papers (letters, programmes, photographs, press cuttings, etc) have now been fully described, and have been placed in archivally sound files, web pages have been prepared, and a start been made on cataloguing the music manuscripts.

The deposit of the Jacques Mosseri Genizah Collection was reported last year. Thanks to support from the Endangered Archives Programme, funded by the Lisbet Rausing Charitable Fund, the first 1,000 fragments out of a total of about 7,000 have now been digitised and described, and the first 50 fragments have been made available for readers' use in the Manuscripts Reading Room. The images and descriptions will shortly be accessible via the web, the first time in history that these manuscripts have been available to the public.

The Darwin Correspondence Project's new website was launched in May 2007 and received considerable interest from the media. It contains the complete, searchable texts of more than 5,000 letters from the first thirteen volumes of the print edition. A major feature is contextual material on Darwin and religion, and this area is being developed thanks to a grant of £600,000 over three years from the John Templeton Foundation and £20,000 over three years from the British Ecological Society. The Project commissioned a second dramatisation of Darwin's correspondence; called 'Re:Design', the piece uses letters exchanged by Darwin and the Harvard botanist Asa Gray, and focuses on the implications of Darwin's theories for religious belief. Another dramatisation, 'An evening with Charles Darwin and Joseph Hooker', was performed at the ADC Theatre, Cambridge, in September 2006.

Two digitisation projects heavily dependent on material from the University Library came to fruition. In January 2007 the HISTPOP project, which provides online access to British population and census material, 1801-1937, was launched at the British Academy, and in March the Eighteenth Century Parliamentary Papers Project, providing the full text of official material from the 'long 18th century', was launched at the House of Commons.

The Library was the subject of two radio programmes during the year. In May 2007 BBC Radio Cambridgeshire interviewed several members of staff for an hour-long feature on the Library, and in July 2007 Professor Lisa Jardine and Ms Jacqueline Cox, Deputy Keeper of the University Archives, went on a tour of the Footlights archives for an episode of the 'Archive Hour' on BBC Radio 4 entitled 'Footlights and fancy-free'.

Library publication

Paperback reprints of G. Khan, *Arabic legal and administrative documents in the Cambridge Genizah Collections* (1993) and M. L. Klein, *Targumic manuscripts in the Cambridge Genizah Collections* (1992), published by Archaeopress, Oxford.

OPTIMISING THE ENVIRONMENT FOR STUDY AND RESEARCH

The problems of storage in the open-stacks and the resulting pressure on seating in those areas are described elsewhere in this report. The reading rooms continue to provide a comfortable venue for study.

Following a successful pilot in the West Room, Lapwing wireless access was extended to The Commonwealth Room, Munby Rare Books and Manuscripts reading rooms, and the Tea Room. Use of Lapwing increased steadily during the year and the Library was the largest single user in the University. Access for visitors and non-members of the University was made possible by developments introduced by the University Computing Service.

The transfer of the staff of the Periodicals Department from their former office in the West Room allowed the central enquires desk and the periodicals enquiries desk to be merged and for a new enquiry point, with much improved facilities, to be installed in the centre of the Room. The desk was built in-house and is a splendid example of the craftsmanship of the Library's carpenters. At the same time an area below the gallery was enclosed to house three self-service photocopiers. More power sockets for laptops have been added to tables in the room.

Planning for the refurbishment of the Map Department, partly funded by a grant from the Wolfson Foundation, continued throughout the year, and the Map Department moved to a temporary home in the former Periodicals office in the West Room in July 2007. The refurbishment work is expected to be completed in May 2008.

The reading room formerly called the Official Publications Reading Room was renamed The Commonwealth Room to reflect the fact that it is no longer used solely for Official Publications and that parts of the Royal Commonwealth Society Library are now read there. The RCS Library was saved for the nation as the result of an appeal in the early 1990s and was donated to the University Library in 1993. In 2006 Sir Patrick Sheehy, chairman of the appeal, generously donated a fine plaque, cut by the Cardozo Kindersley Workshop, to commemorate this event and to mark the renaming of the room.

As part of the continuing upgrade of fire precautions, 83 doors were replaced to provide the correct fire-rating, and view panels were installed in them to ensure that users do not enter an area at risk, as well as for the everyday use of those readers using wheelchairs. Partitions were also installed in the West Bookstacks to reduce the size of compartments and limit the risk of fire spreading.

The Library's Health and Safety committee met once a term and its minutes were reviewed by the Senior Management Team.

PRESERVING THE COLLECTIONS

Some of the documents in the Jacques Mosseri Genizah collection had been stored around the perimeter of the Ben Ezra Synagogue in Cairo since it was emptied of the main collection in the late nineteenth century and some had been buried. As a result, many of the manuscripts have dark staining, encrustations of mud and other matter, blocking together of parchment and paper fragments, mould and insect damage, and iron-gall ink corrosion. Thanks to a donation from the Mosseri family, work has begun on the conservation of the manuscripts, so that they will be usable by scholars.

The Library's earliest Chaucer manuscript, an early fifteenth-century composite document with a parchment and paper text-block underwent extensive repair to stabilise areas damaged in the past by water damage and mould. It was rebound, as the previous binding from 1862 restricted the opening of the pages and was in bad condition. The manuscript is now housed in a drop-back box alongside the nineteenth-century binding.

As part of the project to catalogue the Royal Commonwealth Society collection of official publications, preservation of these rare materials has been greatly enhanced by the use of special smoke-sponges to remove war-time smoke debris that had been deposited when the collection was housed in the London premises of the Society, use of a specially purchased book cleaner, and by re-boxing and labelling.

Six volumes of Commissary Court Act Books and six Deposition Books were conserved, part of the cost being provided by a grant from the National Manuscripts Conservation Trust. The Act Books series is now completed. More than 200 acidic storage boxes containing University Archives were replaced, completing the process of passive preservation for these materials.

PARTNERSHIP, COLLABORATION AND THE WIDER COMMUNITY

Discussions have taken place with the Fitzwilliam Museum and the Scott Polar Research Institute to investigate the possibility of setting up an image server to manage and exploit the rapidly growing number of digital images being created from collections in the care of Cambridge libraries and museums. A specialist consultant has been employed and a report is expected during 2007-8.

Delays in grading posts and difficulties in recruitment meant that the DSpace@Cambridge service developed less rapidly than had been intended, but appointments were made towards the end of the year and plans are in place for expansion in the coming academic year. In the meantime, new communities were created on DSpace for the Faculty of English, the Computing Service Streaming Media Service, Pandis, and the Scott Polar Research Institute, the latter being a key development which will allow communities with content in DSpace to pull it into their own web environments. The Faculty of Law added two new collections and the Faculty of Philosophy three further collections.

The SPECTRa Project (Submission, Preservation and Exposure of Chemistry Teaching and Research Data), funded by a grant from JISC under its Digital Repositories Programme since October 2005, was completed in March 2007. Its principal aim was to facilitate the high-volume ingest and subsequent reuse of experimental data via institutional repositories, using the DSpace platform. It focussed on three areas of chemistry research and was conducted as a joint project between the University Libraries and Chemistry Departments of the University of Cambridge and Imperial College London. While SPECTRa focused on the chemistry research environment, it also explored the relationship between repository activities at departmental and institutional level and developed a model that will merit consideration within Cambridge as part of the Library's developing strategy for its institutional repository.

At the end of the SPECTRa Project, a further grant from JISC under its Repositories and Preservation Programme supported a related project, SPECTRa-T (Submission, Preservation and Exposure of Chemistry Teaching and Research Data - Theses), which started in April 2007 and is due for completion in March 2008. This project will develop text-mining tools that address the need to extract the wealth of experimental data currently untapped in scientific theses, focusing on chemistry research data in molecular and related subjects. Early work indicates that the file format used for e-theses is potentially a major cause for concern and that there may be a conflict of interests between the need to make a file preservable (with PDF as a recommended file format) and the need to make it re-usable, where, for example, Word, LaTeX or HTML, may be better suited to text-mining. The project has also raised questions about existing copyright and licensing statements for e-theses that do not address IPR issues relating to the re-use of data.

DSpace@Cambridge was part of a successful bid led by CARET (the University's Centre for Applied Research in Educational Technologies) to the JISC under the Repositories Enhancement Programme to fund a project to enhance and deploy the integration of CamTools and DSpace@Cambridge.

The libraries@cambridge2006 conference, held at the Faculty of Law in December 2006, was attended by 188 delegates. This was the first conference of its type for Cambridge librarians, and the programme included a range of invited speakers from within the University and beyond. The day was opened by the Vice-Chancellor and was sponsored by Blackwell Book Services.

The Library is a partner in the Identical Book Project, funded by the Andrew W. Mellon Foundation and managed by the British Library. The hypothesis of the project is that there is a difference between the current condition of 'identical' books related to their environmental history within different libraries. A sample of about 400 items published in the UK between 1900 and 2005 and available in legal deposit libraries has been selected, and the project hopes to cover as many types of production as possible, including difficult papers such as coated, cheap and so-called acid-free, in a variety of bindings.

Thanks to the generosity of Professor James Marrow and Dr Emily Rose the Library was able to inaugurate a book-collecting competition for Cambridge students. Although such prizes have been fairly common in North America since the 1920s, the Rose Book-Collecting Prize is believed to be the first of its kind offered by any European university. The winner of the £500 prize, Mr David Butterfield, a graduate student at Christ's College, entered his collection under the title 'Landmarks of Classical Scholarship'. He was then eligible to enter the US-based *Fine Books and Collections Magazine* Book-Collecting Championship where he won the first prize of \$2,500.

For some time the Library Syndicate has been wrestling with the need to overhaul the Medical Library's governance structure to provide better representation of the various parties with an interest in library support for those based at Addenbrooke's Hospital. It gave outline approval to a proposal to establish a new high-level governing body in place of the Medical Library Sub-syndicate, with an explicit responsibility for the Medical Library's policy and strategic planning, and with an invited membership drawn from senior management in the University Library, the Clinical School, Addenbrooke's Hospital Trust, the Strategic Health Authority, and Medical Research Council. Detailed proposals will be considered during 2007-8, together with plans to establish user advisory panels to guide the Medical Library in its day-to-day operations.

EXHIBITIONS

Exhibition Centre

Unregulated printing: modern private press books

July-December 2006

Prepared by Mr Miller and Mr Smith, and opened by Mr Sebastian Carter

Keeping the score: music in the Library

January-June 2007

Prepared by Mr Andrewes and Dr Dourish, and opened by Professor Christopher Hogwood

Through the whole island: excursions in Great Britain

July-December 2007

Prepared by Mr Wells, and opened by Mr Nicholas Crane

The receptions for the opening ceremonies were generously sponsored by Cambridge University Press.

Exhibitions in the North-Front corridor

'...a glimpse of something eternal': the life and work of John Betjeman (1906-1984)

July-September 2006 (to mark the centenary of the birth of John Betjeman on 28 April 1906)

Prepared by Ms Johnson

The secrets of the tower: 19th-century secondary literature from the Library tower

September-November 2006 (to mark the grant from the Andrew W. Mellon Foundation for cataloguing of the material stored in the tower)

Prepared by Ms Lacey

Schnitzler's hidden manuscripts

November-December 2006 (to coincide with the CRASSH conference marking the 75th anniversary of Arthur Schnitzler's death)

Prepared by Mr Staufenbiel and Mr Lorenzo Bellettini (Department of German and Dutch)

Some recent acquisitions

January-February 2007 (a selection of items added to the Rare Books collections)

Prepared by Dr Whitelock and Mr Hale

Arthur Bliss

February-April 2007 (to complement the Library's main 'Keeping the Score' exhibition)

Prepared by Mr Andrewes

The Schocken Verlag in Hitler's Germany, 1933-1939

April-June 2007

Prepared by Mr Paul Woudhuysen from his private collection

Slavery, shackles and sugar: the route to freedom?

and

Opium: a 'morally indefensible' trade in a 'horrible drug'

June-July 2007 (exhibitions to mark the bicentenary of the Abolition of the Slave Trade Act)

Prepared by Ms Rowe, Ms Grant and Dr Preston

100 years ago today: a miscellany from 1907

August-September 2007

Prepared by Dr Dourish

Items from the Library's collections were loaned to the following exhibitions:

Smithsonian Institution, Washington: 'In the beginning: Bibles before the year 1000'

Rubenshuis, Antwerp: 'Royalist refugees: William and Margaret Cavendish in Antwerp'

Chester Beatty Library, Dublin: 'Leonardo: the Codex Leicester'

National Portrait Gallery, London: 'Between worlds: voyagers to Britain 1700-1850'

Sir John Soane's Museum, London: 'A passion for building: the amateur architect in eighteenth-century England'

Wordsworth Museum, Grasmere: 'Dante rediscovered'

Fitzwilliam Museum, Cambridge: 'Paul Mellon: a Cambridge tribute'

STAFF

Two senior members of staff retired during the year. Miss Elizabeth Harrisson left in September 2006 after 38 years in the Library, most recently in charge of the Preservation Microfilming Unit, and Mr Gerry Bye, head of Imaging Services, who joined the staff in 1969 as the deputy photographer, retired in April 2007. In preparation for Mr Bye's retirement a review of the Imaging Services department was undertaken and plans drawn up for its future development.

Ms Susanne Mehrer moved from Queen's University Belfast to become deputy head of Reader Services, and three vacancies in Electronic Services and Systems were filled by Mr Edmund Chamberlain, Mr Huw Jones and Ms Lihua Zhu. Mr Michael Wilson, formerly head of the Science Libraries, joined the Collection Management team, based in the West Road building but with responsibility for collection management across all the libraries.

Ms Yvonne Nobis completed her part-time M.Sc. in Library and Information Studies at City University.

Though the first stage of the assimilation of staff to the University's new pay and grading structure was completed by the summer of 2006, the follow-up procedures involved a great deal of work in providing information to staff on why decisions had been reached on their grading, and in giving guidance on the appeals process for those staff dissatisfied with the outcome.

The problems of recruitment of technical maintenance staff noted in previous years became acute again, with vacancies in electrical, mechanical and carpentry areas that cannot be filled because of a shortage of suitable applicants.

Prior to this year, the previous death in service of a member of staff occurred over twenty years ago; this year the Library suffered four bereavements of staff in post: Mr Michael Hibble, a cleaner, who died in September 2006; Mr Daniel Bolger, a recent graduate of Christ's College, who had been working as a bookfetcher for just six weeks when he died in November 2006 after falling into the River Cam; Mrs Fotini Papantoniou, an invigilator at the Medical Library, in January 2007; Mr Anthony Rawlings, the Deputy Head of the Map Department, in April 2007. Finally, the deaths are recorded, with regret, of three former members of staff: Mr Fred Maltby, who had retired from the Entrance Hall in the late 1980s; Ms Melanie Williams, formerly of the Entrance Hall; and Mr Derek Williams, who retired as head of the Music Department in 1989.

Though never a member of the Library staff, Professor Kurt Lipstein, Emeritus Professor of Law, who died in December 2006 aged 97, had worked almost daily at the Squire Law Library since 1934, when the library was based on Downing Street, until a matter of days before his death, 72 years later. His knowledge of the Library, and the materials within, was unsurpassed and he helped the Library to build impressive collections in conflict of laws, public international law and comparative law, and successive Squire Law Librarians owe him a debt of gratitude for the advice and help he provided.

MUNBY FELLOWSHIP IN BIBLIOGRAPHY

The Munby Fellow for 2006-7 was Dr Hanna Vorholt, whose research topic was 'Encyclopaedic compilations from the formative period of monastic libraries in England'.

FUNDING

Collections form one of the four core goals of the Cambridge 800th Anniversary Campaign, and so the Library was represented at a number of events for supporters and benefactors of the University, including the Chancellor's reception at Buckingham Palace in November 2006 and the Guild of Benefactors' dinner in April 2007. Several Library supporters participated in both events. The meeting of the Cambridge 800th Campaign Board took place in the Library in November 2006 and was addressed by the Librarian.

On the initiative of the Vice-Chancellor, a small group, mainly from outside the University, was established to consider how the Library might make itself more attractive to potential donors. This group made a number of recommendations, chief of which was that a long-term Visiting Committee should be established, so that potential supporters and donors could

become more engaged with the Library's activities and goals. The first meeting of this committee will take place in October 2007.

The main external funding this year came in the form of grants from foundations: these included £600,000 over three years from the John Templeton Foundation for the Darwin Correspondence Project, £200,000 from the Wolfson Foundation for refurbishment of the Medical Library, and £212,000 from Matheson & Co. for an online catalogue of the Jardine Matheson Archive.

In addition, an anonymous private benefactor gave \$500,000 to appoint a digital preservation specialist, who will have responsibility for ensuring that the digital information created in the University can be preserved for the use of future generations.

During the year Sir Ivor Crewe, Vice-Chancellor of the University of Essex, carried out a review of research libraries special funding on behalf of HEFCE. This included a visit to each of the six libraries receiving such funding and detailed discussions on the future of the transitional Access Strand funding and the payment to Cambridge for meeting the costs of handling legal deposit material. A report on the outcome of the review is still awaited.

For the Squire Law Library the key fundraising event was the reception held in the Parliament Chamber at The Inner Temple in March 2007. It attracted senior figures from within the legal profession, including the Lord Chief Justice of England and Wales, together with members of the Bar.

The Medical Library is funded on the basis of recurrent input from the University, the National Health Service and the Medical Research Council. The balance of funding was seriously damaged when the NHS Strategic Health Authority for the East of England decided that library funding throughout the region would be subject to a 15% cut in 2006-07 (i.e. the NHS financial year running from April 2006 to March 2007). This decision, announced only in October 2006, presented an immediate problem for the Medical Library's already pressured finances. Following discussions with senior officers of the Clinical School, the Library Syndicate agreed that cost-saving measures should be introduced that, as far as possible, would impact only on the Library's NHS users. These were the removal of subsidised inter-library loans for NHS users; the introduction of a charge for supplying photocopies to EDEN, the inter-library loans service for the NHS East of England region; and closure of the Library on Saturday evenings and Sundays with the exception of the weeks immediately before the examinations for clinical students.

MAIN SOURCES OF FUNDING 2006-7

University funds

Central and faculty funds

'The Chest'		£10,979,000
Faculty of Oriental Studies		
(Japanese Studies Fund)	Part funding of staff in Japanese Department	£36,000

Trust Funds

Sixth Earl of Enniskillen Fund	Acquisitions of books in specified subjects	£148,000
Kaplanoff Fund	American studies material	£53,000
Munby Memorial Fund	Munby Fellow in Bibliography	£22,000

Smuts Memorial Fund	Part funding of Smuts Librarian for	
Gordon Duff Fund	Commonwealth Studies	£19,000
Richard Tench Fund	Special Collections material	£18,000
Wilson-Barkworth Fund	Contribution towards Saturday afternoon opening	£14,000
Rustat Fund	Special Collections material	£9,000
	Special Collections material	£5,000

External donations and grants (£5,000 and over)

Acquisitions

City Solicitors' Educational Trust	Text books, periodical subscriptions and electronic resources for the Squire Law Library	£15,000
Friends of Cambridge University Library	Special Collections material	£12,000
LexisNexis Martindale-Hubbell	Purchases for the Squire Law Library	\$22,000

Special projects

Darwin Correspondence Project

John Templeton Foundation	£129,000
American Council of Learned Societies	£59,000
Cambridge University Press	£50,000
Issac Newton Trust	£50,000
British Academy	£16,000
Golden Family Foundation	\$25,000
Royal Society	£8,500
Wellcome Trust	£7,500
Natural Environment Research Council	£5,000

Genizah Research Unit

Arts & Humanities Research Council	£128,000
Friedberg Genizah Unit	£51,000
Mr C Mosseri-Marlio	£50,000
The Lisbet Rausing Charitable Fund (Endangered Archives Programme)	£21,000
Samuel Sebba Charitable Trust	£15,000
John S. Cohen Foundation	£15,000

Grants to Medical Library

NHS Addenbrooke's Hospital Trust (SIFT grant)	£35,360
Medical Research Council	£32,010
NHS Norfolk/Suffolk/Cambridgeshire Workforce Development Confederation	£129,922

Squire Law Library Centenary Appeal Fund

Mr Brian Buckley	£25,000
Lord Goodhart	£15,000

Other

HEFCE	Improving access to research collections	£566,000
Prof N J Pounds	Bequest for Library Staff Welfare Fund	£150,000
Matheson & Co.	Cataloguing of Jardine Matheson Collection	£53,000
JISC	SPECTRa - Preservation of chemistry data	£83,000
British and Foreign Bible Society	Bible Society Library staff	£29,000
Cambridge MIT Institute	Dspace@Cambridge	£26,000

Sir Patrick Sheehy	Commonwealth Room plaque	£17,000
William Alwyn Foundation	William Alwyn Archive Cataloguing Project	£12,500
Mr J D Fishburn	Visiting Committee fund	£10,000
Miss V C M London	Bequest (part)	£10,000
Blackwell's Book Services	Libraries@cambridge Day	£5,000
Friends of Cambridge		
University Library	Exhibition costs	£5,000

STATISTICS

The statistics normally refer to the main University Library building only; where indicated* they include the dependent libraries.

