

THE FUTURE OF THE LIBRARY: THE CRUCIAL IMPORTANCE OF ACCESSIBILITY.

Presentation at the Symposium "IRIS e la Collaborazione Bibliothecaria al Servizio degli Studi Umanistici."
Florence, 12 May 2000.

Bas Savenije

Introduction

'You borrowers of books - mutilators of collections, spoilers of the symmetries of shelves, and creators of odd volumes'. This reproachful lament is a quotation of the English essayist Charles Lamb from the year 1823. It refers to the library as a collection of books and presupposes that this collection as such is more important than its use. This attitude used to be rather common in traditional libraries but has become the subject of serious criticism in the past years. The reason for this is the fact that libraries are subject to a number of very serious changes.

I would like to present to you the view of the Utrecht University Library on these changes and depict to you in a broad outline the future of the library. I am very honoured to be present at this conference on IRIS and library co-operation. And, referring to the IRIS project, an important topic of my presentation will be the accessibility of information sources.

My presentation consists of the following parts:

1. an overview of the most important trends in the field of library innovation;
2. the organisation of the innovation of libraries;
3. the importance of accessibility;
4. some conclusions about the library of the future;
5. Finally, some remarks about the IRIS project within this context.

Some important trends in library innovation

Currently, libraries find themselves confronted with a second computerisation wave. The first wave took place during the seventies and turned manual back-room activities, such as acquiring, distribution and cataloguing, into computer-controlled activities. Commercial enterprises began marketing and selling products designed for computerising the library's distribution, cataloguing and acquisition systems.

Essential in the computerisation wave of the 90s is the deployment of computer networks: campus-wide networks at universities as well as national and international networks. These networks provide access to remote electronic information by means of library information systems.

Furthermore, available electronic information is no longer limited to so-called secondary information (catalogues, bibliographic databases). Also primary information has now become electronically available. Presently, we can refer to the electronic full-text versions of scientific journals. Electronic textbooks and readers enable us to consult information outside the library, i.e. at the professional and private work site of the library's traditional customer.

We must realise that all traditional library activities are being affected by this innovation: the character of all library tasks is about to change as a consequence of technological developments. Within this context, we can observe a number of trends.

One very important trend is the fact that the physical collection is becoming less important. Of course, in the humanities books will keep playing an important role in the next decades, but the number of electronic sources will gradually increase. The library is shifting its focus from concentrating on supply towards centring on what is asked for by its customers. In correspondence with this trend, information reference is becoming more and more significant. The library acquires a gateway function, referring to information, irrespective of the location where it has been physically stored.

Growing emphasis will be put on navigation. By and large, users will prefer to find their own way across the large amount of available information. To an increasing extent, service will be provided from a distance: the users will choose to consult their sources sitting at their own desk, at their own computer. This, in turn, implies that the library needs to increase the accessible electronic collection, which is accomplished by disclosing sources elsewhere, but also by electronically providing material that has already been available on paper. Of course, this development entails new problems related to the storage of electronic information.

A second trend is related to the traditional way of looking towards library tasks as some kind of overhead. This is rapidly becoming an obsolete way of thinking.

Distinguishing between the actual provision of information and the various processes in which this information is used is becoming ever more difficult. In the case of the university library, the primary university tasks are education and research. The fundamental aspect of education is the transfer of knowledge from teacher to student. The once clear distinction between knowledge transfer through teaching on the one hand and the provision of information by the library on the other becomes obscured. This is the result of deploying information technology in education. To a growing extent, the library services are blending with the teaching process.

A similar trend can be observed in the process of research. Here, the fundamental stages are the identification of sources, the exchange of information with colleagues, the interpretation and analysis of data and the dissemination of findings. In this case, the boundaries between the provision of information and the various stages in the research process are fading as well.

Comparable tendencies are becoming apparent in other primary processes supported by library tasks, for example in policy-making and legal consultancy.

In general, it can be assessed that library functions are progressively integrating with the primary processes they are serving. This implies that we should no longer consider the library tasks as some sort of overhead services. On the contrary, they are developing into a directly productive force.

A third trend is related to the so-called information chain.

