

The changing role of subject librarians in academic libraries

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Abstract

Discusses the roles that subject librarians (or 'subject specialists') play in contemporary UK academic libraries. Argues that subject librarians, who still form a significant grouping of senior staff in most UK academic libraries, continue to have a significant role to play in the delivery of library services and that applies to both traditional and electronic library services. Discusses the traditional role of subject librarians and analyzes the way in which this role is changing. Those areas where the changing responsibilities are extensions of traditional roles into new areas are pinpointed, together with examples of where subject librarians are performing new roles and adopting new ways of working. Areas where the changing role of subject librarians can be specifically identified include: greater emphasis on liaison with users; advocacy of the collections; adopting new roles; dealing with user enquiries in new ways; working with technical staff; selecting electronic library materials; carrying out more information skills training; having a greater involvement in the implementation of educational technology; team working and project working. Presents practical examples based on experiences at Nottingham university and other UK research libraries. The redesign and relaunch of Nottingham University Library Web site is described to illustrate many of these points.

INTRODUCTION

The 'subject librarian' (or 'subject specialist') system is common in UK academic libraries and elsewhere. Nevertheless, it has always had its detractors. Richard Heseltine, for example, is a well known sceptic of the system and was quoted in 1996 as predicting its disappearance:

"In the future, I think that the delivery of end-user services will be much more systematized...it will involve the convergence of learning support services. For users, the distinctions between Library, Computer Centre, Audio-Visual Centre, and so forth, are becoming less meaningful as the technology converges and as they start to use a more diverse range of learning resources...What I think will emerge is an organizational structure...which is based on functionally-based collaborating teams. I think the generic model of subject librarianship will disappear. So we shall have service convergence round broad functional responsibilities." (Martin, 1996, 147)

Heseltine gives prominence to the functional, rather than the subject expertise of librarians. He foresees the demise of the subject librarian as part of the same process as the convergence of learning support services in the university.

Heseltine's views are not unique, or indeed new. Fred J. Hay (1990) discusses the views of Dennis Dickinson, who in 1979 "predicted the disappearance and extinction the subject bibliographer" in the United States (the term 'subject bibliographer' is still used in the USA to describe the subject librarian). Thompson and Carr (1987) also discuss sceptics from the 1970s.

Others have been more sympathetic to subject librarianship but have seen problems in particular areas. Derek Law (1999), for example, sees problems in the area of collection management. "Subject librarians tend to have highly developed territorial instincts expressed as 'my faculty' or 'my subject' and a much less developed view of the library collections as a whole." Law goes on to say that in the electronic library subject expertise is becoming less important. "CD-ROM networking or HTML authoring skills may seem more relevant professional skills than subject knowledge". Once again, it is functional rather than subject skills which are seen as key.

Despite these views, most academic libraries in the UK (and elsewhere) still have subject librarians and show few signs of changing this. A few New Universities (former polytechnics) have scaled-down their subject librarian operations but in most academic libraries the subject librarian is alive and well. Subject librarians often make up a significant proportion of the senior ('academic-related') staff in the library. It is surprising then that the role of the subject librarian is rarely addressed in detail in the recent literature – Hay (1990) and Martin (1996) are exceptions. The role needs to be widely discussed if the subject librarian is to play as effective role as possible in the contemporary academic library. In particular, the question of the role of subject staff in electronic library development needs to be considered.

This paper attempts to discuss some of these issues and argues that subject staff have a crucial role to play in the contemporary academic library. In particular, it analyses (from a practitioner's point of view) some of the ways in which their traditional role can be usefully extended into the electronic library environment. In the 'hybrid library' (which combines access to both traditional and electronic resources) their role is being significantly reshaped but is still important. It will be essential, however, as the role changes for subject staff to respond positively to these developments if they are to continue to add value to the service for users. This paper suggests some of the skills that will be required to do so. The focus is on the subject librarian in the research library and examples are given from experience at the University of Nottingham and other CURL libraries¹. However, it is hoped that these remarks will have some resonance for all academic libraries.