<i>Additions to stock</i>	2006-07	2005-06	2004-05	1996-97
Books and pamphlets*	123,228	123,046	113,218	120,773
Periodicals and newspapers*	145,731	140,758	150,856	151,229
Microfilm reels*	4,177	3,597	4,277	1,492
Microfiche units*	1,494	7,683	2,774	38,692
Maps and atlases	8,731	14,488	22,650	12,274
Printed music	5,879	4,850	5,237	6,421
Manuscripts and archives	1,869	3,909	3,376	1,081
Cambridge theses	954	1,026	1,171	722
<i>New entries added to the Catalogue</i>	91,076	79,901	73,094	81,334
<i>Items fetched:</i>				
West Room bookfetching				
- Select books	29,825	34,568	34,003	41,653
- Reading Room classes	42,519	48,747	54,337	74,580
- Reserved periodicals	31,161	34,960	36,732	61,522
Manuscripts Reading Room	12,434	13,222	9,776	12,438
Map Room	21,849	12,790	16,798	19,850
Anderson Room & East Asian RR	2,832	2,897	2,449	1,776
Official Publications	7,038	6,800	7,945	23,727
Microforms	11,304	9,642	9,533	10,009
Rare Books Reading Room	45,262	45,527	41,862	55,503
Bible Society's Library	<u>1,265</u>	<u>1,154</u>	<u>847</u>	<u>1,271</u>
TOTAL	204,289	210,307	214,282	302,339
<i>Bindery/Conservation Output</i>				
Modern case work	25,141	23,406	23,179	21,204
Modern repair work	1,064	1,249	1,184	4,169
Rebacking and minor repairs	1,461	1,549	1,789	4,960
Lyfguarding	6,350	7,954	8,749	1,517
<i>Imaging Services Department</i>				
Digital images	73,603	84,347	16,236	0
Prints made from negatives	201	354	758	3,232
Microfilm frames exposed	180,333	201,421	265,469	527,831
Photocopies	2,114,244	2,355,586	2,502,277	3,089,796
(includes Moore, Squire and CSL)				

<i>Expenditure on purchased acquisitions¹</i>	£	£	£	£
	2006-07	2005-06	2004-05	1995-6
Main Library				
Modern Western Books	692,992	682,083	654,823	665,898
Indian and Middle Eastern	41,448	25,237	33,070	23,070
Chinese and Japanese	64,571	61,333	53,743	78,312
Maps	37,804	35,833	33,177	47,972
Music	42,694	34,297	33,928	41,547
Rare books and manuscripts	254,274	*790,242	141,691	307,470
Electronic resources and microforms	451,927	**775,464	459,194	68,169
Periodicals	697,925	668,895	924,059	1,036,911
TOTAL	2,330,242	3,073,384	2,333,685	2,289,414
Medical Library				
Books	18,835	46,447	39,042	21,754
Periodicals	202,443	189,247	189,313	136,955
Science Libraries				
Books	17,185	13,189	6,039	3,105
Periodicals	921,814	792,489	805,152	437,474
Squire Law Library				
Books	33,330	22,272	34,398	58,294
Periodicals	280,222	241,307	201,870	186,096
TOTAL	3,804,071	4,378,335	3,609,499	3,133,092

PETER LIPTON (VICE-CHANCELLOR'S DEPUTY)

RICHARD BEADLE

JOHN BELL

HARVEY DEV

R.C. GLEN

C. HANDSCOMB

CATHERINE HILLS

CHRISTOPHER HOWE

PETER HUTCHINSON

GORDON JOHNSON

PATRICIA KILLIARD

D.J. MCKITTERICK

JOHN MORRILL

J.R. SPENCER

JILL WHITELOCK

DIANA F. WOOD

¹ Includes expenditure from grants and trust funds

*Includes purchase of Hengrave Papers (£456,853)

** Includes purchase of ScienceDirect backfiles (£362,000)

APPENDIX: LIBRARY STAFF - PROFESSIONAL ACTIVITIES

Publications, papers presented, membership of committees

M.C. Allen

Committee membership

Agency for the Legal Deposit Libraries, Management Committee and Relocation Group
Cambridge University Women's Forum Steering Group

R.M. Andrewes

Committee membership

Bliss Trust (Trustee)
RISM (UK) Trust (Trustee and Treasurer)
RILM Technical Advisory Committee
William Alwyn Foundation (Trustee)
Cambridge University Musical Society (Vice President)

C.A. Aylmer

Paper presented

'Internet Resources for Chinese studies', NCOLR Seminar on Internet and Related Resources for Oriental Studies, Cambridge, September 2006

Committee membership

China Library Group, Periodicals Sub-Committee

S. Bhayro

Book review in *Review of Biblical Literature*

Papers presented

'Sergius to Theodore on the Art of Medicine', International Conference on Byzantine Studies, London, August 2006

'The sixth-century oriental Christian scientific translation movement', Mediterranean Editors and Translators Meeting, Barcelona, October 2006

'Is it possible to write a history of ancient Israel?', Anglo-Israel Archaeological Society/Institute of Jewish Studies Annual Lecture, London, November 2006

'A leaf from a magician's handbook in the Cairo Genizah', Zohar Seminar on Socio-Linguistics, London, June 2007

The use of Jubilees in medieval chronicles to supplement Enoch: the case for the shorter reading', Enoch Seminar on Medieval Chronicle Traditions, Tuscany, July 2007

J. Bloxham

Committee membership

Institute of Conservation

I.M. Burke

Committee membership

IT Syndicate, Technical Sub-Committee

S.H.M. Cameron

Joint editor: *Cambridge University Libraries Information Bulletin*

C.T. Clarkson

Committee membership

University's Disability Forum

A. Collins

Committee membership

Clinical School Educational Resources Working Group
Higher Education Health Librarians in the Eastern Region

E.M. Coonan

Paper presented

'Creating eye-catching exhibits to avoid abolition fatigue: a Commonwealth journey', Standing Conference on Library Materials on Africa Conference: 'Slavery and abolition: sources in UK libraries and archives', London, June 2007

J. Cox

Committee membership

Janus Steering Group (Chair)
Cantab Developers' Group (Chair)
Cambridge Archivists Group (Secretary)
Society for the History of the University (Secretary)
Information Strategy Task Force

D. Davies

Papers presented

'Maimonides' *Guide* as companion', opening of the Duke Islamic Studies Center, Durham, NC, November 2006
Maimonides and Crescas on the nature of God', Manchester Jewish Historical Society, March 2007

L. Dingle

'Conversations with Professor Lipstein: some reminiscences over seventy years of the Squire Law Library and the Faculty of Law, University of Cambridge', *International Journal of Legal Information*, 35 (2007) [with Daniel Bates]

Book review in *Library Information Management*

Committee membership

FLARE (Foreign Law Research Consortium)
Freshfields/Faculty of Law Liaison Committee
Academic support Officer, Wolfson College

E. Dourish

Committee membership

Cambridge Bibliographical Society

P.K. Fox

Papers presented

'Parker on the web' [with John Haeger and John Hatcher], Mellon All-Projects Meeting: Medieval Studies, New York, January 2007

'e-books in context', e-books@cambridge workshop, March 2007

'Cambridge University Library: from oracle bones to CD-ROMs', Rotary Club, Cambridge, April 2007

'What will libraries be providing in 2020', 2020 Vision: 450th anniversary conference of the Stationers' and Newspaper Makers' Company, London, May 2007

Committee membership

LIBER: Association of European Research Libraries (Vice-President)
Lord Chancellor's Advisory Council on National Records and Archives
Department for Culture, Media and Sport, Legal Deposit Advisory Panel
Joint Committee on Legal Deposit
Friends of the National Libraries, Executive Committee
National Preservation Office Board
International Editorial Board, *Journal of Library Administration*

L.J. Gray

Committee membership

Endeavor User Group, EndUser Board

International group of Ex-Libris Users, Steering Committee member, & Co-Chair, Voyager Product Working Group

libraries@cambridge Advisory Group

W.A. Hale

Book reviews in *Rare Books Newsletter* and *Library History*

Paper presented

'Men, women and Herveys: four hundred years of books at Ickworth', Cambridge Bibliographical Society, March 2007

Committee membership

CILIP Rare Books and Special Collections Group, Bibliographic Standards Committee

S.J. Hills

University Library Staff Club (President)

Editor: University Library *Readers' Newsletter*

C.N. Hudson

University Vice-Marshall

R.C. Jamieson

Committee membership

Faculty of Divinity, Working Group on Online Resources for Indic Studies (Chairman)

Union Handlist of Manuscripts in North Indian Languages

National Council on Orientalist Library Resources, Automation Working Party

R. Jefferson

Editor: *Genizah Fragments*

B.Jenkins

Committee membership

English Short Title Catalogue, UK Committee

National Preservation Office, Preservation Advisory Panel

Brotherton Collection Advisory Committee

E.J. Johnson

Review in *Times Literary Supplement*

J.E. Kelly

Committee membership

British Association of American Studies, Library and Resources Sub-Committee (Secretary)

University Library Staff Club (Chair)

P. Killiard

Papers presented:

'Managing JISC e-resources and licences using the Meridian ERM: a case study in managing the JISC model licence and related licences at the University of Cambridge', JISC Collections Licensing workshops, Edinburgh and London, November 2006

'Digitising collections: project planning and funding' [with Heather Lane], libraries@cambridge day, December 2006

'Upload, organise, share... and preserve: managing and preserving your digitisation project output', University of Cambridge day for librarians, June 2007

'DSpace@Cambridge: the evolution of a repository', University College London, June 2007

Committee membership

Legal Deposit Advisory Panel/Joint Committee on Legal Deposit, E-journals Working Group
Legal Deposit Libraries Act Implementation Group
Library Syndicate (staff representative)
Information Strategy Task Force

N. Koyama

'Inagaki Manjirō (1861-1908): a diplomat who recognized the importance of the Asia-Pacific region to Japan', and 'Japanese tattooists and the British royal family during the Meiji period', in *Britain & Japan biographical portraits*, vol. 6, ed. by Hugh Cortazzi (Folkestone 2007)

Paper presented

'Japanese tattooists and the British royal family during the Meiji period', European Association of Japanese Resource Specialists' Annual Conference, Venice, September 2006
'Book "Paths" from Japan into Europe', Tenri Antiquarian Materials Workshop for Overseas Japanese Librarians, Tenri, Japan, June 2007

Committee membership

Japan Library Group (Chair)
European Association of Japanese Resource Specialists (Board Member)

I.L. Kuhn

'NHS library services for social care workers', Poster session: CILIP Umbrella Conference, University of Hertfordshire, June 2007 [with D.Lepley, A.Parrett & J.Reynolds]

Committee membership

Clinical School Educational IT Steering Group
ECLaKSA (NHS Eastern Counties Library & Knowledge Services Alliance)
East of England Health Information Skills Trainers (Chair)

S.V. Lambert

Book review in *Learned Publishing*
Assistant Editor, *The Indexer*

J.A. Leary

Committee membership

Clinical School Building Safety Committee
Higher Education Health Librarians in the Eastern Region

D.K. Lowe

Committee membership

West European Studies Library and Information Network (Convenor)
French Studies Library Group (*Annual Review* editor)

A. Martin

Committee membership

CILIP London Branch (Secretary)

P.M. Meadows

'Living stones: researching the history of your church building', Cambridge Historic Churches Trust Annual Conference, April 2007

Committee membership

Cambridgeshire County Archives Advisory Group
Degree Sub-Committee for Master of Studies in Local and Regional History

S. Morcillo-García

Committee membership

Advisory Council on Latin American and Iberian Information Resources

Paper presented

Seminar on Spanish book distribution in UK libraries, London Book Fair, April 2007

P.B. Morgan

'Alive and kicking: a progress report on Open Access, institutional repositories, and health information', *He@lth Information on the Internet*, 58 (2007)

'Obituary: Linda Dorrington 1949-2006', *Health Information and Libraries Journal*, 23 (2006), and *Journal of the European Association for Health Information & Libraries*, 2 (2006) [with L.Curtis, M.Forrest & T.McSéan]

'Open Data - free for all?' *RINews* (Research Information Network Newsletter), No. 2 (2007)

Project SPECTRa (Submission, Preservation and Exposure of Chemistry Teaching and Research Data): JISC Final Report (2007) [with A. Tonge]

Papers presented

'Capturing research outputs at the University of Cambridge: experiences with DSpace', Institutional Archives for Research: Experiences and Projects in Open Access", Rome, November-December 2006

'Facilitating the deposit of experimental chemistry data in institutional repositories: Project SPECTRa (Submission, Preservation, and Exposure of Chemistry Teaching and Research Data)', Global Access to Science: IATUL Conference 2007, Stockholm, June 2007

'An overview of open access repositories', BioMed Central Colloquium: Open Access: How Can We Achieve Quality and Quantity?, London, February 2007

'Research data and the role of the institutional repository', UMSLG Residential Meeting, Cardiff, July 2007

Committee and representative membership

BMJ Publishing Group Library Advisory Panel

Clinical School/Addenbrooke's Hospital SIFT Liaison Group

Clinical School Building Safety and Users Committee

Clinical School Educational Resources Working Group

DSpace User Group Meeting 2007 (Rome) - Programme Committee

ECLaKSA (NHS Eastern Counties Library & Knowledge Services Alliance)

European Association for Health Information & Libraries: UK representative, EAHIL Council

Higher Education Health Librarians in the Eastern Region

Research Information Network - Librarianship & Information Science Consultative Group

SHERPA Management Group

SPECTRa (Submission, Preservation and Exposure of Chemistry Teaching and Research Data) - Steering Group

University Medical School Librarians Group

A.E. Murray

Vice-President of Wolfson College

Paper presented

'Growing Your Own: developing leaders through succession planning', LIBER Annual General Conference, Warsaw, July 2007

Committee membership

Legal Deposit Libraries Agency Management Committee

F. Niessen

'A newly discovered autograph fragment of Maimonides' *Guide for the Perplexed* from the Cairo Genizah', *Journal of Jewish Studies*, 57 (2006) [with B. Outhwaite]

Paper presented

'Documents referring to Al-Andalus from the Cairo Geniza', 13th Conference of the Society for Judaean-Arabic Studies, Cordoba, June 2007

W.A. Noblett

Book reviews in *CILIP Rare Books Group Newsletter*

Committee membership

HISTPOP (Online Historical Population Reports), Steering Committee
Eighteenth-century Parliamentary Papers Project, Steering Committee
History of Parliament Trust Ad-hoc Committee on Digitisation

B. Outhwaite

'A newly discovered autograph fragment of Maimonides' *Guide for the Perplexed* from the Cairo Genizah', *Journal of Jewish Studies*, 57 (2006) [with F. Nielsen]
Catalogue entries for the Smithsonian Institution exhibition 'In the beginning: Bibles before the year 1000' (Washington, DC, 2006)

Papers presented

'A world apart? Byzantium and Byzantines in the Genizah' AHRC/CRASSH International Colloquium
'The Greek Bible in Byzantine Judaism', Cambridge, July 2007
'The Mosseri Collection at Cambridge University Library: the re-emergence of a Genizah archive', Cambridge Jewish Residents Association, February 2007

Committee membership

AHRC John Rylands Genizah Project Advisory Board

A.J. Perkins

'A case of archival theft: the retrieval of the Greenwich Observatory Neptune papers', International Astronomical Union 26th Congress, Prague, August 2006
'The past and future of scientific archives: good practice by default, the illustrative case of the Royal Greenwich Observatory collection', Royal Astronomical Society's Astronomical Heritage Committee meeting, London, May 2007

Committee membership

International Astronomical Union, Commission 41/Inter-Union Commission for History of Astronomy, Working Group on Astronomical Archives.
Royal Society Library Committee

R. Rowe

Committee membership

South Asian Archives and Library Group (Chairman)

R. Scrivens

Reviews Editor: *Solanus: International Journal for Russian and East European Bibliographic, Library and Publishing Studies*

Committee membership

Council for Slavonic and East European Libraries and Information Services

N.A. Smith

Committee membership

Cambridge Bibliographical Society (Secretary)

C. Staufenbiel

Committee membership

German Studies Library Group (Treasurer)

Paper presented

'Saved by a Cambridge student: Arthur Schnitzler's manuscripts, Eric Blackall and the Nazi threat', international conference on 'Schnitzler's Hidden Manuscripts', Cambridge, November 2006

A.E.M. Taylor

Editor, *Bulletin of the Friends of Cambridge University Library*

Committee membership

British and Irish Committee for Map Information and Catalogue Systems (BRICMICS)
Charles Close Society Archives Sub-Committee
Groupe des Cartothécaires de LIBER (Board member)

MapForum (Editorial Board member)
Cambridge Library Group (Membership Secretary)

J.R.H. Taylor

Committee membership

Legal Deposit Libraries Shared Cataloguing Programme, Steering Group (Chair)
RLG Union Catalog Advisory Group
Joint Steering Committee for Revision of Anglo-American Cataloguing Rules (CILIP representative)
SUNCAT Bibliographic Quality Advisory Group.

J.D. Wells

'To improve their respective estates: James Matheson and Xavier Yrisarri in copartnership', *Matheson & Co. Christmas Letter*, 2006

Committee membership

Friends of Cambridge University Library (Secretary)
Group for Literary Archives and Manuscripts
Committee for the Commemoration of the Quatercentenary of the Birth of John Milton

J. Whitelock

Editor: *Transactions of the Cambridge Bibliographical Society and Monographs*

Committee membership

Library Syndicate (staff representative)
Cambridge Bibliographical Society
Friends of Cambridge University Library

G.H. Wiedermann:

Committee membership

Coutts OASIS Advisory Group

D.F. Wills

'The Squire Law Library', *Cambridge Lawlink*, (*Faculty of Law Newsletter*), Issue 7 (2007).

Committee Membership

BIALL Awards and Bursaries Committee (Chair)
FLARE (Foreign Law Research Consortium)
Freshfields/Faculty of Law Liaison Committee

P. Zawada

Committee membership

EU Databases User Group (EUDUG)

P.N.R. Zutshi

'An unpublished letter of Isabella of Aragon [CUL, Add. MS. 4100(2)]', *Renaissance Studies*, 20 (2006)

'The provenance of the so-called Hours of Isabella of Aragon, Cambridge, University Library, Add. MS. 4100', in *The Cambridge Illuminations: the conference proceedings*, ed. by S. Panayotova (Turnhout and London 2007)

General Editor, *The History of the University of Cambridge: Texts and Studies*

Paper presented

'The papal penitentiary and the beginnings of the Great Schism', German Historical Institute, Paris, November 2006

Committee membership

Oxford University Archives Committee
Advisory and Technical Panel, Northamptonshire Record Office
SCONUL and RLG representative, East of England Regional Archives Council
Charles Darwin Trust (Trustee)
Editorial Advisory Board, *Journal of Ecclesiastical History*

Planning Round 2007 University Computing Service

The University Computing Service provides the information technology and communications infrastructure to support both the academic and administrative needs of the University and its Colleges. In addition, the Service provides many centrally managed services and facilities to support the teaching and research activities of the University, including teaching rooms, public access facilities, training programmes, the provision of consultancy and advice and the management of software site-licensing for the University as a whole.

The operation of the Service has until recently been governed by the Information Technology Syndicate (ITS), and it manages the jointly owned Granta Backbone Network (GBN) on behalf of the University and Colleges, overseen by the GBN Management Committee. In addition, through the incorporation of the Telecommunications Office, it has also assumed overall responsibility for the telephone network of the University, overseen by the Joint Telecommunications Management Committee (JTMC). Following a recent report of the Council and General Board on the governance of information strategy and services within the University and the subsequent grace, the ITS, GBN and JTMC have been replaced by a single overall committee, the Information Strategy and Services Syndicate (ISSS), which also encompasses the remit of the former separate Information Strategy Group as well.