The role of the library is often described as a link in this information chain. At the moment, we can notice various problems connected to this chain. Traditionally, the various stages have been strictly distinguished in terms of the chain's main functions, i.e. subsequently in the production, distribution, acquisition, and consumption of information.

Usually, this chain is represented graphically. The traditional representation used to be comparatively simple. Lately however, it seems to have become more complex due to the pressure of an ever-expanding information stream and as a result of various technological developments. We have been hearing suggestions that the chain is about to explode.

Actually, this metaphor of an exploding chain or cycle is not correct. The chain is not bursting at all. What is exploding, however, is the amount of information, and this is due to the way this information is being transferred. Yet, all the functions in the traditional information chain, i.e. production, distribution, acquisition and knowledge consumption, can be carried out at a so-called integrated work site. Within this context, the image of an imploding chain would be more appropriate, since the system is starting to shrink due to the pressure exerted by the environment.

The configuration of functions within the information chain has become subjected to change, whilst within this changing constellation, all the parties involved are struggling to determine their positions. For instance, all kinds of arrangements have been made between universities and publishers on how they could explore their new roles harmoniously. There is a considerable danger, however, that they will remain stuck in the traditional chain. This danger becomes all the more obvious as soon as we attempt to describe the development of the information chain in terms of the so-called synergy model. This model, which we have borrowed from chemical theories on dissipative structures, is often applied to organisations and systems.

According to this model, the control of processes within an organisation remains stable until a notable interior or exterior factor alien to the accepted pattern agitates the configuration. In case these disturbances increase in number or extent, this leads to an unstable situation. In this situation, all sorts of events may occur which the ruling order will not allow for. Usually this state is characterised as chaos.

Sooner or later, however, a new order will emerge out of this chaos, a constellation that is able to warrant renewed stability under altered circumstances.

If, however, a new order fails to arise, the result will be regression: stagnating development and a more or less random disintegration of structure.

Considering these developments in the field of information provision, this implies the necessity of innovative and creative experimenting with new roles instead of adhering to traditional patterns. All forceful attempts to preserve the old structure will not only impede any development as such, but will also expose it to increasing danger of arbitrary disintegration.

One conclusion from this analysis is that in my opinion libraries should try and become publishers of electronic documents instead of merely relying on agreements with commercial publishers.

Organising innovation

These developments involve more than just the adaptation of traditional library tasks to new demands or to recent technical developments. They call for a pervasive innovation process in the library.

This innovation process requires a large amount of creativity. As indicated above, the position occupied by the library within the information chain needs to be reconsidered. This involves an interpretation of the library's position within its environment. This interpretation, of course, depends on the particular situation and, therefore, differs per library. However, a proper strategic analysis is necessary to instigate new activities.

But also the innovation process is no simple matter due to number of factors.

- the complex organisation of the university library: the relationship with faculty policies often results in organising several branch libraries, which are part of one or several faculty structures.
- The many different categories of library services involved: this implies a comprehensive approach in which a large number of people must participate.
- The rapid technological developments: changes in standards may interfere with the plans concerning the process of change; therefore, a flexible approach is needed.

These factors underline the importance of the special attention the library management must pay to the innovation process. Especially, because there are a number of obstacles in the library organisation.

The first obstacle is the lack of flexibility in the library organisation as such. Customarily, the libraries have grouped their tasks according to rigidly defined function categories. The demands corresponding with these function categories have been strictly defined as well. Descriptions concerning the functions of reference librarian or catalogue librarian are examples of these categories. In practice, the rigid division and inflexible job descriptions do not contribute to a dynamic personnel flow.

Secondly, as soon as the average library staff member becomes confronted with the prospect of change, he tends to be somewhat conservative and cautious. Of course his cautiousness is related to the nature of his profession. In his job, the librarian is concentrated on the task of preserving. Therefore, he is always alert when it comes to protecting the cultural heritage. Almost by nature, he tends to be a little sceptical towards aspirations expressed by his colleagues. At the same time, he appears to be somewhat reserved when it comes realising certain ambitions of his own. Surely, this does not stem from any lack of readiness to participate but from in-born cautiousness. Furthermore, the emphasis on formal qualifications seems to have reinforced these aspects.