THE TRADITIONAL ROLE

The precise role of the subject librarian has always differed from institution to institution, as Martin (1996) explains. Their place within the library organisation and the extent to which subject staff have been expected to carry out non-subject duties in particular has varied. Nevertheless, a number of general responsibilities are normally associated with the role:

- Liaison with users: the subject librarian is often formally associated with particular schools or departments.
- Enquiry work: often including timetabled stints on enquiry desks.
- Selection of material and management of materials budgets: traditionally the subject librarian selects books taking into account recommendations from users.
- Cataloguing and classification: the latter in particular is commonly done by subject staff.
- Managing collections: including looking after a 'subject area' or 'subject floor', binding administration, conspectus activity, relegation of material etc.
- User education: particularly library induction.
- Production of guides and publicity: including subject guides.
- Wider responsibilities: this may include major functional and managerial responsibilities but always at the very least will include membership of library-wide working groups and project committees.

These responsibilities often require some subject expertise plus, sometimes, technical and language skills. It is, however, clear that subject librarians cannot be experts in every aspect of the subject or subjects they look after. Whilst it has traditionally been seen as an advantage to employ subject librarians with first or second degrees in relevant subjects, most subject librarians will always have a wider subject remit than just the subject in which they have a qualification. As Kenneth Humphreys (1967, 40) commented some time ago, it is normally considered to be sufficient for the subject librarian to develop a familiarity with the structure of the literature in the relevant discipline and the major resources associated with it in order to support users effectively.

It is the effectiveness of the subject librarian system in relation to users which is normally seen as crucial. The most important advantage of the system, as W.L. Guttsman (1973) argues, is that it is user-focused. The responsibilities of subject librarians normally reflect the subject and faculty structure of the university. The subject librarian can act as a single point of contact between the library and the academic schools. As a result, the library can develop a more detailed awareness of user needs than might otherwise be the case and can tailor its services more closely to those needs. For example, it can often better ensure that its collections are balanced and in line with the interests of users. It might be argued that these advantages apply as much in the electronic library as it does in the traditional library.

The subject librarian system is, of course, not without its problems, although these are not dealt with in any detail here. They have been discussed by Hay (1990), Martin (1996), and Law (1999), amongst others. However, this paper attempts to illustrate that the

system, because of its user focus, is a flexible one, which is able to respond effectively to changing technologies, systems and expectations.

THE CHANGING ROLE

The role of the subject librarian is changing. Some of the most significant changes include the following:

1. The old job...plus
2. More emphasis on liaison with users
3. Advocacy of the collections
4. New roles
5. Enquiries – the new way
6. Working with technical staff
7. Selection of e-resources
8. More information skills training
9. Organising the information landscape
10. Involvement in educational technology and learning environments
11. Team working
12. Project working

These factors are discussed in turn.

The old job...plus

The first of these reflects the feeling amongst many subject librarians that they are being asked to do all of the old job plus a lot more on top! This can sometimes be true, especially in a context where total numbers of staff in library and information services have been reduced and when the subject remit of a single subject librarian may have been widened. The workload of a subject librarian certainly needs monitoring and managing carefully. Sometimes jobs need to be reprioritised and if necessary redefined. But there are two sides to this. Firstly, senior managers need to keep the demands being made on subject librarians under review. Secondly, subject librarians themselves need to manage their own time. It may sometimes be necessary to let go of certain jobs or at least to streamline them. This can sometimes be difficult to do but needs to be considered on occasions.

In recent years, the roles of subject librarians have been reprioritised in many libraries. In general, there has been a trend of moving subject librarians away from routine tasks to other priorities (some of which are discussed below). In many libraries, this has meant a movement away from some traditional collection management roles, such as cataloguing, classification and book selection. Many of these have been centralised in the library organisation or, in the case of selection, even devolved to academics. In the library, the relationship between subject staff and central 'functional' staff (such as cataloguing and acquisitions staff) has not been static. The successful library service is one that can

overlay the functional tasks of the organisation with subject services in the most effective way to ensure that all the necessary jobs are carried out efficiently.

More emphasis on liaison

One of the things that has replaced traditional collection management roles in the subject librarian's time is more emphasis on liaison with users. There is more emphasis on 'getting out there' rather than expecting users to come to the library. This new proactive approach has often been reflected in new titles for subject librarians: 'Faculty Team Librarian', 'Liaison Librarian', even 'Learning Advisor'. These titles connect the subject librarian to the user more closely. Of course, it does not matter what the subject librarian is called; what matters is that this emphasis on connecting with users is maintained and enhanced.