1. Executive Summary

- Continued growth of the new services delivered by the UCS (including Streaming Media Service, Lapwing wireless network, IT aspects of the telephone replacement project, Shibboleth authentication and authorisation) will be supported within the existing resources of the UCS.
- This five-year plan for the UCS includes the 'trading revenue' associated with the new telephone system, making a comparison with prior years difficult. To assist in this matter a simple presentation is given in Appendix C for like-for-like Chest funding and expenditure for the UCS, which excludes Telecomm income and expenditure.
- With the agreement of the IT Syndicate, the UCS is under-funded while the reserves are depleted as illustrated in Appendix C, leading to the return to the normal funding requirement in 2009/10.
- This five-year plan assumes the on-going commitment to the 40% central funding of the 'Small Institutions Support Post' which was agreed for one year in the prior planning round.
- This report requests the agreement to establish an incremental two posts for the support of the CamTools system developed by CARET that has rapidly expanded to support teaching for five-thousand-plus users across the University.
- The cost of an additional purpose-built machine-room facility is not included in this report, but the risk to the operation and reputation of the University of a failure of the current environment remains high and the proposal will be re-visited.

2. Recent Developments

Through the last year, the Service has continued to improve its services to meet the ever increasing rise in demand and usage of information technology within the University. In particular, capacity has been increased to meet demand in usage of the network using the CUDN, email using Hermes, authentication using Raven, and directory services using Lookup. A considerable expansion in the Service's training programme was also put in place following consultation with research staff and students throughout the University, which highlighted the need for more courses targeted at scientific programming.

2.1 CUDN network upgrades in progress

A major upgrade of the core Cambridge University Data Network (CUDN) is in progress, using funding previously allocated to this purpose under the SRIF 3 and Project Capital 4 round. This will upgrade the Point of Presence switches for each Department and College to provide improved capacity, and where possible will ensure there are two or more redundant network paths to each institution, thus improving the resilience to failure of the core network throughout the whole University. This is essential to the success of the Telephone Replacement Project, which is based on the use of Voice over IP protocols over the data network, and will crucially rely on the efficiency and robustness of the CUDN network and underlying GBN infrastructure.

2.2 Expansion of Lapwing continues

In addition, the provision of the Lapwing wireless networking service has continued to expand, with over 150 access points now deployed across nearly 40 institutions. Usage of the facility has proved very popular, with currently 1500 or so individuals using the system weekly. Further adoption of the system is to be facilitated by using previously allocated SRIF/PC network upgrade funding to provide an initial free trial access point to all institutions.

2.3 Streaming Media Service pilot running

Improvements to web service provision have continued through the year. A pilot streaming media service was launched in response to increased demand to provide video and audio streamed material on the University's web sites. Feedback and performance monitoring during the initial trial period will inform the design of a fully functional production service for general use across the University. It is hoped this will be released in preparation for the University's 800th Campaign, which is expected to rely significantly on multi-media provision. By reassignment of resources and using some of the Service's reserves for this project, it is expected that this development can be accommodated within the existing funding projections.

2.4 Public Workstation Facility infrastructure upgraded

Replacement of the PWF's central SAN filestore was carried out urgently following indications that the existing equipment was beginning to fail. Several lengthy periods of downtime following corruption of the central filing systems caused the Service to bring forward its infrastructure refurbishment plans which had been scheduled for later in the year, as part of the planned Project Capital 4 PWF infrastructure upgrade. Further upgrades to the servers are planned later in the year as part of this overall project.

2.5 Raven support for Shibboleth introduced

The success of Raven as a web authentication mechanism has continued to escalate, and this service has now been successfully adapted to support the national academic Shibboleth authentication scheme funded by the JISC as a replacement for its Athens

service. Access to many national and international resources which previously required special Athens identifiers and passwords can now be used by quoting the standard local Cambridge CRSID and Raven password.

2.6 Telephone System Replacement funding secured

Significant progress has been made towards the replacement of the University's ageing existing telephone system. Work with the project consultants, PTS Consulting Ltd, and the Telecommunications Office, now a part of the Computing Service, has resulted in the selection of a vendor to provide and install the replacement system, which will be based on Voice over IP technology and transmit voice traffic over the CUDN data network. Funding for the project of up to £5.5m has been secured jointly from the University and the Colleges, and roll-out of the new system will proceed incrementally over the next eighteen months, with completion expected during summer 2009. Close liaison with all 200 or so departmental and college institutions is taking place to keep everyone informed about the project and progress with the plan. Much of the income and expenditure for the new telecommunications project is now be administered through Computing Service accounts. This has had the effect of greatly increasing the Service's reported trading income and expenditure over the next couple of years, but the net effect should be neutral overall.

2.7 Facilities to assist University IT Support Staff

As part of the Service's campaign to provide support and increased involvement for IT support staff throughout the University, the Service lead by its Liaison Team has continued its investment in fostering consultation and the provision of facilities to assist this sector. A comprehensive programme of consultation with Schools and Colleges at all levels and in particular with the Departmental and College IT Managers Groups is underway to ensure the success of a variety of services, including the new telephone system and wireless networking. During the year the Service has successfully introduce SkillShare, a facility for IT support staff to advertise their own particular skill sets to other members in the group, and an announcement and discussion blog for informing IT support staff about developments within the Service and elsewhere, and allowing open discussion within the IT community. It is anticipated that further developments in this area will be forthcoming as part of the Service's strategy to empower local support staff by providing information and control facilities as part of its developing services and facilities.

2.8 Formation of internal Software Development Team

Following a number of retirements during the year, the Service has taken the opportunity to restructure its internal staffing provision to set up a Development Team with responsibility for many of the small to medium-scale development projects required across the Service on an ongoing basis. Many of these are needed to provide web interfaces and services to customers of its facilities across the University. It is hoped that by concentrating the expertise within one group, efficiencies and common standards can be achieved in future projects developed by the Service.

3. Issues/Plans

3.1 Establishment of long-term funding for Small Institution Support post requested

The Small Institution Support post, providing IT support to small non-school institutions, was set up for a fixed term of one year with funding jointly from the Counselling Service, a one year grant of from the RMC and income generated from consultancy work. This has successfully delivered much needed IT support to a number of small institutions, including the Counselling Service, who have little or no

support provision of their own, as well as providing a valuable charged for service to smaller School and College groups. The Computing Service believes this has provided excellent value for money and has helped target much needed resource to those areas that were in most need of support and which were exposed to considerable risk. It believes that this service is worth continuing with into the future and especially as many such groups will need extra help and guidance during the deployment and subsequent operation of the new VoIP telephone system and other IT-based business systems. For this post to continue there must be a sound basis for funding for the role and the Service therefore asks that the current 40% contribution to the Grade 8 post from the RMC be made a long-term established commitment from the UEF. The remained of the required funding will continue to be found from CS consultancy revenue, and the Counselling Service. The provision of funding for this post has been included in the financial templates submitted.

3.2 Request for 2FTEs to support CamTools as a production service

The CamTools collaboration suite provided by CARET has rapidly become a mainstream facility within the University and an important component of many departmental and school teaching programmes. Over five thousand separate users access the system each week, such that a failure of the system carries significant reputational risk for the University. The transition to providing CamTools as a major production service for the whole University is beyond the resources currently available within CARET, and recent negotiations have taken place with the Computing Service about the possibility of it taking over the day-to-day operation of the facility, whilst CARET continues to work on the future development and maintenance of the system. The CARET Management Committee has recently endorsed this proposal and has recognised that a new need for two FTEs would be required to support CamTools as a production service for the University as a whole, one for system administration and one for user support. It has recommended that these posts should sit within the Computing Service. The Computing Service therefore requests an additional two posts to facilitate the growth of CamTools as a primary production quality teaching and learning tool within the University. We have not included the cost of these posts in our financial forecasts as their inclusion would result in the Service's Chest costs rising at a level greater than the capped 4%. Central approval for this proposal is sought before the Service seeks to increase its establishment in this way. It is expected that the General Board will need to endorse the further expansion of the use of CamTools as a teaching and learning resource for the University before this proposal can proceed.

3.3 SRIF4 and PC5 funding sought for network, teaching facility and email growth

The Service had applied for funding under the current SRIF4 and Project Capital 5 round for further upgrades to the PWF, the Hermes email system and the CUDN Network, for the period 2008-10. These upgrades will be necessary to accommodate the increases demand and evolution of technology necessary to support the University's predicted demand for IT resources. In addition, a proposal to refurbish the Macintosh Balfour Teaching Room had also been put forward for Project Capital funding. With the delay of funding being allocated under this round, it has not been possible to progress with these plans to date, but it is hoped that these will still be awarded funding in due course, allowing them to proceed as planned. A revised assessment of the funding required and the scheduled spending pattern is presented in Appendix B.

4. Risks

4.1 Business continuity and disaster recovery planning

The greatest risk to the provision of services provided by the Computing Service is the vulnerability of its only having a single computer suite in which to house its servers and communications equipment. This presents two risks, the first resulting from the present room being close to reaching its current capacity in power and cooling for the number of machines currently housed there, and the second from the loss of the room through some form of disaster. To remediate this, the Service is investing in upgrading the air conditioning plant and power backup circuits for the suite, which hopefully will allow for a few more years of operation before the limits are reached once more. The loss of the room altogether through some form of disaster: fire, flood, structural failure for example has a small but finite probability, but if this were to happen it is estimated that all services could be lost for up to three months, and full service could take a year to be restored.

A second machine room, which used to be used by the Service but which currently houses the High Performance Computing Facility (HPCF) equipment, is still maintained by the Service as an investment for its future use should the HPCF be relocated to alternative premises. To this effect, the Service has contributed £98k of its reserves towards the current refurbishment of the air conditioning units in this suite, as the originals installed by the Service over fifteen years ago are beginning to fail. It is assumed that were this room to be vacated, it would revert to Computing Service use once again.

Whilst the return of its second machine room would help alleviate the risk of reaching capacity limit, it would not help with the risk of building disaster, as both machine rooms are next to each other in the same building. To reduce this latter risk therefore, the Service is negotiating with a third party off-site hosting facility to house up to ten racks of the Service's duplicate systems, thus guarding against the loss of all central facilities in the event of a central catastrophe.

4.2 Telephone System risks

The other major risks to the Service's plans for the next five years are associated with the University's Telephone System. The existing analogue system is well beyond its normal operating life expectancy and there is a risk that it may fail before the new system is fully deployed. A stock of spare second-hand parts is being assembled to reduce the exposure to this risk, but it still remains a significant concern. The second significant risk in this area is to the roll-out of the new telephone system and results from the potential for lack of co-operation from the University's institutions themselves. The roll-out plan assumes there will be a fairly steady stream of Departments and Colleges ready and willing to migrate to the new system over the eighteen month period allotted to the project. However, if institutions were to all demand to migrate at the same time, or their requirements were outside the expectations currently planned for, then severe logistical problems would be encountered. To remediate this potential risk, considerable effort is being invested in widespread early customer liaison and surveying on the part of the Computing Service, the Telecommunications Office and the project consultants.

5. Financial Outlook for 2008/09 to 2011/12

5.1 Incorporation of Telecommunications Office operating accounts

The inclusion of the Telecommunications Office within the Computing Service means that the financial operation of the telephone system will be merged in to the regular

Service accounts. This is reflected in the Service's templates, which show a gradual inclusion of the financial operation of the system into the Services cost centres and an increase in trading activity there, and a consequent decrease in activity in the old Telecommunications Office cost centres. By 2009/10 it is expected that the only remaining cost centre in the old Telecommunications Office accounts will be the staffing costs which will be funded using transfers from the Service's Telephone System operating accounts.

5.2 Run down of reserves reached in 2009/10

Once again, the Service's five-year plan allows for an initial level of funding below the necessary level of expenditure required to run the services and facilities the University expects. This will result in a running down of its reserves to the level of £500k as already approved by the IT Syndicate and accepted in previous planning rounds. This level of reserves was agreed by the Syndicate as an appropriate buffer for operational contingencies of the order of £100k which often occur unexpectedly during the year and need immediate remediation. It is not sufficient to cover major disasters, for which it is expected central emergency funding would be needed.

However, in earlier plans an overspend of £250k per annum had been anticipated. The result of the grading assimilation process has meant that significant numbers of Service staff who were previously at the top of their grades have been moved across to new grades where they now are entitled to annual service increments. As we have assumed our annual UEF income is to be capped at 4%, which is barely enough to cover the already agreed annual pay settlement increases for 2008/09, the additional salary burden caused by annual increment movements of staff has had to be borne by the Service from its reserves. This is roughly an extra £250k in 2008/09, decreasing over the next few years as staff hit the top of scale. The total draw on reserves is therefore predicted to be £500k initially, and as a result the reserves are predicted to deplete to the threshold level by the onset of 2009/10, rather than 2010/11 as had been forecast in previous plans. The Syndicate has also indicated that the value of this reserve needs to be maintained and so should be linked to the overall operating costs of the Service in future plans.

5.3 Uplift to baseline central funding required in 2009/10

The Service's plans have therefore assumed there will need to be a consequent uplift of the baseline central funding for 2009/10 if the Computing Service is to continue to provide services and facilities for the University to meet its requirements, yet still preserve a buffer reserve of £500k for operational contingencies.

I.J. Lewis
S.Kearsey
29 November 2007

Appendix A – Operating Statement for 2008-09

The aims of the Computing Service for 2008-09 are:

- to accommodate the overall increased usage of Information Technology and any increases in staff and students numbers during this period, maintaining the range and level of services currently provided.
- to continue to maintain and improve the reliability of the IT Infrastructure services provided, especially those that are core to the operation of the University as a whole.
- to improve the federated support facilities the Service offers for IT Support staff in the departments and Colleges.
- to complete the installation of a modern telephony system based upon digital technologies and utilising the existing CUDN infrastructure.
- to extend and enhance the student teaching experience through the provision of a comprehensive application suite on the PWF public workstations and upgrade the central PWF infrastructure to accommodate developments in hardware, operating system and application software.
- to refurbish the Balfour 2 Macintosh Teaching Room (subject to funding being awarded under SRIF 4/PC 5).
- to improve the use of common reference data within the University and its Colleges in collaboration with the Management Information Services Division of the UAS, e.g. common keys for people, institutions, courses and locations.
- to seek ways to exploit the common reference data to more effectively manage the appropriate authorisation of users within the University's major application systems, in collaboration with the Management Information Services Division of the UAS.
- to continue to support an enhanced image of the University as presented through the main web-site, in particular facilitating the adoption of incremental enhancements within the Departments and Colleges. The Streaming Media Service will be developed into a robust platform capable of widespread support for multimedia.
- to provide effective support for the CamTools system commensurate with the needs of the large body of users and minimising the operational and reputational risk to the University, subject to the agreement for funding.

REPORT OF THE UNIVERSITY COMPUTING SERVICE
(INCORPORATING THE TELECOMMUNICATIONS OFFICE)
FOR THE ACADEMIC YEAR 2006/07

This report summarises the work of the University Computing Service (UCS) in 2006/07. It begins with sections detailing the strategic issues requiring the Service's attention and a review of its planned significant initiatives for 2007/08. This is then followed by a section highlighting some of its activities over the past year, and a short glossary listing some of the jargon and terminology used within the report. Finally this is followed by an appendix giving statistical details of the use made by the University of the main facilities and services provided by the Computing Service. A more detailed breakdown of these statistics is available on the World Wide Web at <http://www.cam.ac.uk/cs/itsyndicate/annrep/stats06.07.pdf>.

A. Executive Summary

- As reported in the previous annual report, detailed work on the composition and remit of a single committee replacing the Information Technology Syndicate and the Information Strategy Group is ongoing.
- Line management of the Telecommunications Office continues to rest with the Director of the Computing Service although the incorporation of the staff into the UCS is delayed pending the resolution of the item above.
- Preparatory work for the replacement of the University-wide telephone system is absorbing considerable UCS time and resources. A project-management consultancy has been engaged to coordinate the effort, the supplier of the system has been selected from eight comprehensive bids, and a broad programme of communication to the Departments and Colleges is underway. The Planning and Resources Committee of the University has committed a budget, and the Colleges have unanimously agreed to support the system.
- SRIF funding has not been allocated to the UCS for 2008/10, so that necessary upgrades to the network, PWF workstations and email environment will draw upon Chest funding.
- A proposal for the construction of a purpose-built data-centre (i.e. computer room) has gained little support. We will continue with the current ad-hoc arrangements for machine-room space with the current limited capacity for disaster recovery or resilience against localised power or cooling failure. A pilot program is underway to assess the use of externally contracted machine-room space.
- The combination of Raven (single sign-on) and Lookup (user reference information) has become fully embedded in the fabric of the University, with over three hundred separate systems taking advantage of single sign-on, and fifteen thousand separate users each month.
- Significantly, Raven and Lookup have provided an excellent platform for our implementation of Shibboleth, the industry-wide authentication framework for global access to electronic resources in higher education and research. All members of the University of Cambridge can now access a wide variety of information sources using their Raven username and

password, including our own University Library. Approximately one thousand members of the University used these capabilities in the first month of the service going live, with the University of Cambridge being considerably ahead of most other institutions in the UK.

- The deployment of the University wireless network has expanded from four Departments last year to thirty-four Departments and Colleges, with usage reaching seven hundred and fifty unique users per week. The support for visitor access to the wireless network was well received at the beginning of the summer.

B. Strategic Issues

Federated Support in the Departments and Colleges

The University Computing Service continues to support the strategic goal of optimising IT support across the University and its Colleges recognising the important role played by the local IT staff embedded within most institutions. The approach has two significant elements: firstly to align the distributed IT staff into a more coherent whole through a program of communication to promote the use of common infrastructure and tools and facilitate community communication, and secondly to design into our services meaningful access for a Departmental or College administrator.

Self-Service

Ongoing work within the UCS is seeking to ensure that direct access to personal information is provided wherever appropriate within the UCS systems. The combination of this and the above item are the practical factors driving the execution of our information strategy, namely the exploitation of common reference information for both individuals and institutions held in the Lookup system, and the use of Raven as the single-sign-on mechanism.

Common Infrastructure across the University

The significant elements of the common infrastructure amount to the Cambridge University Data Network (now including wireless), Raven authentication, and Lookup reference data. Services provided by the UCS predominantly use these services and the adoption across the University is excellent for new Departmental and College systems and satisfactory for the migration of existing systems.

Retirement of Senior Staff

So far, the recruitment process executed to ensure adequate coverage for planned staff departures has progressed extremely well. The UCS has used its reserves to absorb costs where proleptic appointments have been made to mitigate otherwise unacceptable risks. Further retirements are expected in 2007/08.

Development Capability

Not all departing staff have been replaced on a like-for-like basis. In particular the opportunity has been taken to re-structure the UCS to include a team dedicated to the development of the web-based applications today associated with every major service. The team will form the core competence within the UCS for database-driven, web-delivered developments using Raven authentication and taking advantage of the

strategic reference data held in Lookup. This approach should be more effective than the current reliance on development skills which are embedded within each UCS division but unevenly distributed.

High-Performance Computing

The UCS continues to host the High-Performance Computing Facility, which during the year was upgraded to become one of the most powerful supercomputers in Europe. The outcome of a series of discussions led by the Pro-Vice-Chancellor for Research was that the management of the service should remain within the School of Physical Sciences and the UCS will strive to provide good support and backup for the service within that context. The intention is to create a governance structure around a new Cambridge Centre for Computational Science which would accommodate University-wide oversight of this resource.

CARET

Effective liaison between CARET and the UCS continues, and the CamTools service provided by CARET achieved widespread use in 2006/7. CARET has been successful in exploiting the common infrastructure in ways consistent with our information strategy, but we have not yet agreed a support model taking advantage of UCS resources.

C. Significant Developments for 2007/08

Telephone System Replacement

This is described in considerable detail in the following section, but it should be noted that to the advantage of the University a wide range of contribution is expected from across the UCS, whether data-networking technical expertise or Institution Liaison experience to guide the communication process.

Staff/Student Portal

The review of our 'web presence' is progressing under the sponsorship of the Information Strategy Group, and has evolved into two parallel inter-dependent strands: our external web presence and improved communication to staff and students. The former is expected to require considerable content design work on the part of the Office of External Affairs and Communications, while the latter will depend largely on the successful provision of a workable framework by the UCS with some degree of integration with a plethora of internal information sources.

User Authentication and Authorisation

The 'Shibboleth' enhancement to Raven has now been delivered, giving members of the University access to academic resources around the world, but 2007/08 will see continued enhancement to the granularity of authentication and authorisation supported by Raven.

Wireless Access

2006/07 saw significant expansion of the Lapwing wireless network, with over eight hundred users per week by the end of the year, and functional enhancements including the ability to locally produce 'tickets' for visitor access within the Departments and Colleges. The rate of expansion will be maintained in 2007/08, increasing the density

of wireless zones around Cambridge. Where network enhancements are planned to accommodate the requirements of the replacement telephony system, opportunity will be sought to combine that with a deployment of Lapwing.