In the third place, innovations as such do not easily find a firm holding within the entire library organisation. This circumstance is related to the position occupied within the organisation by the activities that are connected with information technology. Many libraries have had a department for information technology since the first computerisation wave, its responsibility being the supervision of computerised library systems and its proper functioning.

In many cases, one of the activities this department is requested to instigate (or has chosen to create for itself) is the testing of new technology examining its usefulness for library purposes. Thus, the department in question becomes a centre of innovation within the existing organisation. As a result, it is the library's technology staff who will be initiating and testing various new developments, activities that may eventually result in the creation of an electronic library within, or rather in addition to the traditional library.

This turn of events may bring along several complications. First, problems could arise when finding the right balance between going-concern and innovation. Staff members may be inclined to appoint more priority to their new tasks than to well-known routine jobs.

Yet, this development could give rise to even far more serious threats. Within the regular departments, it could lead to animosity towards innovation as such. Their staff might become susceptible to the impression that these innovations were exclusively reserved for their colleagues in the technology departments, who tend to be not very well at communicating in an accepted conventional manner.

Clearly, these circumstances are in obvious contrast with the requirements innovation and change demand from library personnel. The innovation process, therefore, calls for a project approach with clearly defined goals and responsibilities. And it is necessary to locate the responsibility for innovation outside the IT department and to give IT staff not a leading but a supporting role.

The importance of accessibility

At the university, the library has the task of providing scientific information for the benefit of education and research. Since this information functions as knowledge in the educational and scientific research process, it has to have a key role. To reach this objective, it is necessary that the information provision is adapted to the manner and situation in which it is used. This, of course, implies that involved library staff needs to be familiar with the

user's requirements. Only then the library will be able to provide the information with the added value which is needed for applying it in both primary processes.

In the past university libraries have taken great pains to improve the application of its services in education and research. However, the instruments the library has created for this purpose comprise a large number of procedures and regulations. That is, rules the user needs to grow accustomed to if he wishes to find his way within the library. Different catalogue systems, bibliographies, systems of subject headings all make finding your way in a library rather laborious.

There is another point of view from which the library's traditional classification methods may seem to have a rational appearance, though in practice, they prove to be not quite as effective. The classification systems can be useful if you have a specific question and you are looking for a specific answer. However, scientists do not just have simple questions. They usually deal with problems that only with the greatest of effort can be translated into questions. The action nowadays referred to as browsing may be useful in that it helps them formulate new and fruitful ideas.

We may conclude that it is the library itself that has introduced and self-imposed a number of rules and procedures which are far from being self-evident. As a matter of fact, the use of library facilities has become rather complicated to such an extent, that users need instructions in order to properly make use of its services. Worse even, these instructions necessitate the training of special instructors who are to coach the users. Basically, that is the reason why we have set up library instructions, since the use of the library cannot do without it. It is a situation — if I am allowed to say so — the library needs not be very proud of.

As I mentioned before, a central aspect of the innovation of the library is the shifting emphasis from collection to connection.

The most important role of the future library will be providing access to information that for a large part will be stored elsewhere, in an efficient and effective way.

A modern library's policy, therefore, should aim to make as much relevant information as possible accessible by electronic means, while allowing the library to retain paper subscriptions where necessary.

Ideally, users have access to all sources of information. The financial conditions may of course vary among the different information sources and user groups. This ideal situation cannot be achieved unless flexible arrangements are in place between libraries and publishers.

There are three main workable variants for licenses.

1. Free access.
2. Full licenses for well-defined user groups.
3. Pay per view.

And surely combinations between these variants will increase flexibility.

In addition to this task, that is, providing access to information stored elsewhere, the library can also digitize parts of its own traditional collection. There are a number of arguments why documents are to be digitised.

Arguments from the users' point of view:

- The speed of document delivery.
- The possibilities for information retrieval.
- The possibilities for disclosure of the document, on the basis of subject headings but also with the help of context enrichment.

2. Arguments from the library's perspective:

- The efficiency of document delivery.
- The efficiency of archiving (saving space).
- The preservation of the cultural heritage which is threatened by the physical circumstances of storage and usage.

