The changing role of the librarian – A virtual library and a real archive?

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Summary. The position of the library and the librarian has not been a matter for debate for centuries. It has been more or less self-evident that the role that the library plays in society is a useful one, and its librarian an esteemed and valued person. However, in the digital information society, there is clearly no longer any consensus on the value of the library and the librarian. Doubts about whether they will be needed in the future are regularly aired.

If libraries are to survive the new developments in information and communication technology, what will they have to look like? What future will there be for their librarians? Will the traditional library functions disappear; will they be replaced by new ones? Will librarians disappear altogether, or will the situation be exactly the opposite, and will they be pivotal to future information facilities?

This paper does not deal with Utopian libraries of the next century, but with the library and the librarian of the next decade. The accent is on libraries within educational and research institutions, especially university libraries.

We shall look at the changes the library is going to be confronted with. We see the library of the future as being characterized by four key aspects. In the first place it will be a gateway to information, whatever format this information comes in and wherever it is located. Secondly, because of the increasing complexity of information networks, the library will be an expertise centre. Nevertheless, there will still be a pressing need for the library to be a physical entity, not only in the sense of being a social meeting place and place of scholarly interaction, but also as a place where students and other users are provided with modern study facilities and adequate user support. Furthermore, during the coming decades, the library will retain its importance as a collection centre of printed material.

The library of the near future can only take on an appropriate shape and will only survive if the institutions that librarians serve in meet the four criteria just outlined. The librarian will have to meet demands on his professional knowledge and skills. He must have good didactic, organizational, communicative and people skills. Generally speaking, this does not mean that the librarian will have to be very different to the way he is now. However, as will be explained, relatively new job responsibilities and job attitudes will be required. There will only be a future for librarians who are willing and able to take these into account.

The Library and the Provision of Information

Although many of us would like to believe that it was only in the twentieth century that information started to become a factor of truly great importance, information has always played a crucial role in our society. Knowledge is our society’s driving force, and information is what fuels that force.
knowledge is power, and knowledge is based on information. If access to information was once the prerogative of a happy few, it is now perceived as a basic right; albeit sometimes a disputed one in view of the sometimes heated debates on intellectual property rights.

Libraries play an important role in providing access to information. Up until the 1980s and 90s, libraries virtually had a monopoly on the provision of information: not a single student, teacher or researcher could do without libraries for their information. They were dependent on libraries for the publications they needed to have. A library’s value was primarily determined by the quality of its printed collections. However, the escalating quantity and cost of information has made it impossible for libraries to stock all of the information that their users need. So, interlibrary loan, as well as other library services, such as literature searches and user education and instruction, have become increasingly important for the quality of libraries.

Although the quality of the collection and the provision of library services are still crucially important factors, the past decades have seen a great deal of change in the field of scholarly information provision. In addition to the greater flow of printed material, a great increase in electronic sources of information has taken place. Information and communication technology has changed the face of our society and brought things that were once inconceivable within our reach. In addition, scientific education and research has undergone (and is still undergoing) considerable change. None of these changes have left libraries unaffected. There has been a good deal of discussion about how libraries should react to these changes in terms of changing their goals and objectives. Definitive answers to such questions will depend on the point of view that is chosen. If a functional approach is chosen, then in principle, nothing need change as far as the library’s overall direction is concerned. The scientific library’s mission will remain the furthering of scientific education and research by means of optimal provision of services in the field of scientific information. If an organizational point of view is chosen (the library as a university or faculty organization), it is evident that all these new developments will bring necessary changes with it over the coming years.

The Four Pillars of the Dual-Purpose Library

As I see it, in order to fulfil its objectives, libraries will need to continue to carry out their current key tasks in the area of provision of scholarly information: building collections (including selecting and acquiring information), classifying and indexing, making material available to the public, providing services, archiving, storing and conserving. However, the development of information and communication technology and the digitalization of information result in considerable changes of these tasks as regards content and execution; changes which have their effects on the organization of the library and on the library as an organization. There is no end to these changes in sight; an acceleration of the pace of change is more likely than a slowing down.

Attention has to be focussed on the new tasks associated with digital library systems and the digitalization of scholarly information, and this has to be done without neglecting the library’s traditional tasks. Changing the emphasis is not an adequate way of describing what needs to be done, since the more traditional and the new tasks don’t supplant, but have to supplement each other and to be carried out simultaneously. One could say that the terms “dual library system” and “dual library” are appropriate descriptions of this situation. It is my expectation that such libraries, characterized by the integration of old and new tasks, will set the tone for the provision of scholarly information for the next years.

The dual library will be based on a foundation of four pillars. It will be a collection centre of printed material. In addition, it will provide access and be a gateway to digital information at the local, national and international levels. In the third place, the library will have to be a centre of expertise, focussed on all phases and aspects of the information chain. In the fourth place, it will have to be a centre which can provide study facilities incorporating the new technologies.

The Library as a Collection Centre of Printed Material

To support the needs of education and research, it will be important for the library to continue to provide its users with representative collections of printed material. Researchers still expect libraries to contain the most important printed material in their particular field and associated fields. This will apply particularly for researchers in the humanities, though to a greater or lesser degree, scientists in the biomedical, science and social sciences are not going to want to do without printed material either.