Techlinks Portal

An authenticated 'portal' site is at an advanced stage of development to act as an online focal point for the distributed population of Computer Officers around the Departments and Colleges.

D. Highlights of 2006/07

Telephone System Replacement

Over the past year, the UCS in conjunction with the University Telephone Office has begun preparations to replace the University Telephone Network (UTN). This system is a joint venture between the University and the Colleges, and will utilise Voice over Internet Protocol (VoIP) technology, implying a high reliance on the University's data networks. The following is a summary of significant events that have led up to the final selection of a vendor for the new system:

January 2007 – PTS Consulting was engaged to oversee the final stage of procurement of the new system and provide project management throughout the implementation.

February 2007 – June 2007 – PTS Consulting and the University of Computing Service staff carried out multiple technical workshops and briefing sessions with all potential suppliers available on the established University Framework.

10 May 2007 – The Cambridge Bursars' Committee approved the adoption of the new system. The Colleges agreed to proportionately pay their portion of the core system at the end of this calendar year and subsequently provide funding for installation of the telephony instruments during the roll out period.

23 May 2007 – The University Planning and Resource Committee approved the release of the Telephone Exchange Sinking Fund for use in the procurement of the new system.

14 June 2007 – A final Request for Proposals (RFP) was drafted and issued to the eleven suppliers which had previously entered into a framework contract with the University in 2006.

13 July 2007 – The replacement voicemail system to be paired with the new telephone system was launched within the UCS.

3 September 2007 – A final vendor was selected for implementation. This vendor was BT iNet who will be installing a Cisco VoIP system.

11 November 2007 – The UCS and an initial installation site will have its standard telephone handsets migrated to the new system.

January 2007 through 2009 – The remaining extensions that reside on the UTN will be migrated over to the new system.

With the imminent roll out of the Telephone System Replacement, other joint (UCS/Telecommunications Office) projects are in hand to further enhance the features offered by the telephone service. It is expected that these various systems will provide users with an integrated communications package more in tune with today's convergence of information technology.

Voicemail

A new voicemail system is currently being introduced which will be rolled out in parallel with the new VoIP telephones. As well as the normal voicemail features through the extension phone it will also have enhanced email notification and message delivery; the voice message will be attached to the notifying email (as a .wav file), enabling users to hear their messages wherever they can read their emails. Users will also have greater control over the functionality of their mailbox via a Raven-protected user web page. This single page will show the status of all a user's voice mailboxes no matter how many extensions are attributed to them. It will also be possible to listen to and delete messages via the web page. These enhancements will make it very easy for a user to manage their voice messages remotely from the system and wherever they are within the world.

Call Logging

Call logging and charging are an essential part of the telephone service offered to extension users and their institutions. Historically, systems used by the University have provided the central accounting system with the means for charging Institutions and at the same time providing information to Institutions on telephone usage and costs.

As with the voicemail system emphasis is being placed on providing information, in this case usage and cost of calls via a web page, directly to the end user.

Another new feature will permit administrators to view, instantly on demand, information on extension usage within their Institution. In the past this facility has not been possible and this has particularly frustrated Colleges where they have required hotel checkout functions during the conference seasons.

A supplier has been selected, based on the potential of the system they are offering. Once further development has been carried out the system will not only be offered as standard with the new VoIP service but it will also be used with the legacy telephone system until that is switched off at the end of 2009.

With both the new voicemail and call-logger, standard proprietary systems are being purchased and further enhanced by development work carried out within the Service. It is expected that users will be able to easily access their voicemail and call logger web pages as additional tabs on their Raven-protected Lookup page.

Cambridge University Data Network

The changeover to the SuperJANET 5 (SJ5) national backbone has been completed by UKERNA. The regional distribution network "Eastnet" has also required substantial reconstruction. Eastnet now has two attachments to the JANET core, at London and

Leeds. The Computing Service continues to provide space, power and engineering liaison for JANET/Eastnet equipment, under contract to UKERNA. In mid-February the University of Cambridge's link to JANET was re-homed on to the SuperJANET 5 structure. The link bandwidth remains at 1 Gbit/s and the main IPv4 service continued without any trouble.

There has been a significant increase in the JANET network charge from HEFCE/JISC, based on the University's HESA return. The charge to the University for 1 Aug 2007 to 31 Jul 2008 is £261,056.93 (including VAT) - an increase of £51579.15 (some 25%) compared with that for the previous year. The reason for this increase is the inclusion of Cambridge University Press in the University's accounts. A similar increase occurred in 2005 when Cambridge Assessment was included in the University's accounts. This charge is recovered by a quarterly charge to each institution based on the institution's JANET network traffic.

The new replacement telephone system will utilise the data networks to carry voice traffic. In an effort to ensure the best possible service, an upgrade to the PoP hardware located throughout the University and the Colleges will commence in November 2007. It is proposed to upgrade all connections between the CUDN core and client sites, under a SRIF-supported project currently at the planning and tendering stage. The plan involves replacing the present PoP devices with Gigabit-capable switches connected by two 1Gbps links to different CUDN core nodes. Additionally, significant upgrades to the core equipment managed by the Service will also occur. The goal of this project is to ensure high reliability and resilience to the University's institutions. The new hardware will ensure uptime during power outages as well as providing high speed links to institutions that did not have them before. This in turn will ensure a robust core telephony network. This upgrade will be phased to keep one step ahead of the telephone network deployment to ensure all sites gaining the new telephone system are fully compliant with the stringent technological needs of a VoIP telephony system.

The University's primary IP nameservers have been upgraded to two newer, more powerful systems, and their duties have been split across two virtual systems per machine to improve the security of the University's name service.

Granta Backbone Network

The installation of new ducts and moving of cables and active services has been required prior to building works at West Cambridge (Physics of Medicine) and at Downing College. Both routes carry many active services. The moves were completed successfully with minimum disruption to the end-users. Mini-nodes have been installed at Cancer Research UK (Addenbrooke's) and at Scroope Terrace for Architecture. A number of new circuits have been installed for various University Departments, Colleges and the CUDN. Following the malicious damage to cables along Hobson's Brook footpath, security covers have been fitted to a number of vulnerable secluded routing chambers.

At its meeting on 23 January 2007, the joint University/Colleges Granta Backbone Network Management Committee agreed that the charges for the rental of GBN fibre circuits needed to be increased from the current £6.50 to £10.00 (per hundred metres of fibre or part thereof). The committee's reasons for increasing the rental rate were

that there had been a large excess of expenditure over income for the last two years that needed to be redressed, and that it is necessary to build up a reserve for repairs and refurbishments to the duct network that are anticipated in the future because of the growing age of the network. The committee envisaged that further modest increases to the rental charges would be needed in subsequent years.

Lapwing

In last year's annual report, the Lapwing service was presented as a pilot. Since then, the system has been released and is steadily growing and increasing in popularity. Thus far, 34 Institutions (Colleges and University agencies) have signed up for the service. The goal for this next year is to at least double the number of adopting Institutions as well as to continue installations in commonly shared areas (e.g. teaching rooms, lecture theatres).

In addition, a ticketing system was developed in-house by the Computing Service. This system allows devolved access management for Lapwing-adopting institutions. Effectively, this enables such Institutions to provide temporary usernames and passwords to visiting students, conference attendees, and others who may need data access while visiting the Institution. The system was developed as a result of demand from Institutions, especially Colleges who provide conference facilities.

Network and computer security - CERT

During the year, the Cambridge Computer Emergency Response Team (CamCERT) recorded a total of 84,834 computer security-related incidents in the Cambridge internet domain: 84,367 hostile probes into the cam domain (more than 230 per day on average), 302 compromised machines, and 165 complaints of copyright infringement.

While the number of probes has dropped to about half of the previous year's total, the number of copyright infringements reported to the team from agencies representing copyright holders (mostly films) has increased dramatically. It is believed this is due to improved monitoring detection systems being used by these agencies. The vast majority of copyright infringements occur during term, and half of the total was in the Lent term 2007. IT contacts in the Colleges and Departments worked quickly to remove the offending machines from the CUDN and to reprimand the offenders.

The probe of choice for our attackers continues to be for Microsoft specific services and the vast majority of compromised machines are running Windows. The usual cause is a result of out-of-date system software or anti-virus software.

Raven

The Raven web authentication service has grown to effective saturation point within the University. Of the current MIS systems, only CUFS does not use it. It has become the standard, and expected, web authentication system for all University web servers now.

The Service is in the process of extending Raven to provide authentication services for the international Shibboleth project. Shibboleth is intended to be the standard web authorization system designed for Internet2. UKERNA is supporting the UK Access

Federation, a group of cooperating sites, to permit easy collaboration between them. Cambridge was one of the first UK universities to join.

A Shibboleth-Athens gateway has been created. This permits users with Raven accounts (via Raven's Shibboleth extensions) to access online resources previously protected with Athens passwords. The University Library has chosen to use this technology rather than subscribe for an additional year of Athens accounts.

Shibboleth's international use outside the EEA still runs the risk of being compromised by the Data Protection Act. Following useful discussions with the University's Data Protection Officer, the Service is hopeful that it will be able to use it for international collaborations, though there are still some remaining concerns about the need for formal contracts with the remote sites interfering with casual use.

University Directory Service

The Lookup system's presentation of undergraduate information was reconfigured to reflect the requests of the College IT Managers' Group. Undergraduates are no longer presented in their annual cohorts but as a single unit under each College.

Public Workstation Facility and Managed Cluster Service

The size and scale of the PWF Managed Cluster Service has held approximately constant throughout the year. Currently, 16 Departments and 21 Colleges are subscribed to the Managed Cluster Service.

There are 1790 PCs being serviced by the PWF, up from about 1620 in July 2006. The PWF Linux option (using SuSE Linux 9.3) was provided at 20 institutions, up by two since July 2006, as well as at the Computing Service, providing about 770 stations in total which dual-boot Linux alongside Windows.

Occupancy of the PWF file-store in July was 1,300GB of user data in personal filespace consisting of 23 million files; this amounts to 50% of capacity and shows a substantial increase from the 900GB and 16 million files being utilised in July 2006. The increase of about 400GB in the year is a slightly larger than last year's 300GB increase. The increase in the number of files is particularly marked. The default user space limit remained at 500MB throughout the year.

Use of the NetStorage facility, introduced last year providing web browser access to the PWF user file-store, has increased significantly. This service, using Novell's NetStorage product, provides file transfer and file management facilities. It also provides access by WebDAV (supporting e.g. Microsoft web folders), and is of benefit to users with their own machines (Windows and Linux PCs and Macs). Students can now, for example, use their personal computers from their college rooms or via any Internet connection to access their PWF filespace.

Following announcement in May, the withdrawal of the old PWF FTP service took place at the end of July. Users are recommended to use the newer PWF SFTP service as a more secure alternative.

PWF Infrastructure

Following protracted preparations and testing, the change to the PWF Windows user service to use IP instead of IPX for communication with the PWF core was completed successfully with the April Window's rollout. IPX remains in use for PC imaging as there is currently no viable alternative available.

The replacement of most of the network switches that support the UCS PWF rooms took place last summer. These switches provide 1 Gbps trunk links for these rooms. In July 2007, new switch equipment was purchased to upgrade the PWF core networking in the UCS machine room.

The phased transfer from legacy Netware print queues to secure NDPS printing, which started in June 2006, was completed over the Christmas vacation. Windows, Linux and Macintosh PWF systems now all use the same NDPS secure IPP printing facilities; this has considerably simplified the PWF printing infrastructure.

Ongoing system software maintenance has again improved system stability. Two sets of new servers were purchased during the year as part of the Service's continuing programme of PWF server replacement, consolidation and development. One set of these is to support a "virtualisation" pilot to investigate options for future server technology.

A second tape library auto-changer to support PWF backups was purchased in March and subsequently commissioned. Along with changes to the servers and updates to the current PWF backup software, this has led to a much improved backup system. Evaluation of a possible replacement for the current PWF backup software is ongoing.

During the year, discussions took place with potential suppliers of replacement equipment for the PWF central file-store and with consultants subsequently contracted to assist with the procurement and installation. The replacement SAN storage system is expected to be purchased for the Michaelmas Term.

Significant effort has been given to investigating and testing options for future improvements to the PWF service. In particular, we have been monitoring and testing the next release of Novell's OES, based on SuSE Linux instead of NetWare. The Novell CIFS service is under test and is expected to be provided as a pilot service for Michaelmas 2007. Positioning changes to the PWF password system, using the Novell eDirectory "Universal Password" mechanism, are to be made in August; these will subsequently enable longer secure Macintosh passwords.

PWF Macintosh Systems

The PWF Macintosh image was based on Mac OS X 10.4 throughout the year and supports both Intel- and PowerPC-based Macs. During the summer of 2006, many applications were updated or newly installed for the PWF Macs. These included the Adobe CS2 suite, iLife and iWork 06. Other improvements made included support for secure print queues and a new utility for viewing PWF file quotas and print credit as well as the resetting of application preferences.

A PWF Macintosh Software Update Server has been deployed and the Macs now install security patches and larger OS updates automatically to improve security

between released images. Many improvements have been made to the imaging system and a trial was started to enable the scheduled unattended imaging of the PWF Macs.

PWF Linux

A new image for PWF Linux was developed over the course of the year. A survey among the UCISA IT Directors indicated that among the Russell Group Universities, Cambridge was the only one to provide teaching facilities in all of Windows, Mac OS and Linux.

Printing Common Balance

The PWF common print balance scheme, introduced last year, has grown in scope during the year to cover the PWF printers for nine institutions in total: the Computing Service, the Computer Laboratory, History, Education, English, Homerton, Law, MML (including the PWF stations in Philosophy) and the UL Moore Library. The scheme enables a user's print credit paid for at one participating PWF site to be used at the other sites. About 680,000 pages were printed last year on common balance PWF printers, out of the approximately 5.5 million pages printed in total.

eCredit Service

This facility was released in August 2006 and enables users to top up their common balance print credit, using a Web-based system for payment by bank card at any time. The PWF eCredit application depends on the MISD and Finance "eSales" system and the MISD eSales hub, which links to the banking system and facilities within CUPS. Computing Service Staff worked with MISD and Finance Division staff last year to provide the PWF eCredit facility. Aside from one or two glitches (arising in the communications with the bank) PWF eCredit has worked very well and proved very popular, particularly for users at non-central sites such as Homerton and Education. During the year, it was used by 1235 users for 3335 payment transactions to a total value of £22,000.

iPrint Service

The iPrint facility, also introduced last year to provide access to PWF printers from IP-connected Windows XP PCs such as those in students' rooms or those using the Lapwing wireless service, has continued to prove successful. Its scope was extended to cover all PWF printers at all sites last summer. Use of iPrint involves installation of a small Novell-provided client module on the user's computer and the easy download and configuration of appropriate printer drivers. It provides authenticated access to PWF printing which is charged for by normal PWF methods.

Examinations for Special Needs

The Computing Service again successfully provided special images and technical back-up for the Examinations for Special Needs held using PWF machines in the Titan Suite. One session survived a power cut with minimal impact on candidates, thanks to staff who went to the Titan Rooms to help restore the workstations. More than 20 members of staff were involved at various times in various roles and, for the first time, technical back-up was provided by Officer staff where Assistant staff resources were unavailable.

The number of candidates increased over the previous year, and the number of places that can effectively be provided has now reached its practical limit. If more than 80

candidates attend in a single day then there is insufficient time to re-initialise workstations between morning and afternoon sessions. This year the numbers were close to this limit on a few days. The close proximity of the two rooms in use does lend itself to operational efficiencies, which otherwise would require too great a staffing level to manage.

The use of Macintosh computers as an option, introduced for the first time last year, was significantly more popular this year.

International Summer School

The UCS again supported the International Summer School process. This year, over 850 students took part. For these students, the UCS provided PWF access to all students. Additionally this year, Lapwing tickets were provided to each student so they could use their laptops at a variety of locations during their visit, which proved a very popular service.

Email

The email system continues to grow and the default quotas on the Hermes mail store will be increased to 1GB per user by the start of the academic year. This year saw the completion of a campaign to eliminate the use of insecure protocols, in which "plain text" passwords were being transmitted to gain access to the mail store. All access to the email system is now encrypted to prevent snooping attacks against the network.

The email systems are currently processing between twenty and thirty email messages per second. According to the time of year, between 80% and 90% of all email arriving at the Cambridge border email system is rejected as spam. There has been, and will continue to be, an arms race between the spam and virus authors and the detection systems designed to block them.

Managed Internet Services

The managed web service has passed the 100 mark for the number of web sites it hosts, which currently stands at 102 live sites.

The Service now supports UKERNA's free-at-point-of-use TLS certificates. These are restricted in what they can be used for, unlike the paid-for Thawte certificates already supported by the UCS. The free certificates may not be used for any commercial or financial transactions. The Service anticipates having to support both sets for the time being, with the use of the Thawte certificates dropping dramatically but not to zero.

University Map

Version 4 of the University map came on-line alongside the new print edition this year. The electronic version is now the master copy, and the print edition is derived from it rather than vice versa as for the previous editions.

Web Search Engine

Various steps have been taken to make the University search engine more 'Google-like'. In January 2007 the search engine was upgraded to the current version of the Ultraseek software and this allowed a further feature to be enabled: the search engine, like Google, now only returns results that match all search terms used. Feedback suggests that users generally find this behaviour more expected and understandable.

Streaming Media Service

This year saw the launch of the pilot Streaming Media Service. This service is designed to allow University staff to set up collections of videos which they can upload. These videos are then automatically converted into a number of streamed and downloadable formats for public access over the web. It is the Service's intention to run the pilot for a year to gain experience and feedback from its users and to adapt the service for fully supported running at the end of the year.

Meanwhile, an *ad hoc* media streamer was hastily put together to facilitate Cambridge Media's coverage of the Science Festival. This temporary service has subsequently been used for the streaming of the Chancellor's Thirtieth Anniversary celebrations, a task for which it was never intended, and the Service will be discontinuing this system at the end of the pilot phase of the official Streaming Media Service.

Central Unix Service and Pelican

The plans to shut down the Pelican archive and the Central Unix Service are proceeding according to schedule. Pelican was switched to 'read only' mode at the start of CY2007 and will be turned off for the start of CY2008. The users of the CUS are being migrated to other systems, primarily PWF Linux remote access servers.

PC Support

This year the PC Support team has been heavily involved in support for the Research Assessment Exercise 2008 (RAE), but otherwise the focus of the team has been centred on the release of the Windows Vista operating system at the beginning of 2007, and its impact on the work of the University.

There were the usual incidents needing the team's assistance during the year. For example, at the end of August a member of the team gave significant help to a College which suffered multiple domain controller and RAID failures in two servers running Active Directory and file services, effectively disabling IT services within the College. All data was recovered and the domain controllers were back online after a very long day's work.

Similarly, following the failure of a domain controller after a power cut, which left a Laboratory's users unable to login, the team was called in to help out as the most senior Laboratory Computer Officer was on maternity leave at the time. The domain was stabilized and subsequently rebuilt to restore computing facilities.

Although a security CD is produced in great numbers for distribution to the influx of new students at the beginning of the academic year, the PC Support team now maintains this as an ISO CD image, downloadable from the PC Support web pages for use at any time. It was therefore possible to upgrade the CD to detect the new Windows Vista operating system, in all its versions, and to provide a significant new release of VirusScan during the year rather than having to wait for the Michaelmas Term to distribute it.

Macintosh Support

The focus of small Macintosh Support team ranges from training and TechLink seminars, the provision of the Macintosh service of the PWF, and support for

examinations for special needs, to the maintenance of significant services internal to the UCS.

This year the team had to maintain two images (corresponding to the old Power PC and new Intel technologies) for the PWF Macintoshes. This was achieved by combining the Netboot images into a Universal image which was deployed in the Easter vacation, simplifying the imaging process considerably. Remote initiation of the imaging process is being piloted in order to make the process more straightforward for Managed Cluster sites. Operator involvement in imaging the UCS PWF Macs has been reduced since the New Year by initiating imaging remotely; this experiment has since been expanded to include one College and one Department and it is planned to gradually increase the number of sites imaged in this way.

Various other improvements have been made to the PWF Macintosh platform: the imaging software suite, Casper, has been upgraded; the PWF login process has been speeded up; and a new utility "PWF Account Management" has been introduced to allow resetting of a user's PWF preferences and to display the user's quota and print credit.

The team arranged for speakers from Apple to present a full day of seminars in Cambridge in April on the subject "Mac OS X Client Management".

TechLinks

Developments described elsewhere have stimulated interest in the TechLink scheme to the extent that membership has risen over the past year by about 10% and now stands at 385.