In my view this must lead to the following priorities for a university library's policy for digitisation:

- a. Digitisation of documents that are an integral part of the educational programs, especially when there is also the possibility of contextual enrichment.
- b. Digitisation of sources for research by means of projects in which the contextual enrichment is realised as the result of a research project financed by the faculty concerned.
- c. Digitisation and retro-digitisation of academic journals preferably in co-operation with other organisations, or by licenses for documents digitised by other parties.

Projects concerning solely the preservation cultural heritage should have a priority in government policy, and cannot be the sole responsibility of the university and its library in the light of their scarce financial possibilities and of the high priority libraries have to give to the immediate needs of their users.

Returning to the topic of accessibility, if libraries know who their users are, have developed good and close relationships with them and are also well informed about user demands, what possibilities do they have to further improve their services in a changing technological environment? The first thing they must do is preventing themselves from becoming an obstacle in that new environment as a redundant logistic or functional intermediary stage in the process. Therefore, it should offer the following services to its users.

a. Search facilities

Search facilities are subject to a number of basic user requirements.

Users will want to be able to start the search process immediately, without first having to study complex interfaces and codes. They are looking for information and cannot be expected to be interested in the technical structure or format of the data involved. Neither are users likely to be interested in the origin of the source (the identity of the publisher or intermediary) or in the location where the information they need is physically stored. They just want to find an answer to a particular question. During the search process, moreover, users will only want to be presented answers that are fully relevant to their question, without being swamped by thousands of articles only marginally related to the subject.

b. Personal alerting system

It is vital to provide an easily accessible information universe, which the user can enter independently, provided he is equipped with the proper retrieval tools. In addition, the user should be served by his own personal assistant, which offers packages of information tailored to the user's individual reader profile. Such assistants have already been created in self-learning software known as intelligent agent technology. These assistants, or agents, are used in the construction of a personal alerting system. The set-up and testing of such personal alerting systems is the responsibility of support organisations, for example university libraries; their use requires no additional intermediaries. Researchers, teachers and students will all make use of this tool independently and will only require assistance from the library when they need specific instructions or are confronted with specific problems.

c. Personal homepage facilities

While the range of sources offers clear and major advantages, its very extensiveness also causes a number of problems. Tools are required that help the user to create and manage his own limited but tailor-made collection. These tools allow the scientist to become a librarian himself, but a librarian who has no other clients. The tools help them organise their own articles, research data, teaching material, etc.; tools which respect the preferences of their users and can deal with even the most idiosyncratic approach to building up personal collections.

d. Interactivity

The tasks of the library may reach beyond the efficient and effective supply of information. Researchers do not merely consume information, but also communicate intensively with their colleagues. When they read a scientific article, many researchers will want to respond, ask the author questions or give critical comments. In effect, the first academic journals, which appeared in the seventeenth century, supported this type of academic dialogue. The exchange of research results and attempts to refute and validate them through debate and comments are no less important than the access to the relevant sources of information.

The library of the future.

Looking at the ways libraries used to disclose the information stored in their stacks, it seems that generally in the past the access to information has been rationalised in a one-sided, one-dimensional way only. I am convinced that this situation can be improved by means of information technology.

Surely, one could consider the application of this new technology as a mere continuation of the rationalisation process. Yet, this would be a one-sided observation. Soon it will become possible to link scientific intuition to technological achievements. Scientists and students will be able to browse through information as though they were strolling along bookshelves in a multidimensional fashion.

The future library's challenge is to bring its contents to live. We must create a library that is not merely a guide for receiving insight into the current way of organising information. The future library should also be helpful in establishing new methods of organisation. Search engines must not be designed to exclusively retrieve answers to specific questions. What matters is not what you search, rather what you want to create, i.e. the added value that comes into being as soon as various information sources come together.

Such a library can be represented in terms of a philosophical parallel. For instance, as the realisation of the ideal presented by Leibniz. The philosopher Leibniz commenced his career as a librarian and he strove towards creating an encyclopaedia in which all knowledge was to be rationally gathered and interlinked. Referring to Leibniz's ideal, we could regard the library as an encyclopaedia of the sciences, as an encyclopaedia being endowed with a richly layered multidimensional order.