Liaison needs to be both formal and informal. Anecdotal evidence would suggest that many research libraries are good at the latter but not so good at the former. They are not so good at getting places on curriculum committees and school boards, nor in encouraging users to (enthusiastically) attend library user groups and advisory boards. And yet these groups are a very important way of keeping in touch with the developing research and teaching interests of users, and also informing them about developments in the library. In groups such as these and beyond, subject librarians can often perform the valuable role of explaining and interpreting library policies as they develop for users. In a fast moving area this in itself is becoming an increasingly important role.

As Parker and Jackson (1998) explain, liaison is particularly important in a world of resource-based learning where students are encouraged to carry out more independent work and make wider use of a range of learning resources. In a resource-based system, the subject librarian has got to be aware of the interests within the school in order to ensure that materials are available. It is essential that there is more communication between the library and the school than just the school sending all its reading lists to the library (although all the reading lists would be nice for a start!).

In some cases, schools may want the liaison arrangements with the library formalised in a service level agreement (SLA). If this is the case, it is important to ensure that the SLA works for the library by being framed in terms of partnership. Putting an SLA in place can often be an opportunity to strengthen formal liaison mechanisms between the library and the school. These are usually channeled through the subject librarian.

Advocacy of the collections

Liaison is not just about listening to users, although this is, of course, important. One other useful role subject librarians can have is in taking an active role as advocates of the library and its collections. The subject librarian often knows the particular strengths of the library collections better than many users. Subject staff are aware of untapped special collections, underutilised microform sets or new electronic sources. In a rapidly changing information environment, it is increasingly necessary to keep users up to date with the

last of these. Different subject communities are currently contributing to and making use of electronic library services at different rates and in differing ways, subject librarians are best placed to see how elements of the library service may best fit with particular user groups. They can act as advocates for new library materials (as well as traditional ones), suggesting ways in which they might be used in learning and teaching or research activities. This can be done by developing case studies or sample materials for academic staff to use and may sometimes take the subject librarian into new areas in the learning and teaching process (a theme which arises several times in this paper).

New roles

Subject librarians are indeed becoming increasingly required to take on completely new roles. SLAs are, for example, often written by the subject librarian. Other new roles include teaching quality assessment support and research assessment support. All of these are very time-consuming for subject librarians: extensive planning needs to take place, documentation prepared, meetings attended. But once again these developments are opportunities. They can be used as a way of actively working in partnership with schools and of putting in place mechanisms of communication and consultation.

Enquiries - the new way

As well as taking on new roles, the subject librarian is often adapting traditional roles to the new environment. Enquiry work is an example of this. Many subject librarians now spend little or no time on enquiry desks (this is true, for instance, at the Universities of Nottingham and Birmingham). This is another way in which many subject librarians have been moved away from more routine tasks. But subject librarians are still involved in enquiry work by providing specialist back-up for those on enquiry desks. They also increasingly deal with enquiries in different ways: by personal email, responding to mailing list enquiries, sometimes even video-conferencing. Subject librarians are also anticipating enquiries in putting together online 'frequently asked question' services. An increasing amount of interaction with users is becoming virtual; the subject librarian has to learn to adapt to these changes.

Working with technical staff

Many of the enquiries themselves are beginning to differ. Increasingly, for example, subject librarians are required to provide support in technical areas. There is certainly some truth in Derek Law's view that technical skills are increasingly important for library staff. When library staff cannot answer the questions themselves, they can often act as intermediaries between users and technical staff. This does not just apply to enquiries, of course. Subject librarians can often perform a valuable ongoing role in representing the needs of the user to technical staff to help ensure that the right services are delivered. This is also important in developing new services. Subject librarians are often best placed to identify user needs and then assist in developing and testing new services alongside technical staff.

Selection of e-resources

Liaison with users and technical colleagues is also important in the next area, selection of electronic materials. In many cases, the subject librarian still has primary responsibility for selection of materials and acts as the purchaser. In others, budgets have been devolved to academic staff and the subject librarian acts as advisor. In either case, the subject librarian has an important role to play. The subject librarian needs to ensure that the selection of e-materials (as well as traditional materials) is in line with a general collection development policy (CDP). If necessary, the CDP should be revised to include e-materials (local and remote) so that it reflects in a coherent way the variety of information materials and access methods currently available to academic libraries.