The seminar programme for the past year was very wide-ranging and varied and was, as usual, a mixture of invited talks from industry and talks presented by members of the Service or other IT staff.

In the Michaelmas Term there were three seminars, all presented by commercial companies: "Wireless Access for Students, Staff and Visitors" by Data Integration, "Wired and Wireless Services - the Post-Mortem Seminar" by Khipu Networks, and "Open Sourcing at the BBC: When, Why, Why Not and How" by Michael Sparkes.

At the end of November the seminar slot was used to hold a special induction session aimed at new IT staff outside the UCS. Material was presented by several members of the UCS on various topics of interest to Computer Officers in Departments and Colleges.

In January the UCS PC Support team ran a sequence of three TechLink seminars, plus one for Computing Service staff, with an experimental hands-on format, in one of the Titan Teaching Rooms. These were to introduce computing staff to the then brand-new Microsoft Vista operating system, and about 140 people attended in total.

There were five other seminars in the Lent Term: "VMWare and the Power of Virtual Infrastructure" presented by Repton Computer Products, "Information Architecture: Website Useability and Management" by Martin Lucas-Smith of the Geography Department, "Integrating Mac OS X into an Active Directory Environment" by James

Nairn of the Small Systems Server team, "Post-admission Endpoint Control of Network Access" presented by Mirage Networks, and "VOIP - Voice Processing - IP TV and Video on Demand" consisting of three related talks given by Chris Barron of the Telecommunications Office, Splicecom and ViVo Digital.

There were four seminars in the Easter Term, all presented by members of the Computing Service: "Shibboleth" by Jon Warbrick, "Virtualisation on Macintosh" by James Nairn, "The Streaming Media Service" presented by Julian King, and "The Lapwing Ticket System" by Ian Lewis and Jake Hornsby. An additional seminar was held experimentally out of Term at the end of July: "Blade Servers" presented by HP/Quadnet.

IT Training

The total attendance at UCS courses for the year was 3618 (up 26% on the previous year) and the highest for 6 years; this dramatic increase can largely be attributed to 34 new courses being offered, most of which were in the "Scientific Computing" series. One of the later was also delivered in a department to a departmental audience rather than as part of the Service's public programme. The overall satisfaction rate was a pleasing 97%. The most popular courses were Endnote, Web Page Authoring, Photoshop, Unix, SPSS and MATLAB.

Many courses, including the new MATLAB and some programming and scripting courses were oversubscribed. Several extra runs were laid on and, where possible, courses were moved to larger venues to meet demand.

It is worth noting that the Service is running very close to capacity in terms of the number of courses that it is able to schedule in its training rooms. In addition, there has been increased departmental demand for these venues, particularly from the Joint Schools Programme.

The specialist programme of courses aimed at IT system administrators has continued this year with three courses developed in house and three supplied by external trainers. The in-house courses were "Macintosh OS X Server System Administration" given in December to 11 people, the new "Windows Vista System Administration" for 27 people in June and "Windows Active Directory" for 14 people in July. The bought-in courses were two runs of "Linux System Administration" which attracted a total of 33 people and "Solaris ZFS" for 17 people.

In addition to the advertised programme, extra commissioned courses were given on EndNote (twice) for a large department, and Outlook for a small department.

Thirty-three courses, 11 in each term, were presented by a member of the Training team as part of the Personnel Division's Staff Development programme.

The total number of loans and sales of self-instruction materials was 285. The most popular self-teaching courses were Excel, Access, VB, Photoshop and Web Development.

The fortnight of Thinking Skills Assessment sittings in December using central Computing Service facilities went smoothly.

Finally 2007 marked the ninth and last international workshop on the Exim email system, which is now used by ISPs all over the world. Philip Hazel, the author of the Exim system and a member of the Computing Service for very many years, is retiring at the end of September and will be sadly missed. The conference, organised by the Training Team, was held in Robinson College in July. It was attended by 44 delegates, 9 of whom were from overseas. Eleven extra people attended the "Farewell to Philip" dinner held in his honour. Feedback from the participants was very complimentary.

Assistive Technology

To introduce the new Assistive Technology (AT) PWF facility situated at the Disability Resource Centre (DRC) in Keynes House, two information and orientation sessions were provided for the Centre's staff to increase their awareness of the new facility. As an extension to these sessions, three AT seminars were presented to University Disability Liaison Officers to promote the new AT services offered by the UCS.

The AT Support Specialist has been able to increase the range of AT software training available to staff and students to include Read & Write TextHelp, SuperNova, ZoomText and Inspiration. Training can be provided either as a demonstration or a tailored practical training session on one, or more software packages. During the year 20 tailored Assistive Technology one-to-one training sessions were delivered to members of the University. Of these, 17 sessions were provided for staff, 8 of which were designed for RSI and dyslexia-related conditions with the remaining 9 sessions designed for users with a visual impairment. Three sessions were designed for undergraduates with RSI and dyslexia-related conditions.

Through the DRC a braille service is also available to University members with visual impairments.

User Administration

The advent of CamSIS caused a number of problems for the User Administration team. Whilst the Service now receives much more detailed information than formerly, and this is very useful during the application process and while the students are active, the detail of the graduation process makes data handling at the end of postgraduate courses in particular, much more difficult; one year postgraduates are not marked as completed until well into the Michaelmas term after their courses finish.

To deal with this, a series of 'mini-purges' has been introduced that start immediately after a Congregation. These are modelled on the large student purges that give the departing students a firm cancellation date unless they respond otherwise. These were so successful that by the time the second month of the 3 month trial was reached, the Service had committed to continuing with this process and had added departing staff to the scheme as well. The load on User Administration staff was dramatically reduced and the Administration team is now able to remove departed staff and students from the systems in a much more effective and timely manner.

Research Assessment Exercise 2008

Members of the Service spent much of the year preparing for technical support of the Research Assessment Exercise 2008 (RAE). A specification of the Data Collection System (DCS) was published by HEFCE and a compatible DCS was initially developed within the UCS because of uncertainty about the quality and timeliness of the proposed HEFCE system. A compatible data collection spreadsheet was also developed in the UCS and this was distributed at an early stage to Departments that requested it.

As it transpired, the HEFCE DCS was delivered on time and found to provide adequate controls for management of the Cambridge data so, on 2 February, the decision was made to use the HEFCE DCS directly, rather than input data via the DCS developed in the Computing Service. The Computing Service DCS, though not ultimately required, was nevertheless completed ahead of schedule and remains available for use as a backup if the national system were to fail.

The HEFCE DCS was populated with available data and set up with Cambridge user accounts, and was released to Cambridge users at a launch on 20 March. After that the data was regularly exported from HEFCE to the UCS because HEFCE itself offered no backup/restore facility to individual sites. The UCS will now act as a longer-term repository for the data after the University is locked out of HEFCE's system following RAE submission in November 2007.

By the end of the academic year, after the deadline for deciding on which existing staff were to be included, there were more than 3200 researchers listed in the DCS and an estimated 50% of the research output data had been uploaded. However, in addition to this, a number of Units of Assessment were working on local copies of their data and the UCS was offering assistance to import it into the HEFCE DCS.

Institution Strategy

As part of the Institution Strategy team's broader remit, work has begun on systems to encourage interaction and cooperation between IT support staff throughout the University and Colleges. Two services have been implemented: Skillshare, an online database which allows staff to list their areas of expertise and identify colleagues with particular skills, and a blog for IT support staff to journal developments and issues and comment on topics raised by others.

The Small Institution Support Service (SISS) was established during the year to provide centrally-funded IT support and consultancy to a number of small non-School and Council institutions which are unable to justify employing their own Computer Officer but nonetheless have significant and sometimes complex IT-related requirements. In addition, the SISS has undertaken charged-for consultancy work and provided emergency cover for larger institutions which found themselves temporarily without IT support staff.

Members of the team continued regularly to assist with interviews for departmental and college Computer Officer posts, when requested, and ran an induction session for IT staff new to the University. Three reviews of institutional IT services and support were completed; one for a Department and two for Colleges. Members of the team frequently attended various strategic IT meetings, including a number of College and

Departmental IT Management Group sessions, the IT Purchasing Group, the annual Joint Information Systems Committee Conference, the Oxford University IT Support Staff Conference and the European University Information Systems conference.

Hardware Support

The work of the Hardware Support Group divides into three categories of repair: contract, warranty and one-off repairs. This service is enhanced by the ability to perform data recovery from hard disc where appropriate. Laptops, both PC and Apple, belonging to staff and students form an increasing proportion of the workload of the group, and this year for the first time the number of laptop repairs (372) matched the number of desktop repairs (376). The availability of spares and technical information for HP and Lexmark printers also enables the team to support heavily used networked printers in a number of Departmental and College environments.

Following on from a batch of hardware failures last summer, for which work was carried out to perform warranty repairs on Apple's behalf, the Service negotiated to become an Apple "Limited Service Provider". This enables the Service to be reimbursed for warranty repairs provided the equipment is owned by the University or by staff or students. The group continues to perform warranty repairs for Dell workstations and Avantek PCs.

Notably there has been a significant increase in the total number of Mac laptop and desktop repairs carried out, largely as a spin-off from taking on warranty repair work for Apple. The numbers for this year were 148 Mac laptops compared to 98 last year and 169 Mac desktops compared to 109 last year, representing increases of 51% and 55% respectively.

Hard disc drive problems continue to be the most common source of failures in laptops, with the subsequent need for data recovery. Data recovery work on PC and Mac laptops and desktops continues to be steady, reinforcing the facts that hard disk drives are inherently unreliable, given their mechanical nature, and that backups are often not considered necessary until it is too late. Whilst the members of the group are quite adept at data recovery work in cases where suitable tools are available, there are still many situations where help cannot be offered. Depending upon the nature of the failure, the only course of action may be to refer the user to a commercial data recovery company. This is a much more expensive option for the user so, for this reason, the members of the group continue to stress the need for users to carry out regular backups of their data.

Photography and Illustration Service

The Photography and Illustration Service has had another excellent year with its Graduation Services sales at General Admissions, which by improvements in presentation and customer service resulted in record sales numbers and revenue.

Videoconferencing

Usage of the Videoconferencing Suite saw a substantial increase of 50 per cent in the number of hours booked this year (152 hours compared to 102 hours last year) with bookings also rising to 97 (75 last year).

The ratio of ISDN to IP usage has levelled out, maintaining the same 80%:20% ratio as last year. ISDN usage continues to be high because some sites only have ISDN-connectivity, and some countries only allow ISDN traffic and not IP traffic for videoconferencing. In some cases, even though a site may have both IP and ISDN, network bandwidth issues are such that only ISDN is a viable proposition for a videoconference.

The usage of videoconferencing has continued to be varied. Use for interviews continues to be popular, both for prospective staff and students wanting to come here, and for existing staff and students wishing to go elsewhere. In particular, using videoconferencing for interviewing overseas candidates is a cost-effective method of screening before shortlisting and inviting them to fly over. *Viva voce* examinations, and incoming and outgoing presentations by lecturers to local and remote audiences, both continued strongly too.

Consultancy work by the videoconferencing team during the year included advising two Departments on the requirements, technical, capital and staff, for setting up independent departmental videoconferencing facilities. One Department decided to set up their own facility whereas the other opted to use the Service's central facilities instead.

As part of the Service's involvement with the East Anglia Videoconferencing Forum, the Videoconferencing Manager collaborated with a member of Anglia Ruskin University to deliver training for pathologists at three sites (Anglia Ruskin, Addenbrookes and Norfolk and Norwich University Hospital).

Following customer requests, videoconferencing support for MSN Messenger and Skype are also provided as well as NetMeeting and iChat. These facilities complement the existing hardware videoconference capability.

In April the portable codec was used for a videoconference in the Mill Lane Lecture Theatre as part of the World Bank/University collaboration's Knowledge Forum. This was a high-level meeting, hosted in Cambridge, which one of the main speakers was unable to attend in person, but the Service's provision of a videoconference link enabled him to make a full contribution to the event.

Health and Safety

The Departmental Safety Committee, consisting of representatives from all the major sections of the Service and chaired by the Deputy Director, met four times during the year. The usual annual departmental safety inspections were completed in the Michaelmas term. Environmental testing has been a particular theme this year. Noise levels have been measured throughout the Department and safety precautions introduced in areas of particularly high risk. A complete survey for asbestos was completed and EMBS have undertaken encapsulation and removal as part of an asbestos reduction programme. A new initiative on the testing of water tanks and water quality was introduced during the year, and procedures put in place for reducing risk in that area. The presence of mercury was discovered in one of the Service's offices in the Phoenix Building, and the members of staff involved were screened by Occupational Health, but no adverse affects were found. The mercury was removed

by the University Safety Office and regular testing of the areas concerned has been instigated.

A more detailed Health and Safety report can be found on the web at <http://www.cam.ac.uk/cs/hs/>.

Staff

In January 2007, Chris Cheney, the Head of the Network Division, retired after over 35 years of service. Chris was one of our most highly regarded members of staff, and his skill and leadership have been largely responsible for the successful development and reliable operation of the University's data network and communications infrastructure over the years, which has been the solid foundation upon which many of the IT developments and much of the research and teaching within the University has been built. Following his retirement, Jake Hornsby has taken over the role as head of the Network Division.

Two further members of the Network Division also retired during the year: Mike Guy and Dick Turnill, whose contributions will be missed.

Various members of the Computing Service continue to be involved with a number of external bodies and contribute to the IT forum at national and international level.

The deputy head of the Technical User Support Division continued to contribute as a member of UCISA's Advisory Services Working Group, and the Network Support Manager continued to act as secretary to UCISA's Networking Group.

Other members of the Service have briefed various bodies including the Smithsonian Museum, Stanford University and NASA on our DSpace experiences, have been active in the C++ standard committee (ISO SC22/WG21) regarding the parallelism features of the language and have been advising the Numerical Algorithms Group on their products.

The Deputy Director continued to act as chairman of the JISC Mirror Steering Group, which oversaw the final closure of the JISC national software mirror service in July 2007.

E. Glossary

The following section is a short glossary of some technical terms used in this report.

For additional guidance please see <http://www.cam.ac.uk/cs/jargon.html>

blog	A web site where contributed entries are displayed in chronological order
CARET	Centre for Applied Research in Educational Technologies
CamSIS	Cambridge Student Information System. The central system holding key student data with connections to many satellite computer systems.
CERT	Cambridge Emergency Response Team within the UCS that responds to the constant hacking attempts and virus attacks that afflict the network.
CIFS	Common Internet File System – Microsoft's filesystem access interface
CUDN	Cambridge University Data Network – the pervasive data network that connects all the Departments and Colleges together, and to the internet
eScience	The Cambridge eScience Centre has a remit from the DTI to promote grid computing research in East Anglia
firewall	Computer placed at the centre of a data network to prevent certain types of traffic. Would be used to implement <i>port blocking</i> (see below)
FTP	File Transport Protocol – a method of transferring files between computer systems
GBN	Granta Backbone Network. The core high-speed fibre-optic communications infrastructure used by the CUDN.
GRID	The use of networks of general-purpose computers (typically PCs) to provide parallel high-performance computing
Hermes	Central email service for the University
ISO CD	A standard format for computer discs (CD-ROMs) suitable for distributing virus protection updates (for example) to all students.
IT	Information Technology
JANET	Joint Academic Network. High speed Internet backbone in the UK provided by the government for public academic and research purposes
JTMC	Joint Telecommunications Management Committee – oversees the Telecommunications Office which runs the voice infrastructure.
Lapwing	The University-wide Raven-authenticated wireless network service.
LDAP	Lightweight Directory Access Protocol. The technology that underlies the new University Directory. Has the advantage of direct access by email clients to complete email addresses for staff.
Managed Cluster	See PWF
Managed Domains	The support within the University Computing Service for website names such as http://talk.cam.ac.uk , i.e. one level below the University's cam.ac.uk name.
MISD	Management Information Services division – provides IT support to the Unified Administration Service
PoP	Point of Presence – the connection provided to a Department or college from the CUDN.
Port Blocking	Blocking within the central data network equipment of certain types of traffic, in an attempt to reduce the propagation capabilities of computer viruses and external hacking attempts.
PWF	Personal Workstation Facility – PC's provided in clusters in general

	access areas within Departments and colleges typically for undergraduate use.
Raven	Strategic personal authentication system used to protect websites and web-delivered applications such as CamSIS within the University.
SFTP	Secure File Transfer Protocol – a secure form of FTP.
Spam	Unsolicited bulk email, or junk mail.
TB	Abbreviation of Terabyte, a significant quantity of computer storage.
VoIP	Voice over Internet Protocol –voice calls established using Internet-connected devices, e.g. a PC running Skype, or a new handset expected to replace the current central phone system.
Web Search Engine	The Cambridge tool placed behind the 'search' button on the website for which the 'Infoseek' free-text search product is used, similar to Google.
Wiki	A Wiki allows users to create and edit shared web pages using a web browser.
Wireless	The ability to connect to the internet and the CUDN (see above) from a PC without physical cabling – using radio equipment instead.
XML	A generic computer language used to annotate data, e.g. reference data for storage in a library repository.

UNIVERSITY OF CAMBRIDGE LANGUAGE CENTRE

PLANNING ROUND 2007-2012

[extracts from text submission]

Operating Statement for 2008/09

We are hoping to achieve the following in 2008-09:

- Introduce certification to all our CULP courses at all levels (at no extra cost this year as permission to certify came after the publicity and start of the CULP courses, but this will need to be revisited for 08/09);
- Continue offering CULP for Medics (credit bearing) course to the Clinical School (costs met by the School);
- Introduce credit bearing courses in French and Spanish for ICE (costs met by ICE);
- Introduce one EAP course for 2008 ICE Summer School (costs met by ICE);
- Continue the online development of German in the History Tripos, Part I (development costs covered by last tranche of HEFCE-TQEF funding);
- Run French course in the History Tripos, Part I (teaching and other costs to be met by the History Faculty);
- Continue offering EAP pre-sessional to \pm 60 students (profit subsidizing in-sessional courses)
- Offer EAP in-sessional support to 200+ students (costs covered partly by students themselves and/ or Departments; the UEF £34K funding; 50% funding by Newton Trust and pre-sessional profit);
- Increase our student number in the JTC (please see JTC projected figures in 5 Year plan);
- Offer two courses in Russian, one at Basic and one at Intermediate level under the Pressland Fund Scheme (costs met by Pressland Fund);
- Offer one course in German for Reading at Intermediate level under the Pressland Fund Scheme (costs met by Pressland Fund);
- Receive increased BBC/Pearson revenue for *Languages at Your Fingertips*;
- Offer Junior CULP to more schools in the Cambridgeshire area and the whole of East Anglia through the **Routes into Languages** project (DfES-funded for 3 years), thus making our CULP methodology of integrated face-to-face and online support material (in 5 languages) available to a wider community.
- Raise funding partly through the University and partly through other sources for '*Languages on the move*', a **pilot project that uses the latest mobile technology to expand on the Centre's learner support** which is at the core of our methodology.

Annex 1 Mission statement

The Language Centre's mission is as follows:

- to provide language **learning opportunities for all members of the University** and for the staff of the University;
- to provide **taught courses aimed at non-specialist language learners and EAP courses** to overseas students;
- to provide **support and advice for the teaching of languages in the Faculties** of the University;
- to **promote the application of new technology** to all aspects of language learning

Director's Annual Report October 2006-September 2007

This has been another exciting and creative year. We have developed or are in the process of developing new courses and have consolidated others.

The Language Centre has had major achievements in 2006-07 in all its areas of activities. Below is a summing up of all the **Language Centre's activities at a glance**

1. Taught Courses for non-specialist language learners

They are CULP, CULP for Medics and Pressland courses.