Modern information technology can and must be deployed to bring the library closer to scientists, teachers and students, in terms of both space and content. Thus, the number of rules and procedures, however rational they may seem to be, will be automatically reduced. Logistic automation has in effect created the large gap that exists between service and creativity.

We may see in this a parallel with Weber's 'Entzauberung' or disenchantment in English. This disenchantment of the library is caused by the manner in which we have decided to resolve the problems related to the violent explosion of information. A solution that in practice amounts to stacking information in such a way that it can be accessed by means of complicated logistic procedures only. This has inevitably led to a widening gap between information and the individual's creativity and his values.

The original connection with man's creativity can be restored by introducing sophisticated search engines that carry information to the user's working place at dazzling speed. This development suggests that using library services will become easier in the future, since these services are to be directly linked to the user's actual requirements.

In South Africa I saw a large picture in the children's department of a public library. When we transform the meaning of this picture to the scientific library, it very well illustrates what I mean to say about the library's future: 'Dreams take flight at the library'. This will be possible with the help of new technologies. And this will eventually result in the reenchantment of the library.

IRIS

I will now finish my description of the library in the future, which may be even a far future. Let me conclude with some remarks about today's libraries and more specifically about the IRIS project. This project is an important step to improve the accessibility of a number of valuable collections. It constitutes a joint online catalogue of libraries in Florence and is a European and also intercontinental initiative. Because of its content and the characteristics of the participating institutions, it is also a perfect example of international co-operation in the field of libraries.

The result is a catalogue of considerable scientific importance. Those who took the initiative to this project, but also those who joined the consortium at a later stage, deserve our appreciation for their efforts. Everybody who was engaged directly or indirectly in the development of IRIS will agree on this.

It is an interesting question how IRIS can and will evolve in the context of further library innovation. As I said, at present, it has improved the accessibility of valuable collections. In the future, it will have to be connected also with information that will be full text electronically available. There will also be a possibility to extend IRIS with access to multimedia information sources and links with external sites that contain relevant information. It may even evolve towards a platform that organises all the electronic information needed by the researchers of the institutes involved.

For this moment it is important to know how the users of IRIS evaluate this product. It is also will interesting to find out how many people are making use of IRIS. One should also like to know whether or not all that is possible has been done to alert possible users of the existence of IRIS, and whether the IRIS site is as user friendly as it should be. At this moment, unfortunately, it is not yet possible to count the number of visitors of the site. But in addition to this, a concentrated action is needed to optimise the visibility of IRIS on the Internet and give it a clearer and more exposed position in Italy, in the international community of the history of art and in the area of universities and libraries. This visibility is essential for a well-deserved return on the investments that have been made.

As University Library of Utrecht we participated in the investments for IRIS. The library of the Dutch Institute, which takes part in IRIS, is a part of the Utrecht University, like the library of I Tatti is a part of Harvard University. As you probably know, the retrospective conversion of the library of the Dutch Institute has been completed at the end of last year. And although only a small part of the catalogue's users is Dutch, we have made serious investments in the start of IRIS and the retrospective conversion, as other parties like I Tatti and

the Mellon Foundation have done in an even more substantial way. I like to thank, therefore, I Tatti and its director who from the start has been the driving force behind this project. Just like I Tatti, the Dutch Institute and the Utrecht University Library have been loyal to the Italian participants. Nevertheless, the budget of our Dutch institute will not be sufficient for the increased financial contribution that is needed for the structural functioning of IRIS. Looking at the considerable investments of non Italian institutes in the consortium, it now seems to be more or less obvious that municipal, provincial and national public institutions in Italy, among which the Province and Region Toscane and the Ministero di Cultura, take care of a part of the financing of IRIS. This, of course, is in line with the fact that the largest group of users is of the Italian nationality and that Italy and the Italians in the first place can take advantage of the added value of this prestigious international project. This financial support will be a necessary condition for a successful future for IRIS and a firm position of IRIS in the further development of the library services.

I thank you for your attention.