The selection of e-resources is often more complex than traditional print. This is the case in at least two ways. Firstly, the *process* of selection itself can be more involved. Products are often more expensive than individual printed items and selection requires more work. The work can involve finding out about products, liaising with suppliers, investigating hardware and software requirements, organising trials and demonstrations, co-ordinating evaluation, and organising purchase. In order to do this it is usually necessary to consult a wide number of colleagues. Even the last of these stages (organising purchase) is in itself complex. At the University of Nottingham, a Protocol for Electronic Purchasing (PEP) has been developed to manage this. The PEP is a workflow system (based on an Access database) which takes a purchase order through its various different stages and which alerts relevant staff as they need to become involved.

The second way in which selection of e-resources is more complex than print is in the *criteria* that have to be considered as part of the decision-making process. Consideration should be given to a wide range of factors and the subject librarian has at least to be aware of all of them. Some of these are discussed by Price (1998):

- Content: what does the resource contain? How far does it go back?
- Functionality: what searches are possible? Can results be easily downloaded and printed?
- Interface: are different interfaces available from different suppliers (e.g. Medline)? Which one is best?
- Access methods: can the resource be made available on a network?
- Licensing: can it be used off campus as well as on campus? Can walk-in library users access it or just members of the home university?
- Authentication: does the resource require a username and password or is authentication based on IP address?
- Format: CD-ROM or web?
- Technical requirements: does the resource require a particular browser version or special software?
- Integration with existing services: will users have to get to know another interface and go through more authentication hoops?
- Substitution possibilities: can an electronic subscription replace a print subscription?
- Cost: what is it? Can it be negotiated? Does it involve a complex calculation?

- Training and support requirements: to what extent will training sessions and guides be required?
- Archiving and preservation arrangements: will the supplier provide access to backfiles or will individual institutions have to archive material?
- Hidden costs: how much staff time will be required to network the CD-ROM? Is there enough bandwidth or will it need upgrading?

One important area in which these criteria are having to be considered by all libraries at the moment is e-journal subscriptions. At Nottingham, we are currently trying to develop a methodology for selecting e-journal packages which involves careful examination of all of the above questions. E-journals are bringing to a head the whole question of the relationship between print and electronic full text materials. Many research libraries have not yet reached the stage of substitution (replacing print with electronic journal provision) but the issue is becoming a real one. This issue was worked through in relation to bibliographical resources several years ago. Many libraries dropped hard copy subscriptions to new online datasets (how many libraries still take the citation indexes in print?) but this is only now beginning to a central question in relation to full text. A few have taken radical steps. At the University of Leeds, hard copy subscriptions to many engineering journals have recently been cancelled in favour of electronic access. Not many libraries have yet been this brave. Whether they are or not should depend to a considerable extent on subject librarians who as the staff members closest to users, should have a significant input into the decision-making process.

The role of selector is not just important for 'paid-for' resources. Increasingly, subject librarians are required to identify free networked resources which may be of interest to users. Many users find the array of resources available on the web confusing and daunting. The subject librarian is well placed to locate and evaluate quality resources. This involves maintaining an awareness of key web finding aids and gateways as well as sites with actual subject content.

More information skills training

But it is not just enough to select and acquire the stuff, it is increasingly necessary to guide users to it and through it. Information skills training is becoming an increasingly important element of the subject librarian role. This role is expanding to include far more than just library induction but also research skills training and information literacy education. The importance of subject librarians as teachers is beginning to be acknowledged on a national level with the new Institute of Learning and Teaching encouraging librarians to apply for membership (Brown, 1999).

Training carried out by subject librarians cannot be considered in isolation. It is necessary to consider what relationship it has with other training in the University (other organisations in the University also carry out IT training, for example) and also with academic teaching. Where possible library-run information skills training should be integrated with both of these so that users know where to go for training and it is a coherent experience.

Playing its part within the general University teaching and training opportunities can help to raise the profile of the library. This is especially true when training involves innovative electronic resources. But there is still some way to go here. It is clear that the skills of subject librarians in this area are still not fully appreciated within the university community. A recent study from the USA by D'Esposito and Gardner (1999) explored the perceptions of undergraduate students on the Internet and the library. They comment:

“Although participants acknowledged that the Internet was available in the library and that the library Web pages were available on the Internet, the general perception was that the library and the Internet were two separate and unrelated entities.”

They continue, “...participants were not inclined to ask a librarian for help with finding information on the Internet...”