1.1 CULP

- ❖ This year CULP enrolled **972 students**, a drop of 35 students on last year;
- ❖ **Chinese Basic** was offered for the first time;
- ❖ There were **59 groups**: 5 Chinese groups, 18 French groups, 10 German groups, 9 Italian groups and 17 Spanish groups, which represents 30.5% for French, 28.8% for Spanish, 16.9% for German, 15.2% for Italian and 8.5% for Chinese;
- ❖ The split by gender was represented thus: **59% female and 41% male**
- ❖ The split by university status was represented thus: **49% of PGs, 44% of UGs and 7% staff**;
- ❖ **65% of English native speakers enrolled on CULP** (up 5% on last year), followed by Chinese speakers (6.2%), German (4.5%), Spanish (2.6%), Russian (2.5%), Greek (2.3%) and French (2.2%);
- ❖ **The split by College affiliation** was as follows: **highest numbers** -Trinity (57), Darwin (53), Queens' (49), St John's (43), King's (35), St Catherine's (34), Newnham (31); **lowest numbers** - Lucy Cavendish (12), Clare Hall (9), and Peterhouse (9);
- ❖ **The split by Faculty/ Department** was as follows: **highest numbers** - Biology (94), Physics and Chemistry (83), Mathematics (63), Law (56), English (54), MML (53), Earth Sciences and Geography (50); **lowest numbers** - many departments or faculties with only 1 enrolment;
- ❖ This year's overall **retention rate was 75%** and compares favourably with last year's 74%, with 52% receiving a Certificate for Satisfactory Completion of the course;
- ❖ The average **perceived level of improvement was 2.9**, the highest ever achieved in the Programme, with perceived level of improvement highest for Italian (3.1) than Chinese (2.6);
- ❖ **Assessment**: 69.7% in Listening comprehension, 77.1% in Oral presentation and 77.4% in reading comprehension; this compared favourably with last year's 69%, 78% and 70% respectively;

1.2 CULP for Medics

- ❖ A **credit-bearing new 60-hour course** on behalf of the Medical School offered for the second time;
- ❖ 9 students enrolled on the course (as their first choice);
- ❖ CULP methodology of integration of Face-to-Face (F2F) and online applied;
- ❖ Delivery of **intensive 5-week course done through 50% F2F and 50% online**
- ❖ French @ Your Fingertips, Online course done in collaboration with the BBC, used very satisfactorily;
- ❖ Excellent student progress;
- ❖ Students achieved **good results in their oral presentation**: The lowest mark awarded was 60% and the highest was 72%.
- ❖ **High course satisfaction**: 4.34 out of 5 which compares well with last year's 4.1 out of 5

1.3 Pressland Courses

Pressland Fund courses have become a standard feature of the Language Centre offering. Three courses were offered this year: Russian at Basic and Intermediate levels and German for Reading.

1.3.1 Basic Russian

- ❖ **22 registered on the course** and 21 completed the course;
- ❖ Students showed high motivation, great enthusiasm, excellent rapport and achievement;
- ❖ All students participated well and worked hard throughout the term;
- ❖ More conversational pair work increased confidence and motivation;
- ❖ More reinforcement of basic structures helped with overall progress;
- ❖ All students used the JTC.

1.3.2 Intermediate Russian

- ❖ **18 students registered on the course** and 16 completed the course, which was the highest number to-date;
- ❖ A strong sense of cohesion and cooperation within this exceptional group;
- ❖ More contact time reinforcing and practicing more basic language structures and functions in order to encourage confidence;
- ❖ The students benefited from this approach and all made good progress;
- ❖ All students used the JTC;
- ❖ Several students will be using Russian in their work during field trips to Russia.

1.3.3 German for Reading

This is a **new course** that has been introduced following consistent requests for help with reading scientific and other academic books, magazines and newspapers. The aim of this course was to **reinforce and build upon students' previous knowledge of German**, and to **develop reading and dictionary skills**.

- ❖ **21 students registered on the course** and 20 completed the course;
- ❖ GCSE, AS level or equivalent needed to register on the course;
- ❖ Texts, which had a **predominantly scientific and technological content**, were used;
- ❖ Pair and group work enabled the teacher to also give students individual attention during the course;
- ❖ High attendance;
- ❖ Very positive feedback throughout the course.

2. English for Academic Purposes (EAP) for overseas students

The Centre offers two courses: a pre-session course (August-September) and an in-session course (October-July).

2.1 EAP In-session

The EAP In-session programme 2006-2007 **supported 324 students in total** with 49 students having an English language condition. Some significant changes in this year's EAP In-session programme were due to the following:

- ❖ Formal University-wide recognition of EAP as one of the University of Cambridge's **core provisions of support** for its international students;
- ❖ Recognition of the need for a post (and part-funding by the University) of **Senior Language Teacher (SLTO) in EAP** (shared by two .5 SLTOs);
- ❖ Creation of a **core EAP team** of experts able to support the EAP Director in delivering the necessary high-level language and cultural support guaranteed by the Language Centre.

The course was characterised by the following:

- ❖ **Highest level of participation and attendance** by students both overall and in terms of individual supervisions and workshops so far;
- ❖ **Largest number of departmental recommendations of students** (75%) to the EAP programme compared to previous years;
- ❖ **Most dynamic syllabus** yet with the constant adjustment of workshop content to meet participating students' needs;
- ❖ **Students' needs** were also **tracked more consistently** throughout the year.

Contributions of EAP to the Wider University Community included:

- ❖ **Specifically designed workshops** based on particular Departments' requests or needs;
- ❖ **Wider participation in the University community;**
- ❖ **Provision of advice** through one-off supervisions **for specific language or cultural needs** for a growing number of **undergraduate students** from abroad and native English speaking students exhibiting problems with writing or speaking skills.

2.2 EAP pre-sessional

The pre-sessional course supported **60 students**. Once again, this year's EAP course (August 14-September 19) yielded a **100% rate of student satisfaction and progress**. This year's EAP Pre-sessional continued to distinguish itself from other university and language-school EAP courses through the following features:

- ❖ its **personalized** approach;
- ❖ the **intensity** of the course;
- ❖ the amount of **rich, varied input**;
- ❖ the **ever-evolving syllabus** and
- ❖ the **integration of skills** as well as face-to-face and online learning.

Furthermore, in line with the recommendations from the previous year, the following was implemented:

- ❖ effective **integration of the online aspects of the course** (EAYF, CUTE and forums) through the **CAMTOOLS** environment;
- ❖ **streamlining of afternoon workshops' content**;
- ❖ **more focus on pronunciation** through the afternoon speaking workshops;
- ❖ **integration of the Social Programme** and the **British culture workshops** by the Social Programme Organiser.

And finally, the **eDiagnostic test**, which will assist the Language Centre and University as a whole in the assessment of students' language strengths and weak areas was **piloted** during the Pre-sessional, thus helping to inform the content and direction of the support to be provided to the students during the EAP In-sessional programme.

3. Support to Departments running specialist language courses

The support is provided by our Librarian and her staff and by our Head of IT and his team.

3.1 Library Support

New resources were accessed in 26 languages this year, with a total number of 329 new titles and another 803 full records. The **total of this year's record is 1132**, which means handling and documenting over 2000 items. This is the highest number to date.

A total of 1003 loans were recorded. With the short daily loans from Reception, i.e. 741 loans this brings the **total loans to 1744**.

Apart from providing **support for all the Centre's activities** (CULP, Junior CULP, EAP, French for Medics, Projects), the Library also provides **extensive support to many University Faculties and Departments**.

3.1.1. Support to MML

- ❖ **FRAV (French through Audio-Visual) pilot project** for the teaching of French through audio-visual media. The FRAV resources conversion from hard copy format to online has been initiated by the Language Centre and has been supported from its initial stage by Dr Hugo Azérad, Dr Christophe Gagne and Isabel McNeil;
- ❖ **Provision of teaching of Francophone** aspects of language, film and culture: e.g. a collection of 15 films and documentaries from Quebec, resources of African cinemas, notably the work of Ousmane Sembène;
- ❖ MML's film studies, comparative studies and MPhil courses teaching staff and students drew regularly on the **unique and extensive film and documentary collections of the Centre**.

3.1.2 Support to Faculty of Asian & Middle Eastern Studies

- ❖ Further resources for intermediate to advanced students of **Arabic** have been selected and obtained for the Audio Server in the John Trim Centre. Arabic Oral examination 2007 materials have been digitised for LC Online;
- ❖ Off-air recordings of **Chinese** were made. *Listening to Chinese* and *Steps in Chinese* were purchased for Tripos students. During the year both *Colloquial Chinese* and *Colloquial Chinese 2 (by Qian Kan)* were upgraded onto the Audio Server in the John Trim Centre. The display of Chinese characters on the Centre's Audio Server was created by Dr Christoph Zähler;
- ❖ The *Hindi baatchet* resources for intermediate level students of **Hindi** written by Dr Aishwarj Kumar, with the online part developed by the Language Centre over the summer of 2006 was launched in October, and the feedback is very positive. Off-air recordings of films (e.g. *Bimal Roy season* on Channel 4) and documentaries (in connection with programmes re: 40 years of Independence of India) were made in response to recommendations by the teaching staff;
- ❖ Some resources were also added to the **Bengali, Cantonese, Japanese** and **Persian** language sections.

Support to the English Faculty

- ❖ **Provision of resources for Paper 7** 'European Languages and Literatures' in **French, German** and **Italian**. Also to complement the use of the AV resources, study guides were found for Brecht and Goethe, and some new DVD releases enhanced the French and German sections;
- ❖ Published materials in printed, audio, and DVD formats were obtained by the Language Centre for the new course in **Irish** taught by Dr Kaarina Hollo. The Centre also updated some external Web links.

3.1.4 Support to Music Faculty

- ❖ The Centre's staff introduced the language and film resources to the undergraduates and postgraduates of Music;
- ❖ The Centre will next year upgrade its reference and other AV resources for songs and music (e.g. songs and music relating to specific periods in history, films used in cinema, popular songs etc).

3.1.5. Support to the Faculty of Education

- ❖ Researchers and M.Phil students consulted the Centre's Reference resources (language education, language learning & language teaching methodology);
- ❖ Overseas researchers made use of publications on language learning and language teaching methodology, and in particular, on the subject of university-wide language programmes in Higher Education;

IT Support

- ❖ Given the increased provision of Internet access to TV programs by foreign TV broadcasters the **Centre is now restructuring its own on-line access to foreign broadcast materials**. The emphasis is shifting from the short-term storage of general news broadcasts and similar materials to the long term storage of items selected for specific pedagogic purposes. A media server and special media players to manage and access these resources have been built. Existing access to real-time foreign language TV channels via multi-casting over the CUDN is not affected by this development;
- ❖ As every year the section has recorded **a large number of videos and audios for the faculties** and for a range of development projects. Through training and appropriate equipment upgrades the Centre has maintained its ability to provide professional quality language learning materials often to very tight schedules;
- ❖ The Centre has developed a number of online resources such as the **French Grammar section of LC online** which has been designed to support the teaching of all students of French. It contains a set of 5 modules focusing on various aspects of French grammar;
- ❖ The **production of audio-visual materials for examinations** represents an important part of this work.

4. Support for independent learners in the John Trim Centre

Support is provided by the JTC Manager, the Advising Team led by the Senior Language Learning Adviser and the Centre's Librarian.

4.1 The following is worth mentioning:

- ❖ The John Trim Centre now offers users **a choice between PCs and Apple Macs** to access the Language Centre's and other resources on the platform they are accustomed too. In order to avoid having to access audio-visual resources on physical media such **resources are increasingly made available on-line** using a media server and custom-build audio and video players [for legal reasons access is only available from within the John Trim Centre];
- ❖ The **average number of visits per user rose significantly**;
- ❖ **Users spent more time** than in previous years **in the John Trim Centre**;
- ❖ **The average online session per user is 10.21**;
- ❖ The number of **drop-in appointments by new users** increased steadily with an average of 6 per day throughout the year;
- ❖ **Trinity College** continued to be the college with the **highest number** of users (199), while **Lucy Cavendish** represented the college with the **lowest** number of users (36);
- ❖ After MML (444), **Biology** (328) and **Physics and Chemistry** (268) registered the **highest number** of users, while **Applied Linguistics** was the **lowest** (5);
- ❖ In addition **the JTC has supported the following students**:
 - 336 EAP students (including weekly conversation hour participants)
 - +/- 350 students who came for advising appointments / Conversation Exchange
 - 82 Discussion Group students
 - 60 Pressland Fund course students
 - 186 summer CULP students

4.2 Additional Advising Team Initiatives:

- ❖ **Discussion Groups**: five advanced-level discussion groups ran successfully this year (2 French, 1 German, 1 Spanish, 1 Russian) with 66 students attending in total;
- ❖ **English Conversation Hours**: 2 groups ran weekly during term time with of an average of 10 EAP learners each;

- ❖ **Language Guide:** the advising team continued to work steadily on updating and revising the clickable language resource guide on the LC's website;
- ❖ **Conversation Exchange Scheme:** Approximately 350 pairs were involved in the scheme;
- ❖ **EU Bursary Scheme:** 29 students were interviewed for Trinity's language scholarship scheme;
- ❖ **Annual assistance** was given in the form of **student orientations** for both MML and other Departments, as well as to other University and publicity events.

5. Projects

The Language Centre has been involved in 4 major projects.

5.1 CUTE 2

- ❖ **Collaborative Project** with Tsinghua and six other Chinese partner Universities and Warwick University, with **Cambridge being the lead university**;
- ❖ Part of **phase 2 of eChina-UK Programme** and builds on CUTE 1;
- ❖ Main outcomes: **scalability and replicability** of our CUTE 1 model;
- ❖ **Tutor Training:** Cambridge trained 18 Chinese English tutors partly F2F and partly online. The training part of the project has been very well received and externally evaluated;
- ❖ **Language module** (Module 1): Cambridge has designed and developed the *Teaching in English* and *Publishing in English* strands for Module 1, which have been used by all universities in the CUTE 2 courses delivered by the Cambridge-trained Chinese teachers of English;
- ❖ **Tutor Training Module** (Module 2) Cambridge has designed and developed the Tutor Training Module, which has been used by the Cambridge-trained Chinese teachers of English as a support tool as intended;
- ❖ **Delivery of CUTE 2 courses** across 7 Chinese universities and Warwick University took place between June-July 2007. It is being externally evaluated.

5.2 Junior CULP

- ❖ Main outcomes: **replicability, scalability and sustainability** of Junior CULP 1 have been achieved since **four Cambridgeshire schools¹** took part in the Project and funded the courses themselves;
- ❖ **98 students** were taught: French at Intermediate level; Chinese, German or Spanish at Basic level;
- ❖ **Flexibility of our model** was applied **to serve the needs of the learners** and suit the different school learning environments;
- ❖ The **syllabus was delivered partly F2F and partly online** using Languages at Your Fingertips in French and Spanish or the material specially developed for our CULP courses by the Language Centre;
- ❖ **Most students sat the ASSET Language Test** in listening and reading, some in listening, speaking and reading and a few in all 4 skills. There is a clear correlation between the number of hours of tuition (both classroom and online based) and the results achieved at the ASSET test;
- ❖ **Junior CULP was mentioned three times** in the influential **Dearing Report²**, published in March 2007. The Dearing Report emphasised the key features of Junior CULP, *flexibility and appropriate use of technology* as key concepts in the future of language learning in schools.

¹ Comberton Village College, Impington Village College, St Ivo and Swavesey

² The *Languages Review Report* is downloadable in PDF format at:
<http://www.teachernet.gov.uk/docbank/index.cfm?id=11124>

5.3 LAYF

- ❖ **Both levels were used intensively** within our CULP and *Junior* CULP courses and **are available online** to any cam.ac.uk user;
- ❖ Cambridge is helping Pearson/ BBC Active with the commercialisation of LAYF by giving talks/ demonstrations about LAYF as this is not just an online resource. Some 10 universities have been sent demo CDs, some 40 universities attended LAYF launch on 26 April 2006, or a London Workshop on 25th July 2006 or a SCHML Conference in Cambridge on 12 January 2007, or a Warwick workshop on 27th September 2007 where LAYF was demonstrated.

5.4 EAYF

- ❖ **Intermediate and Higher courses** have been **completed and tested**;
- ❖ **CUTE 2 Language Module turned into Advanced level**;
- ❖ Talks are proceeding with Tsinghua University for distribution in China.

6. UNDER DEVELOPMENT

The Centre has two major courses and two projects under development.

6.1 New Courses

- ❖ New **EAP courses for ICE** Summer School;
- ❖ Development of history-specific online material aimed at reading and listening skills for **a new major course done in collaboration with the History Faculty for Part I** of the Tripos.

6.2 Projects

- ❖ **eDiagnostic English Test**: a 2-year HEFCE funding project to develop a reliable assessment tool that will act as an adequate predictor of incoming post-graduate students' levels in English;
- ❖ **Project in collaboration with CARET**: In May 2007 CARET started an evaluation of the CULP course '*Le français facile*' with a view to analyse how the LC would arrive at a scalable and transferable model of language skill development. Using a combination of online, face to face and eTutoring delivery, the model could be adapted and propagated to other departments according to their needs, resources and constraints.

7. Language Centre Staff

The Language Centre has **15.5 UEF funded staff**, another **9 non-UEF-funded staff** and **24 hourly-paid teachers** on its CULP, Pressland and EAP courses. To this we can add another **8 project-funded staff**.

Conclusion

I am as always indebted to all my staff for another excellent year of hard and innovative work. My grateful thanks go Dr. Pretty for her support in the work of the Centre and to my Chair, Professor Steve Young for his advice on the various other ideas or projects the Centre might get involved in. Finally, my thanks go to my Management Committee for their strong support in all the Centre's endeavours.

Anny King
October 2007

**Centre for Applied Research
in Education Technologies
CARET
Strategic Overview and 2008/9 Operating Statement
As at 30th November 2007**

[extracts]

Strategic Overview

Caret is an interdisciplinary innovation group the aims of which are:

- To develop and provide innovative support services in the following areas:
 - learning – supporting learners in taking control of their learning and achieving their own learning goals
 - teaching – supporting faculty, departments and colleges in developing both day-to-day and innovative teaching practices
 - research – supporting researchers and research groups in forming collaborations, carrying out research and dissemination for research
- To evaluate current practice and user / stakeholder requirements in the above areas and help formulate university Learning, Teaching and Research strategy in the future.
- To sustain and embed innovative services through engagement and partnerships with other parts of the university and the handover of maturing technologies
- To be recognised as an international player/world leader in this area

CARET supports teaching and learning in the University through:

- Infrastructure for access-controlled collaborative workspaces (mainly CamTools) to support courses, research and course evaluation
- For-fee or project funded development of special teaching applications
- Individual self-paced learning provision for School-University transition (in development).

Approximately 2/3 of CARET income comes from non-Chest sources for projects with a variety of timescales. Current contracts and projects in the pipeline provide some stability, and the outlook over the next year is strong.

However, the outlook after that is more uncertain because:

- The allocation from the chest arising from the core UEF grant has a time limit of September 2009.
- Funds from JISC are less predictable as the 3 year capital programme unwinds.
- The workload to support the CamTools infrastructure is increasing as the volume of its usage across the university increases
- CARET is increasingly hosting and supporting a range of web sites and applications developed elsewhere in the university.
- Short-term contracts for staff are creating some difficulty, currently in recruitment and retention of skilled IT staff. We still do not have the promised option of 'indefinite' contracts for staff.

Operating Statement

For 2008-09 CARET plans to:

1. Work with the University Computing Service to share the hosting of the Collaboration and Learning Environment known as CamTools or Sakai; which was formally launched in October 2006.
2. Support only organic growth in CamTools usage pending adjudication of increased support staff.
3. Operate CARET Video Services at a surplus and ensure it is seen as a valuable campus service in conjunction with Communications Division.
4. Continue to contribute to the Pedagogy Support Group in coordination of Learning and Teaching support across the University.
5. Engage with the TQEF Transkills project in support of transition skills for incoming students.
6. Work with BoGS, staff development and others to produce online learning materials for graduate transferable skills training.
7. Work with the Library, the Fitzwilliam Museum and others to rationalise the capture and management of digital images.
8. In collaboration with the Education Section good practice database, create a register of e-Learning initiatives around the campus and seek to improve mutual awareness of projects, now subsumed into the Learning Landscape Project.
9. Through the Learning Landscape project formalise an e-Learning Strategy for the University and create a revised CARET strategy to support the resulting e-Learning Strategy.
10. Continue to seek JISC/HEFCE funded projects at a level of approximately £400K per annum.
11. Continue to support Arts and Humanities ICT projects in collaboration with CRASSH to supplant the need to consult with Kings College London.
12. Commence work with CamSIS to exchange data between CamSIS and Sakai/CamTools.
13. Enhance CamTools/Sakai to meet emergent Cambridge requirements.
14. Transition from Ostrakon student feedback system to Sakai/in-house developed system during summer 2007.

CENTRE FOR APPLIED RESEARCH IN EDUCATIONAL TECHNOLOGIES
ANNUAL REPORT OF THE COMMITTEE OF MANAGEMENT FOR 2006-07

The *purpose* of the Centre remained unchanged from the previous year; to help staff and students at the University of Cambridge who wish to use information technology to support or enhance their teaching, learning or research.