Anecdotal evidence would suggest that the situation in the UK is little different. There is clearly a job to do here; not just in developing expertise but in communicating it. High profile information skills training is one way in which this can be done.

Organising the information landscape

There are other ways in which this can be achieved. D'Esposito and Gardner quote an interesting study by John Lubans of Duke University who discusses other activities:

“Lubans...asked respondents what the library could do to facilitate students' use of the Web. By far the most common suggestions were develop finding aids (best Web site listings by subject); provide live links to Web sites from the library catalog; rate search engine; and provide a service that regularly notifies users, via email, of the best new sites in a subject area. Only one third of the Duke respondents wanted one-to-one sessions or classes...”

Many subject librarians are already doing many of these activities and their importance should not be underestimated.

One important medium for guiding users to key information resources is the library web site. Playing an active part in developing this is one way in which the subject librarian can organise the information landscape for users. Subject librarians have in the traditional library made efforts to produce subject guides and handlists to supplement formal catalogue records. Developing web guides to resources is a natural extension of this. On the web, this activity can be expanded to become the creation of whole views of resources available to users with active links. As such it is a major form of (informal) metadata production.

At the University of Nottingham, we have recently redesigned and relaunched our web site (<http://www.nottingham.ac.uk/library>). One of the key objectives was to enhance user

access to resources (see <http://www.nottingham.ac.uk/library/resources>). A number of principles formed the basis of the redesign of the site as a whole:

- The web site should not just describe the library service but be part of the service.
- The site should be attractive and should include regular updates of news and information.
- Navigation around the web site should be enhanced with quicklinks and improved 'where you are' indicators.
- There should be a subject approach to resource pages rather than list of resources based on format (CD-ROM, web, etc.).
- Web-enabled databases should be used to produce resource pages rather than flat HTML. This makes entries much easier to edit and maintain.
- Editing the web site should be devolved to staff on the ground who actually produce the content. Editing is eased by the use of web forms for entries in the databases and use of a web editor (Dream Weaver) for other pages.

The last of these principles (devolved editing) is a way of dealing with increasingly large and complex sites. The introduction of web editor software simplifies the editing process considerably and helps to get large numbers of staff on board, encouraging them to own sections of the site. At Nottingham, Macromedia Dream Weaver is now used (Birmingham has a similar set up using Microsoft Front Page). Whilst there is a training need associated with this, it has proved to be worthwhile. Subject librarians have been enabled to produce easily a subject resources database and other subject-based learning support pages. In this way they are helping to organise the information landscape for users. Other recent examples of the role of subject librarians in developing the information landscape have included some of the recent eLib Hybrid Libraries projects². In the HyLiFe project, for example, subject librarians have been the staff who have developed the content for the various 'hybrid library interfaces'³.

Developing the library's web presence does raise the question of the relationship between the web site and the web OPAC. To what extent should the OPAC include web resources? If it should, which ones? How can entries be kept up to date? In relation to e-journals, should all e-journals be present on the OPAC or on a list on the web site or both? How can these listings be kept up to date? All of these questions need approaching in a way which will help users.

Involvement in educational technology and learning environments

Consideration also needs to be given to the fact that the development of electronic library facilities is part of a wider development of learning and teaching and research support material. Many universities are, for example, currently investing in the development of online Managed Learning Environments (MLEs). These facilities allow staff and students to interact online and allow access to administrative and teaching information in a transparent way. One interesting question is how the electronic library fits in with MLEs. This is a question which subject librarians should be involved in addressing, along with assisting in the development of educational technology in general. Once again, this means

an extension of the role of the subject librarian into the learning and teaching process itself.

Team work and project working

The final two factors identified as part of the changing role of subject librarians relate to working practices. It is first of all the norm to find subject librarians as team players. The days of the autonomous subject librarian are over. Numbers of subject librarians may be grouped in teams (as at the University of Leeds), they may play a part in multi-disciplinary teams (including computing and educational technology colleagues, as at the University of Birmingham) or they may be managing teams of subject-based support staff (as at the University of Nottingham). In all these cases, the subject librarian needs to be aware of team building and team working practices.

Similarly, project working is becoming more common. Subject librarians may be involved in bidding for external funding for projects, in working on and managing internally or externally funded projects. They are expected increasingly to develop a project mentality and project-based ways of working. We are perhaps reaching a stage when every library should have its own in-house project methodology which it can easily implement when required.