The environment, purposes and funding of the Centre remaining essentially the same as the previous year, the *strategy* of the Centre also remains the same;

- CARET will apply its limited central funds to hosting and developing an e-learning technical infrastructure for the University and to encourage sharing of e-learning experience across the institution.
- The Centre will engage with JISC (and others) to increase the University's share of funds for e-learning that are distributed by competitive tender. Bids for funding will only be made where the potential project meets a real University need in addition to any sector-wide benefits.
- Internal and external projects that serve particular groups may be undertaken on a cost-recovery basis so long as the knowledge developed in carrying out the project is expected to benefit the wider University. External projects may include Research Council funded projects so long as the wider benefit to the University can be identified.
- The 5-year plan envisions a steady level of activity in the range £1.0 - £1.5 million with central funding (excluding overheads) of £413,000.

1.1 Meeting of Advisory Board

The External Advisory Board met on October 6th. It was agreed that this group would meet annually. Attendance was Merveena McKendrick, Pro-Vice Chancellor for Education, University of Cambridge (in the Chair); Catherine Howell, CARET; Diana Laurillard, London Knowledge Lab; John Naughton, Open University; John Norman, Director of CARET; Paul Ramsden, Director, Higher Education Academy; Diana Wood, School of Clinical Medicine, University of Cambridge; Steve Young, Chair, CARET Management Committee.

There was general approval of the de-facto CARET e-Learning Strategy for Cambridge, a concern about new students arriving with highly developed IT skills and different attitudes to privacy and communication, and support for the concept of the Learning Landscape project.

The GB Education Committee approved the principles of the de-facto eLearning Strategy in November 2005. They are:

- With current Cambridge teaching models (a campus-based curriculum and substantial small group teaching) online provision is unlikely to become a major component of mainstream undergraduate learning and teaching for some time.
- However, there are opportunities for efficiency gains in administrative support of learning and teaching, such as password protected web sites for sharing materials with students, class announcements and so on.

- There are also opportunities for enhancement in specific areas where use of IT can enable teaching that would otherwise be difficult or impossible, e.g. 3D visualisation. Currently we rely on departmental or external funding for this provision as it can be very course specific.
- There are also opportunities to use IT to support students who have gaps in their background knowledge or skills compared to their peers and compared to the expectations of the course organisers. Autonomous learning packages can allow these gaps to be filled without recourse to additional teaching load. Use of eLearning in this way could help to address school-university transition issues as well as supplementary provision during mainstream courses.

1.2 JISC Learning and Teaching Committee

John Norman (Director of CARET) was invited to join the JISC Learning and Teaching Committee. This committee guides the JISC funding for the Learning and Teaching programme and the appointment is recognition of an extended period spent demonstrating the relevance of the Cambridge perspective to the national agenda. The first JISC Committee meeting attended by Mr Norman on May 22nd, 2007.

2 CARET activities in 2006-07

2.1 Infrastructure Provision

The hosting and development of an e-learning technical infrastructure for the University is the primary activity to which central funds are applied. During 2006-07 CARET hosted and supported Sakai¹, branded locally as CamTools, to provide access-controlled web sites for courses and other groups.

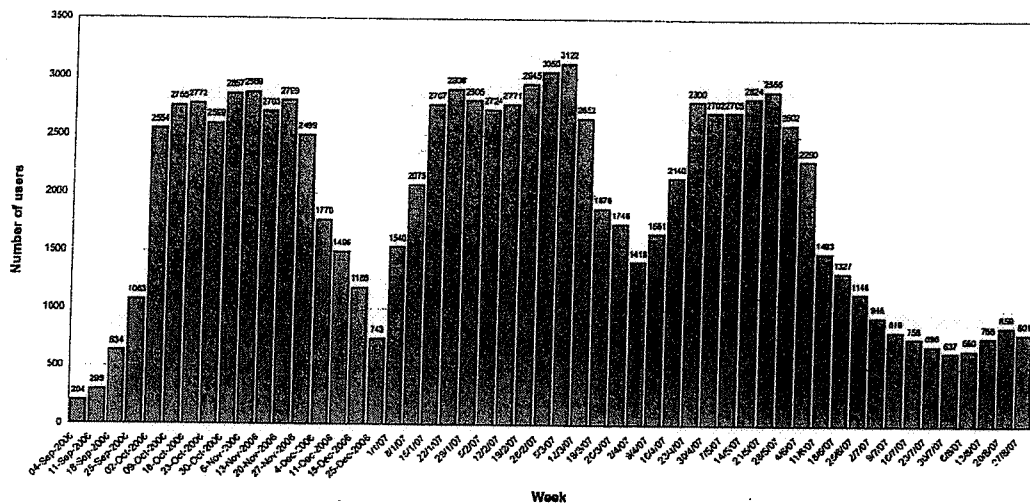
Migration from legacy systems (CourseWork, CamCommunities and BlackBoard) was completed during Lent and Easter terms in 2005-06.

NST students were automatically added to the appropriate CamTools course sites as part of the second year running the NST Lab Allocation software created by CARET.

Usage in term time has been steady at nearly 3,000 unique users per week (*see chart below*). This level of use was higher than anticipated, necessitating a hardware upgrade during Michaelmas Term. As the year progressed, there was also a slowdown during Easter Term as the event table filled up. The problem was identified and solved rapidly.

¹ Sakai is an open-source 'Collaboration and Learning Environment' co-developed with Stanford, MIT, Yale, Berkeley, Michigan, Indiana, and other leading universities. It has been selected for adoption at Oxford in the near future.

CamTools Unique Users per Week



Other than these two incidents the service was reliable and performed adequately. As a significant deployment of enterprise software, the CARET team was very pleased with the success and low level of disruption.

During Easter Term, CARET surveyed users of the CamTools service and received 66 responses with valuable feedback. 5 top priorities were identified and work on 4 was completed in time for use during 2007-08. It was noticeable that not everyone had realised that CamTools is open-source software and can be modified. This will be addressed in 2007-08.

In December 2006, the Director of CARET was elected to Chair of the Sakai Foundation Board, taking the leadership of the project outside the US for the first time. The University of Oxford Computing Service are collaborating with CARET to enhance the software to meet local requirements and an informal consortium (Tetra) was formed with Oxford, Leeds, UHI and Hull Universities in early 2007, to coordinate UK development work and funding applications.

The operations team prepared for a major version upgrade over the summer of 2007, from version 2.2 to 2.4. Sakai has releases every 6 months but CARET made a policy decision to limit feature changes to once per annum. The upgrade will introduce significant improvements in the resources tool and 3 new tools. 12 tools are in provisional status awaiting production experience before being considered for promotion to 'fully supported'. Preparations are also being made for a significant hardware upgrade in anticipation of increased demand in 2007-08.

2.2 Learning Landscape project

The Learning Landscape project (incorporating HE Academy e-Learning Benchmarking) was endorsed by the PVC for Education and was taken up as an institutional initiative backed by CARET resources. The Project Initiation Document went to Senior Tutors Standing Committee on Education on November 3rd and was approved with minor modifications. The General Board Education Committee approved it on November 15th 2006.

The HE Academy e-Learning Benchmarking exercise was completed successfully during October 2006 - March 2007. As part of the exercise a small workshop was organised to get staff and student input on the drivers for adoption of e-Learning at Cambridge. Not surprisingly many of the drivers at work at other institutions were weak at Cambridge, but there was strong support for enhancing quality, widening access, equality of provision, student demand/flexible provision and increased efficiency as relevant drivers at Cambridge.

A project board was established for the HE Academy 'Pathfinder' follow-on project and the first Learning Landscape project board meeting on January 10th 2007, and was attended by Melveena McKendrick, John Bell, Steve Young, Richard Barnes, Gillian King (Education Section), John Norman and Sarah Maughan (Project Manager). The Project Initiation Document and the Terms of Reference for the project board were agreed and membership of the Steering Group was discussed.

We received written confirmation in April of the HE Academy funding for the Learning Landscape Project at £170K. Work commenced immediately and two part-time research associates were recruited for the project. One was a doctoral candidate at the Faculty of Education and the other had just submitted her thesis at the Faculty of English.

During the remainder of the year, the Learning Landscape project held one project board meeting and 2 steering group meetings. There has been a noticeable increase in interest and engagement over the period. At the project Board it was agreed to incorporate a parallel project to investigate student use of technology, which CARET was working on with Dr Mike Arnold (on sabbatical from University of Melbourne Department of History and Philosophy of Science).

2.3 Video services

During the year, Video Services delivered several significant projects; Mentoring 2 is a training DVD for developing mentoring skills under a DfES project with the Faculty of Education, the Judge Institute of Management commissioned a publicity video, a video was produced for the Home Office under an Engineering Department project and on video footage was recorded and edited for a research project in Architecture. In general, early projects were loss-making and more recent projects had better cost control.

CARET hired a new head of Video Service, Lucy Capewell. Lucy has over 10 years experience as an independent television producer and editor, working on broadcast programmes for Channels 4, 5 and the BBC. The appointment was shared with the Communications Division. Dr. Bjoern Hassler worked with the Computing Service to specify a new streaming video server and Daniel Parry was seconded to the Computing Service to set up the streaming video service under the Accelerated Experience Scheme.

Following some protracted discussion over alternative business models for the video group between CARET and Communications Division, a collaborative structure was agreed and Cambridge Media was launched to handle video communication for the University. Cambridge Media provided high quality material for Cambridge Science Week, part funded by Apple, and hosted on the UCS streaming server. Cambridge Media also supported a number of other outreach activities, including a dramatisation

of Darwin's correspondence with Asa Gray for the Library's Darwin Correspondence project.

2.4 Survey/Online Student Feedback

CARET experienced considerable demand for online student feedback during the year. Using the current Ostrakon/CamToes system, approximately 1000 surveys have been created and 75,000 respondents targeted with an average response rate of 50%. In parallel, MISD deployed VT-Survey from Virginia Tech for campus use with simple surveys/polls.

We began work with Virginia Tech to develop a second-generation version of their online student feedback and survey tools to replace the Ostrakon solution with a more flexible open-source tool. A key feature of the new system is the ability to set institution-wide questions and collect year on year data for the whole student body.

The new software from Virginia Tech is expected to be widely deployed at University of Michigan, and the University of Maryland is already committed to institutional use of the software. CARET hired a key developer from the VT team, to ensure our requirements are met and to work on a related JISC project for Item Banking. Roll-out is anticipated during 2007-08, in time to be completed prior to expiry of the Ostrakon licence.

2.5 CETL on Reusable Learning Objects

During the year the RLO-CETL produced teaching materials through 'mini-projects' in Statistics (with SPS) and Maths for Engineers (Engineering). The value of the materials for supporting school-university transition skills issues is consistent with the CARET e-Learning strategy for the application of technology to learning and teaching at Cambridge and may form the key to embedding and sustaining the activity.

The quality of the outputs is high and the external reputation of the group is high. During the year, the CETL consortium secured an additional £60K of funding from the JISC to hold national workshops to capture 'learning designs' and to create demonstration implementations. This activity has reinforced a growing reputation for Cambridge within the JISC e-Pedagogy programme.

2.6 Policy development

Policies were developed for a number of aspects of the CamTools service, notably; privacy (i.e. logging of student actions), access to course sites by students not registered for the corresponding examination, and access to course materials by other members of the University, use of student work. The final day of consulting input provided as part of the eLearning Benchmarking Exercise was used to develop some of these documents in consultation with PVC Education and subsequently policies were articulated that follow closely the pattern established by the University Computing Service.

CARET registered for the JISC-sponsored trial of plagiarism detection software (TurnItIn) on behalf of the University. CARET will support the software locally during the trial period.

CARET registered on behalf of the University for the trial Scanning Licence Agreement following consultation with Legal Services and the Library. The primary

reason for CARET to lead on this is the requirement that materials licensed under the agreement need to be placed in access controlled course sites, a facility offered by CamTools.

CARET also registered for the trial user-only licence to the JISC national repository of eLearning materials known as JORUM. We continue to resist registering for the contribution licence due to the excessive administrative burden imposed by that licence.

2.7 Language Centre

During the year, CARET also collaborated with the Language Centre to evaluate the impact of their language course for medical students, which was developed with TQEF funding.

3 Research

3.1 Transforming Perspectives

The Technology Enhanced Learning ESRC/EPSC project to evaluate the case for a large interdisciplinary research project with Computer Lab, Plant Sciences and CARET commenced in Michaelmas Term. It was designed to test whether the educational theory around 'threshold concepts' requires the development of new sorts of IT teaching and learning support tools. The project was also designed to have a side benefit of supporting the transition into practice of two Computer Lab teaching projects (Intelligent Book and Intelligent Tutor).

6 national workshops were held in Lent and Easter terms. The expected call for larger project (up to £1.5 Million and due to come out in late March) was put back to later in the year and projects are unlikely to be funded before September 2008, leading to a gap in CARET research income.

3.2 Teaching for Learning Network

The Cambridge MIT Institute (CMI) funded a project to test whether the methodology used to introduce teaching innovations in Plant Sciences can be extended to other departments. Engineering, Materials Science and Classics were involved in an innovation design involving an academic champion, a funded post-doctoral researcher from the department and a suite of evaluation tools and workshops from CARET to assist in the formulation of the project plans and to ensure the innovation can be usefully evaluated. The project report is available at <http://www.tfln.org>

3.3 JISC Bids

In addition to the learning designs bid awarded to RLO-CETL, CARET bid for 3 new JISC projects with a total value of approximately £700K. A £40K JISC e-Toolkit project was completed successfully. It provides a prototype web-service for online discussion that will be incorporated in a forthcoming CamTools feature.

Of the 3 bids, 2 were awarded with total value of £400K.

The successful bids were for an integration of DSpace with CamTools and a standards-compliant item (question) bank. The DSpace integration project aims to increase adoption of DSpace by providing workflow tools within CamTools that can

implement a DSpace collection policy and store items into DSpace as a natural part of their production in a CamTools project site.

The item bank development will enhance the current TSA provision for Cambridge Assessment and will involve working with other projects that are developing an authoring environment and a delivery engine, to attempt to produce a set of tools that work together.

3.4 Darwin Correspondence Project (UL)

CARET was asked to provide search facilities and a website content management system to support themed sites around the datasets of the Darwin Correspondence Project. The first site is for 'religious' aspects of the correspondence. CARET successfully acquired the letters database of the Darwin Correspondence Project and provided a full-text index using the Lucene open source search engine. A great deal of patient work was required to get over 10 years of accumulated custom file formats to a generic XML format for the project and the Library team is very pleased with the result. A content management system has also been deployed to maintain a revised web site that will make the material more accessible to the public as well as enhancing the service to researchers. The site was launched on May 17 (2007).

3.5 Darwin Online

CARET stepped in after funding of the CRASSH Darwin Online project had ended and agreed to host the resulting website. The site was launched in October with wide publicity and received over 8 million hits on the first day.

3.6 Shahnama Project

The AHRC Shahnama project to collect and share Persian manuscript illustrations for the global research community progressed well during the year. The CARET development team worked with the PI in Oriental Studies to develop and implement the new software in a form that could be the basis of a generic image toolset. CARET agreed to work with the AHRC Scriptorium Project at the English Faculty to maximise code reuse.

3.7 FLUID

The University of Toronto was funded by the Andrew Mellon Foundation to develop accessibility solutions for web applications. The FLUID Project will use a presentation framework developed at CARET to deliver user-selected component sets. This would mean that a web application user could choose not only the colours and font sizes on a page, but also page components such as drop-down selection box or calendar widget. The CARET portion of the grant is USD 230,000 over 2 years. It is hoped that this project to lead to CamTools meeting and exceeding all of the main international accessibility standards.

4 Finance and Administration

Revenue for 2006-07 was £1.18 million, including core funding of £414K showing a deficit of £354K. The deficit corresponds to prepaid CETL capital and prepaid work, which were fully spent down during the year. The year-end reserves were £187K, in line with the £200K target.

Approximately 80% of costs are in salaries, which makes CARET vulnerable to short term changes in external income. Consequently, the majority of CARET staff are employed on short-term contracts.

GB Review of Teaching & Learning Support

Paper No. 3f

Overview of Institutional Direct Resource

£k	UEF Allocation 2007/08	Total Income 2007/08
University Library (and four dependent Libraries)	11,083	16,865
University Computing Service	4,630	10,067
Language Centre	694	1,047
Centre for Applied Research in Educational Technologies	393	1,555
TOTAL	16,801	29,534

REPORT TO THE GENERAL BOARD'S EDUCATION COMMITTEE AND RECOMMENDATIONS OF THE PEDAGOGIC SUPPORT PROVIDERS' CO-ORDINATION GROUP (PSG)

MAY 2007

Executive Summary

1. The brief of the PSG was to explore ways in which current providers of pedagogic support might work both together and with Faculties, Departments and Colleges to share expertise and to maximise the benefits of initiatives and innovation across the whole collegiate University.
2. In addressing the current brief, the PSG took it to be self-evident that the University of Cambridge should aspire to excellence in teaching, learning, and pedagogic support, and that it should seek to lead, rather than follow, initiatives in this field at national and international level. These sentiments were expressed more elegantly and extensively in the Vice-Chancellor's speech to the University on 2 October, 2006.
3. In addition, the PSG was requested to make recommendations for the efficient deployment of the outstanding TQEF funding allocation running until 2010.
4. Under the facilitation of Professor Michael Bradford¹, the PSG took a broad view of the pedagogic needs of our university within the context of national and international initiatives.
5. The PSG is aware of the recently-completed project to scope the pedagogic support needs of academics, and whether the University needs a discrete pedagogic support unit, or whether current providers can supply the necessary support².
6. The PSG has not had an opportunity to consider this report in advance of its presentation to the GBEC, but is aware of, and is in broad agreement with, its conclusions. The recommendations herein could either strengthen and complement the findings of that report or could be implemented independently.

Recommendations

1. The PSG recommends the formation of a novel type of structure, to be known as the Cambridge Programme in Teaching and Learning Excellence (CAPITAL E). CAPITAL E will seek to build on cross-disciplinary and cross-functional networks where innovative practices can be rigorously debated, explored, implemented and evaluated in order to foster developments that will benefit student learners and their teachers. Its remit will include all areas of pedagogic support: practical, theoretical

¹ Currently Senior Associate, Higher Education Academy; formerly Pro-Vice-Chancellor (Teaching and Learning), University of Manchester - <http://www.heacademy.ac.uk/922.htm>

² See annex 2: Report of the Pedagogic Support Steering Group, Pedagogic Support for the Cambridge Academic, Alice Sheridan, Easter Term 2007.

and strategic, addressing both internal and external issues, contributing to national policy debates and above all having time for reflection and consideration of the 'big picture'. CAPITAL E will also raise the national and international profile of Cambridge's high-quality, cross-institutional and cross-disciplinary enhancement of teaching and learning.

2. CAPITAL E would be managed by the PSG which would become the Pedagogic Steering Group, chaired by the Pro-Vice-Chancellor for Education. The current membership of the PSG would require review to ensure that it includes the most appropriate representatives of support providers. The PSG recommend that a senior academic be appointed to lead the programme within this framework.
3. The PSG recommend that a portion of the TQEF money for 2007-9 be used to fund the transitional phase from setting up to full operation of the programme.
4. Recommendations for the effective use of the remaining TQEF funds are presented as a menu of possibilities, with the recommendation that, among any new projects undertaken, priority should be given to addressing "transitional skills", i.e. those study skills students need to acquire to make an effective transition from school to university.

Background

1. A consultation on a revised version of the University's next Learning and Teaching Strategy took place in Lent Term 2006. Responses to the consultation indicated that certain agendas were emerging in the University, one of which was the better co-ordination of current providers of University pedagogic support (Careers, CARET, Disability Resource Centre, Education Section, Language Centre, Academic Staff Development)³. A parallel need for better communication between these providers and between them and Faculties and Departments was also revealed. In addition, support of College teaching officers and communication with Colleges on pedagogic issues were thought to be important aspects of the University's learning and teaching culture which needed to be borne in mind.
2. Setting up a forum which could discuss the various ways in which co-ordination of and communication between current pedagogic providers could be achieved was included as an objective of the 2006-09 Learning and Teaching Strategy. The Pedagogic Support Providers Co-ordination Group (PSG) came into being with a primary purpose of taking this discussion forward. Its members comprised representatives of the key central support providers: CARET (John Norman); Disability Resource Centre (Judith Jesky); Education Section (Dr Gillian King), Language Centre (Dr Anny King), Academic Staff Development (Dr Liz Elvidge, latterly Dr Meg Tait,), afforced with representatives of the Admissions Forum (Dr Veronica Bennett), the Careers Service (Dr Peter Harding) and the CMI Undergraduate Education Programme (Dr David Good). From its inception the group recognized the importance of supporting pedagogy across the whole of the student experience from intake to graduation and beyond. The PSG also kept firmly in its sights the interests of those who teach and support teaching and learning. In this way, the twin foci of the PSG mirror the two strategic aims of the Learning and Teaching Strategy
[\(http://www.admin.cam.ac.uk/offices/education/strategy/\)](http://www.admin.cam.ac.uk/offices/education/strategy/)
3. The administrative needs of the Group were funded for one year through the latest tranche of the University's Teaching Quality Enhancement Funding, and a facilitator from the Higher Education Academy, Professor Michael Bradford⁴ provided an external perspective which greatly helped the group with its thinking. The Group met 6 times for 3-hour meetings in the academic year 2006-7. Further deliberations were conducted by email and by use of a web forum set up within CamTools.
4. The PSG had before it various models for delivering better co-ordination and communication:
5. At one extreme, the officers currently involved in the PSG could themselves undertake the activities necessary to support pedagogy throughout the University without additional resource. At the other extreme would be a discrete, stand-alone, funded, centralised pedagogic support facility which would carry out all the activities and associated responsibilities as detailed below.

³ See Annex 1: report to GB Education Committee: Learning and Teaching Strategy Consultation, Lent Term 2006

⁴ currently Senior Associate, Higher Education Academy; formerly Pro-Vice-Chancellor (Teaching and Learning), University of Manchester - <http://www.heacademy.ac.uk/922.htm>

6. The pedagogic activities in question would encompass all of the agendas within the Learning and Teaching Strategy which concern pedagogy:
 - i) Student skills
 - ii) Inclusive Practice
 - iii) Communication and co-ordination of central support
 - iv) Development and reward of teachers
 - v) Other pedagogic initiatives which have so far not been identified but which would fit within the broad framework of the Learning and Teaching Strategy, including those emerging from individual Colleges, Faculties and Departments
 - vi) And finally, co-ordinating activities, involving some or all of the following functions, would also be needed:
 - Administration
 - Planning
 - Bidding for funds
 - Oversight of funded projects
 - Evaluation and monitoring
 - Pedagogic research
7. An obvious question under the first model from this list of tasks is: how, given current workloads of PSG officers, could the extra tasks be managed?
8. Under the second model, the question becomes what form should this pedagogic support facility take and how should it be constituted and funded? Currently no such body exists within the University.
9. A Pedagogic Support Scoping Project, (hereinafter referred to as the Scoping Project) has recently been completed to scope whether the University needs such a discrete unit, or whether current providers can supply the necessary support⁵.
10. The PSG has not had an opportunity to consider the report of the Scoping Project in advance of its presentation to the GBEC, but is aware of its conclusions. The recommendations that will be found below could either strengthen and complement the findings of the Scoping Project or could be implemented independently.

National and International Context

11. Over the past fifteen years, there have been many important developments at the national level which have focussed attention on the development of educational practices within the higher education sector. These were given early impetus by the recognition that new digital technologies would radically change the information landscape in which degree courses are taught. The HEFCE Teaching and Learning Technology Programme which was launched in 1992 addressed this specifically. It was followed by many other initiatives which were focussed on the development of teaching practices with a greater or lesser emphasis on the use of new technologies (see

⁵ See annex 2: Report of the Pedagogic Support Steering Group, Pedagogic Support for the Cambridge Academic, Alice Sheridan, Easter Term 2007.

<http://www.hefce.ac.uk/learning/TInits/> for details of all current and past programmes).

12. Alongside these funding initiatives, the introduction of various external monitoring regimes designed to audit educational provision encouraged a more reflective self-critical stance amongst educators and institutions. Though some would argue that the excesses of some of these regimes inhibited rather than stimulated innovation, overall there has been, and exists now, a national climate offering both carrots and sticks for educational innovation.
13. Developments in the UK have been paralleled elsewhere, most notable the USA where many of the University's peers and competitors have invested in Units and Laboratories which provide a continuing basis for supporting pedagogical and curricular innovations. For example, Stanford has developed a Centre for Teaching and Learning which supports through expertise and financial support new educational developments in Departments; and MIT has its Teaching and Learning Laboratory and has funds, most specifically the D'Arbeloff Fund, which provides direct financial support to members of staff. There has also been an important growth in professional bodies devoted to Research and Development issues in Higher Education often with financial support from Foundations and trusts which recognise the importance of Universities' educational missions.

Cambridge Context

14. Contrary to popular perception, the University of Cambridge has a long tradition of pedagogical innovation, introducing new subjects and pedagogic practices within Triposes, and whole new Triposes, as a result of developments in research, and the needs of our students and employers. Sometimes this has depended upon the actions of individuals, and sometimes upon centrally organised initiatives drawing on the ideas and talents of many people. In recent times there have been very many innovations at the departmental level, e.g. the introduction of IT into teaching in CATAM in the early 1970s; the computer-assisted text reading project (CATR) in the Faculty of Classics; the TfLN project in the Department of Plant Sciences, which involves projects in Materials Science, Engineering and Classics; the award-winning integrated face-to-face teaching/ online learning courses within the CULP and Junior CULP programme in the Language Centre; at the interdepartmental level in the establishment of Biological Engineering; and at the University level in the establishment of CARET, and the academic practice programmes of the Academic Staff Development group. Indeed, if one looks at the history of the University's educational programme, there is evidence of many innovations over a long period of time, and that this has been fostered by assorted individuals and groups across the institution.
15. In recent times, the pace of innovation has quickened, but this has not happened because of any coordinated approach by the University. While recognising that devolved autonomy is a fundamental and essential characteristic of this collegiate University, and one that makes possible the creativity and academic excellence for which Cambridge is renowned, there are grounds for thinking that important opportunities (for example CETL and NTFS funding) have been missed because of a lack of co-ordination or support, and that the University's ability to respond to innovation and change could be compromised if pedagogic support needs are not addressed.

16. It is clear that there is a growing need to make Cambridge's practices, priorities and contributions to teaching and learning excellence in higher education better understood in the national and international arena, and *vice versa*. While individuals, groups and support providers put considerable effort into these endeavours, workloads coupled with a lack of sustained co-ordination and support mean that Cambridge's engagement with national and international debates in the area of pedagogy is currently not optimal.
17. While Cambridge continues to select from among the most able candidates for admission, UK reforms to teaching, learning and assessment have led to changes in the ways in which incoming undergraduates are prepared by their experience at secondary level for academic study at Cambridge. These present real challenges for their teachers in some areas of the collegiate University. There is at present little formalised support for student learners and their teachers to assist them in addressing these challenges. We suggest below an initiative which could begin to fill the gap.⁶
18. While recognising that student learners in the University have various needs: financial, pastoral and welfare, and academic, it is the last of these, and more specifically enhancement of the learner's ability to learn, through provision of innovative and appropriate learning opportunities, that concern the PSG. Learning opportunities may be enhanced by better physical facilities, or by more academic support. The precise interest of the PSG, however, is in how student learning opportunities are enhanced by better pedagogic support for those who teach students. In this way, not only are learners' needs central to the PSG's remit, but so are those of their teachers. As mentioned previously these dual foci mirror those of the LTS strategic aims:
- **To maintain and enhance the excellence of student learning opportunities at both undergraduate and graduate level**
 - **To provide a stimulating environment, in which teaching is recognised and rewarded, for all those who teach and support student learning in the University**

Intended Outcomes of the PSG for 2006-07

19. The PSG set for itself the following outcomes for its first year of work:
- (i) to articulate and establish a structure or *modus operandi* for initiating, supporting and co-ordinating pedagogic projects;
 - (ii) to incorporate the results of the Pedagogic Support Scoping Project into this thinking;
 - (iii) to use the Learning Landscape initiative⁷ as a pilot project for seeing how the structure proposed in (i) might work;

⁶ See Annex 4: Transition Skills proposal.

⁷ See annex 3 for a description of this JISC funded project under the e-learning benchmarking initiative.

- (iv) identify projects for Years 2 and 3 of TQEF funding and support by whatever structure is identified.

Progress made towards these outcomes, and the recommendations resulting, are discussed in detail below.

***A modus operandi* for initiating, supporting and co-ordinating pedagogic projects**

20. The Vice-Chancellor, in her annual address to the University on 2 October 2006, highlighted the challenges faced by all educational institutions in managing "the difficulty and cost of effectively melding education and research" in a climate in which "rankings, prestige and investments are strongly weighted toward our research endeavours". Learning and teaching at Cambridge faces a range of particular challenges, including "ambiguities and confusion about the roles and expectations of College-based staff and from the pressure on Faculty-based staff to excel in research." She drew the conclusion that it is essential that we work to address those issues which are specific to Cambridge and that in so doing we would not only ensure that the Cambridge education flourishes, but provide a beacon for the dual mission of research-led universities in general. In summary: "we have an opportunity to lead change as well as to sustain the best of what we do".
21. How can learners' and teachers' needs best be supported to meet these challenges and aspirations? The Scoping Project report concludes that enhanced support is required and suggests that provision is made for enhanced communication structures, a full-time Pedagogic Support Officer (PSO), a fund to kick-start small teaching innovation projects, and a budget for buying-in pedagogic consultancy work. Its annual running costs would be approximately £220,000. The report suggests that the facility built around the PSO should become a separate office under the Pro-Vice-Chancellor for Education, which would build and maintain formal links with the Education Faculty in order to have academic credibility.
22. The PSG broadly supports the main conclusions of the report. Being mindful of the need to make best use of existing resources and to address needs of learners and their teachers in a manner in keeping with the cultures and priorities of the collegiate University, we make the following observations:-
 - i) While the University's devolved and diffuse nature has permitted many sources of innovation, we consider that it would be possible to devise a structure that optimised the flow of expertise and resources between groups – both of practitioner/academics and of those who support them - to their mutual advantage. Such a structure would need to enhance innovation and be in keeping with the ethos and culture of the collegiate University.
 - ii) In order to capitalise on investments to date, to ensure continuity with future initiatives, and to contribute to this intellectual flow, the resource position of pedagogic support, in whatever form this takes, needs to be stabilised.
 - iii) The operation of such a structure would have benefits not only to anyone who wished to propose such a project in providing a forum for discussion of ideas, but also to the University which would acquire a place for banking ideas, knowledge and expertise derived from a sequence of projects. It would provide

the kind of continuity in knowledge and expertise which would form the evidence of track record in excellence which outside funding bodies demand.

23. In summary, the PSG identified needs for

- (i) a supporting, co-ordinating structure, and
- (ii) adequate resources,

if the University were to enhance its support for pedagogic activities. It examined the part that current pedagogic providers could play in this programme. As far as adequate resources are concerned, the PSG makes some recommendations at the end of the report for projects which might be financed from the TQEF, for the General Board's consideration.

The Cambridge Programme in Teaching and Learning Excellence (CAPITAL E)

24. As a response to the Vice-Chancellor's challenge, the work of the Pedagogic Support Scoping Project, and to the PSG's own deliberations it is proposed that the supporting, co-ordinating structure identified above be established as the Cambridge Programme in Teaching and Learning Excellence (CAPITAL E). The Programme will provide **a common focus for current resources and expertise**, as well as an opportunity for significant enhancement of these. As academic boundaries flex and dissolve, a key purpose of CAPITAL E will be to disseminate the many effective practices in learning and teaching that abound throughout the University. To capitalise upon the academic exuberance of the intellectual community in Cambridge, the Programme will seek to build on cross-disciplinary and cross-functional networks where innovative practices can be rigorously debated, explored, implemented and evaluated in order to foster developments that will benefit student learners and their teachers.

Characteristics of CAPITAL E

25. CAPITAL E will have the following remit:

- to be supportive of the needs of academics and learners;
- to be pro-active in identifying trends in need and support, and starting to address them before action becomes reaction;
- to be commissionable by members of Faculties, Departments and Colleges who are in need of pedagogic or innovation support;
- to commission support either from inside or outside the University to address support priorities;
- to be pro-active in identifying external funding opportunities;
- to take an active role in shaping national policy discussions in order to ensure that the ethos and priorities of the collegiate University inform the development of policy and funding opportunities in this area;
- to be reflective, with time to consider the University's provision, see the 'big picture', take a strategic approach to support;
- CAPITAL E will also raise the national and international profile of Cambridge's high-quality, cross-institutional and cross-disciplinary enhancement of teaching and learning.

The PSG recommends that the Programme should have a well maintained presence in a suitable location on the University website. This will provide a

recognised single point of contact for enquirers within the collegiate University, as well as a focus for national and international enquirers.

Implementation

26. The PSG acknowledges that such a Programme will require the support of staff within the collegiate University, and will need credible academic leadership. It is mindful that new resources will be limited (see section on TQEF funding, below), and recommends balancing expenditure on new staff costs with funds for new project work, in order to ensure maximal flexibility and efficacy. In line with the findings of the Pedagogic Support Scoping Project the PSG recommends the establishment of a new small, centrally funded core team, in order to ensure continuity of Programme activity over financial years. The activities of the core team will be enhanced by externally funded projects. The PSG cautions against staffing CAPITAL E primarily with junior administrative staff, although these will, of course, have their part to play. The PSG also counsels against simply redeploying current sparse resources. Existing workloads mean that doing so will not lead to the desired enhancement of current pedagogic support for student learners and their teachers.
27. The PSG understands that the Scoping Project report concludes with a recommendation that the appointee to the PSO position be a senior academic (possibly on secondment). The PSG supports this recommendation. For the CAPITAL E Programme to have the necessary focus and credibility, it will be essential that its head retains some of his/her teaching responsibilities, and due care will be taken to ensure a manageable workload within the Programme. Possible candidates for leadership of the Programme might have interests in acquiring policy roles, ultimately perhaps at pro-vice-chancellorial or vice-chancellorial level, and would benefit from an opportunity with both a national and an international profile.
28. So far the PSG's findings match those of the Pedagogic Support Scoping Project report. The PSG seeks to strengthen those findings by recommending that the CAPITAL E Programme could form the structure in which the PSO could work. Indeed, it need not be ruled out that the PSO, if a suitable appointment, would play a key leadership role in the Programme. Furthermore we wish to recommend that the Programme is managed by the PSG, which would become the **Pedagogic Steering Group**, chaired by the Pro-Vice-Chancellor for Education. The current membership of the PSG would require review to ensure that it includes the most appropriate representatives of support providers.
29. The Pedagogic Steering Group would constitute a forum for focussed discussion among pedagogic support providers, in order to guide the development of CAPITAL E and in order to enable the development of collaborative projects under the Programme's auspices.
30. The PSG notes that the Pedagogic Support Scoping Project report suggested that the proposed sum of roughly £200K per annum should be set aside for the purposes of enhancing pedagogic support in the collegiate University. The Scoping Project report suggests that this sum fund the PSO, as well as enhanced communication structures, a fund to kick-start teaching innovation projects and a budget for buy-in pedagogic consultancy work. We concur with this general outline, but go further to suggest that CAPITAL E would provide the enhanced communication structures required, and aim to coordinate funding of innovation

projects. One possible source of finance for at least the first year of the Programme could come from the current and final rounds of Teaching Quality Enhancement Funding (TQEF), which will continue until 2008-9.

31. As stated above, CAPITAL E would be managed by the Pedagogic Steering Group, and would include a senior academic, but other staffing would also be needed. Administrative support for its activities will be essential, but other practitioners will also be needed in due course. The PSG considers that joint appointments of a small number of new staff, shared among members of the PSG, could build on existing relationships and programmes, and enable CAPITAL E to enhance, rather than duplicate, current provision. The staffing associated with CAPITAL E might also be enhanced through, for example, secondments (whose costs should include suitable backfill to cover real costs in the home department) as well as by short-term project workers. It is envisaged that many of the latter would be senior members of either academic or support staff. The PSG also recommends that the activities of the University's good practice strategy be incorporated into the Programme. In the round, the Programme will therefore provide a forum for practitioners, advisers, deliverers and organisers, forming a connection between those who need support and those who can assist with its development and/or delivery.
32. An example of the kind of project which could be established through CAPITAL E is the TRANSKILLS project (see Annex 4). The need for such provision is clear both from the Scoping Project and other sources, its outcomes will not only benefit students and academic staff, but will also enhance the University's aspirations for widening participation, and if needed, retention of students. It will blend online and face-to-face learning and make the most of independent learning; it will involve central providers and Colleges, Faculties and Departments. It is thus a model of how CAPITAL E could work.

Relationship to the Pedagogic Support Scoping Project

33. Since the senior academic post which we propose has obvious parallels with the PSO recommended by the Scoping Project report, we now consider in more detail how the recommendations of the two reports might relate to each other, and whether they might be implemented together or separately. We support the proposals of the Scoping Project report and expect them to be CHEST funded, but we anticipate that securing the CHEST funding and recruiting the PSO will take some time.
34. We can envisage three scenarios:
- a) The recommendations of the Scoping Project are accepted and put into operation immediately;
 - b) The recommendations of the Scoping Project are to be put into operation some time in the future and interim support of pedagogy is needed;
 - c) The recommendations of the Scoping Project are not accepted.

A fourth scenario, whereby the recommendations of the PSG and Scoping Project were implemented independently, would not be workable, as the two would compete for funds, resources, and attention within the community of the university and outside.

35. Our recommendations would be as follows:

Given Scenario (a) - making the Pedagogic Support Scoping Project recommendations operational:

- i) Set up CAPITAL E
- ii) Establish the Pedagogic Steering Group
- iii) Appoint the PSO and integrate him/her into CAPITAL E .

Given Scenario (b) - interim support of pedagogy before the above became operational:

- i) Set up CAPITAL E
- ii) Establish the Pedagogic Steering Group
- iii) Employ or second an interim leader for CAPITAL E on a short term basis

Given Scenario (c) - providing a standalone structure assuming the Scoping project recommendations did not become operational:

- i) Set up CAPITAL E
- ii) Establish the Pedagogic Steering Group
- iii) Employ or second a permanent senior academic leader for CAPITAL E

Allocation of spending from the TQEF will depend on which particular scenario is adopted by the General Board. Below we make some suggestions for consideration by the General Board.

Recommendations

36. The PSG makes the following recommendations:-

1. **that the flagship CAPITAL E programme be initiated immediately and managed by the PSG under the Pro Vice Chancellor (Education). The CAPITAL E programme will create coherence and efficiency in the central institutions' provision of pedagogy support;**
2. **that the current Pedagogic Support group be reconstituted as the Pedagogic Steering Group for this purpose, and that its membership should be re-examined;**
3. **that a senior academic with teaching credentials should be appointed as soon as possible to lead the CAPITAL E programme under the management of the PSG;**
4. **that the new senior academic leader and the PSG would create a joint agenda to take forward the aims of the CAPITAL E programme and will put forward funding proposals that take full advantage of external funding opportunities while stabilizing existing resources.**
5. **that the programme should be established immediately and not wait for the appointment of the senior academic, since the lead-time for securing external funding may be considerable, and bearing in mind the short term nature of remaining TQEF funding.**
6. **As far as TEQF spending is concerned, the following suggestions are offered as a menu from which spending choices may be made (reference numbers relate to Learning and Teaching Strategy targets):**

Year 2 of TQEF (i.e. 2007-8)

Project	£K
4.1.1a Provision and co-ordination of skills courses	5
4.1.1b undergraduate PDP	2
4.1.1c PDP programmes	12
4.1.1d Graduate teaching skills	40
4.1.1e language skills provision for learners with diverse needs	67
4.1.4a accessible learning resources	50
4.1.5c Plagiarism	1.5
4.2.2a Establish appropriate structures for pedagogic support (as recommended in Pedagogic Support Scoping project)	0
4.2.2b Co-ordinate efforts of central support providers better	
• Salaries (part-time senior academic plus part-time administrative support) (50K)	
• Faculty and Department projects (£80K)	
• Inter-provider project (TRANSKILLS) (£100)	230
4.2.2c Good Practice	1.5
4.2.3 Continue to develop	
• PHEP (£60K)	
• CapCAM (£182K)	242
TOTAL	651

Year 3 of TQEF (i.e. 2008-9)

Project	£K
4.1.1a (one-off project completed)	0
4.1.1b undergraduate PDP	2
4.1.1c PDP programmes	12
4.1.1d Graduate teaching skills	40
4.1.1e language skills provision for learners with diverse needs	67
4.1.4a accessible learning resources	50
4.1.5c Plagiarism	1.5
4.2.2a Establish appropriate structures for pedagogic support (as recommended in Pedagogic Support Scoping project)	220
4.2.2b Continuation of TRANSKILLS	50
4.2.2c Good Practice	1.5
4.2.3 Continue to develop	
• PHEP (£60K)	
• CapCAM (£182K)	242
TOTAL	686

TQEF funding ceases to be ring-fenced in 2009, although it is anticipated that the University will receive a comparable amount of funding to replace the ring-fenced fund. Therefore, after 2009, any of the above projects which the University wishes to continue must be assured of recurrent central funding.