Projects may often involve research and development of new services. The electronic library in particular still requires continual development work and the subject librarian has a valuable role to play here. This involvement in research also aligns the library with one of the core activities of the research-led University.

SKILLS

All of these new roles for the subject librarian imply new or newly adapted skills. In addition to the 'traditional' professional skills (cataloguing, classification etc.), the subject librarian is increasingly being expected to develop:

- Subject expertise
- People skills
- Communication skills
- Technical / IT skills
- Presentation and teaching skills
- Financial management skills
- Analytical and evaluative skills
- Team-working and team-building skills
- Project management skills
- Flexibility
- Ability to learn quickly
- Vision

This is a broader range of skills than ever expected of subject librarians before. There are considerable challenges here in both ensuring that new professionals develop these skills and that the skills gap amongst many established professionals is addressed.

Strategies need to be put in place which encourage the professional development of subject librarians in line with these challenges. Library managers should be active in identifying areas of training and development required and in ensuring funding is available to carry them out. Information studies schools need to ensure that these skills are specifically being addressed in their curricula, keeping in touch with the profession on the ground to confirm that the graduates they are producing have the right skills. There is also a responsibility for subject librarians themselves to ensure that they are updating their skills and the knowledge of the field.

All of this assumes that the subject expertise is there in the first place. It is still preferable for subject librarians to have some sort of background in the subjects for which they are responsible. It is however still impossible for subject librarians to have expertise in all of the subjects they are looking after. What is crucial is that the subject librarian has an appreciation of teaching and research techniques in those subjects, in the structure of the literature, and in key terminology and concepts. A first degree in a related discipline is an advantage but not always essential. It is often difficult to appoint librarians with qualifications in areas such as medicine, law and business studies. But experience shows that if the subject librarian has the skills above (particularly flexibility and ability to learn quickly) he or she can normally carry out the role effectively.

CONCLUSION

The library is first and foremost a service. Its primary mission is to support the learning and teaching and research activity of its parent institution by providing access to information resources. The subject librarian system is one effective way in which these aims can be achieved by ensuring that the library remains user-centred. Subject librarians provide one important interface between the user and the library. They can help to ensure that the service is directed at existing user needs and also be instrumental in developing and implementing new services which proactively address changing user needs. This applies in the new electronic library environment just as it has always done in the traditional library. In the developing hybrid library, the subject librarian has a crucial role to play.

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REFERENCES

- Brown, Sally (1999) Direction in learning and teaching. *Relay*, **48**, 4-6.
- Hay, Fred J. (1990) The subject specialist in the academic library: a review article. *The Journal of Academic Librarianship*, **16**, (1), 11-17.
- D'Esposito, Joann E. and Gardner, Rachel M. (1999) University students' perceptions of the Internet: an exploratory study. *The Journal of Academic Librarianship*, **25**, (6), 456-461.
- Guttsman, W.L. (1973) Subject specialisation in academic libraries: some preliminary observations on role conflict and organizational stress. *Journal of librarianship*, **5**, (1), 1-8.
- Humphreys, Kenneth (1967) The subject specialist and national and university libraries. *Libri*, **17**, 1, 29-41.
- Law, Derek (1999) The organization of collection management in academic libraries, in Clare Jenkins and Mary Morley (ed.s) *Collection management in academic libraries* (2nd ed.). Aldershot: Gower, 15-37.
- Martin, J.V. (1996) Subject specialization in British university libraries: a second survey. *Journal of Librarianship and Information Science*, **28**, (3), 159-169.
- Parker, Sandra and Jackson, Maureen (1998) The importance of the subject librarian in resource based learning: some findings of the IMPEL2 project. *Education libraries journal*, **41**, (2), 21-26.
- Price, David J. (1998) The hybrid library and collection development. *The New Review of Information and Library Research*, **4**, 129-139.
- Thompson, James and Carr, Reg (1987) *An introduction to university library administration* (4th ed.). London: Clive Bingley.

¹ CURL (Consortium of University Research Libraries) see <http://www.curl.ac.uk>.

² eLib (the Electronic Libraries programme) see <http://www.ukoln.ac.uk/services/elib/>

³ HyLiFe (the Hybrid Library of the Future) see <http://hylife.unn.ac.uk/>