To an even greater degree, this also applies to education needs. Students should be able to expect their university’s library to provide them with access to collections of material necessary for their studies. While it will be unavoidable for researchers to rely on interlibrary loans, students – at least in the initial stages of their study – should be able to assume that their library is able to supply the material they need for their study, supplementary, of course, to study material that they have to provide for themselves. Librarians must be aware of the educational curricula within their university, and direct their acquisition policies towards them.

This means that there will still be a need for universities to be served by libraries that exist in the sense of having a physical location, where printed publications are stored, looked after, and made available.
The Library as Gateway to Digital Information

Compared to printed information, digital information will play an increasing role in the provision of scientific information. This information provision is not only being influenced by the digitalization of information and by information technology, but also by changes within scientific research and within education itself. The researcher is being confronted with new knowledge, new insights, and new methods and techniques. Research is crossing the boundaries of its own field more than it used to, both as far as content is concerned and in a geographical sense. Research results are exchanged faster than ever before. The same applies for the assessment and publication of research results.

Changes in the field of education are also having an effect on the provision of information. Task-directed and problem-oriented education relies more on information than the more traditional forms of education. Moreover, education is no longer directed solely at those who have just finished their secondary education, but also at academics and those who have already retired (post-academic education, "lifelong learning" courses). A lot of universities are introducing electronic teaching in which intensive use is made of digital teaching material and new teaching methods using simulation, interactive training, animation and the like.

As a result of all these developments, it is becoming increasingly important for universities that researchers, teachers and students have good access to digital information, regardless of whether this is via computers at the university or computers elsewhere. While for printed publications in libraries, relatively simple ways of referring the user to literature that he or she needs are available, in a digital environment, it is a much more complex matter for the librarian to assist the user and balance out the supply of information with the demand for it. There is such an enormous diversity of sources, access alternatives, ways of carrying out searches for material, information structures and presentation forms that functions such as information mediation and information reference have undergone a radical change of character. The librarian of the future will be living in a "library without walls", and will have to learn to operate within an information jungle without losing his own or the user's way.

The library users will not only expect the library to be able to provide them with access to digital information, but an increasing number of them are going to want to access information via search systems specific to their scientific specialization. Researchers will want the "personal library" to come to them, instead of the other way around.

This means that the library will have to make an increasingly large proportion of its budget, energy and personnel, available for digital information. The librarian is going to have to adapt the classical library tasks to digital material. This will require new and specific expertise and skills. The librarian will have to be able to develop a collection development policy in respect of digital information; he or she will have to know how this material ought to be acquired, and consequently, be aware of the politics of licences. He will have to determine how and by what means this material can be classified and made available to the public and what are the best ways of archiving and conservation.

One of the most important tasks that the librarian is going to be faced with is the solving of problems related to the rapidly emerging electronic journals. Researchers already expect to be able to access via their personal computers most of the journals they need for their work. New financing systems (for example, purchasing electronic journals per set instead of per title) have to be tried out and put into practice. The issues of internal financing (within the university, who pays what when campuses enter into licensing arrangements) and management (registration, administration, management information) of digital journals and other digital material will have to be addressed. In addition, copyright issues in relation to digital material will influence the implementation of interlibrary loan arrangements.

As far as the large volume of digital information that is freely accessible via the Internet is concerned (websites, source material, archival files, visual material etc), the librarian is going to have to determine what is suitable for inclusion in the library’s selection of information and for classification and making available to the public via the university’s systems. It goes without saying that activities in this area will have to be co-ordinated at a national and international level to make it possible for assignments to be carried out without encountering huge difficulties and to avoid doubling-up of work.

The Library as an Expertise Centre

As a consequence of the digitalization of information, the information landscape has become much more complex. In addition to his expertise in the field of printed material, the librarian has to be an expert in the field of digital information. He must be able to turn the library into a centre for information expertise. This expertise centre will have both back and front office elements within it.

Expertise centre as back office

In its back-office function, the expertise centre will have to take charge of the development and the implementation of systems to assist the user in his search for information. Some of the issues that play a role here are the standardization of classification procedures and of search and retrieval techniques and facilities. The expertise centre will have to work on user-friendly interfaces and powerful search engines. Wherever it is possible to integrate or aggregate information (or files of information) via linking and other techniques, this will have to be done. The development of electronic directories and expert systems are also of importance. Where at all possible, all of this has to be investigated and developed in conjunction with others. Libraries have a good reputation in the field of national and international cooperation. To avoid "re-inventing the wheel", libraries have to continue to maintain this tradition.
As an expertise centre, the library will have to create an information infrastructure of such quality that the chance of the user getting lost is as small as it can be. In doing this, the library will in the first place have to concentrate on those parts of the information chain that have always been part of a library’s work. But as I see it, as an expertise centre, the library also has tasks that extend to those parts of the information chain that it has not usually addressed, or has addressed to a lesser degree.

The library as expertise centre and the chain of information

At present, authors nearly always produce their publications electronically, send them electronically to colleagues in the same field for assessment, and publish and distribute them electronically. This means that in effect, all of the processes in the chain of information have become digital in nature. The library must be able to assist these processes in its capacity as information expertise centre.

The author must be able to count on getting support when digitally preparing his publication in a certain format and using a particular word processing system. He or she might be able to get such support from the university’s publisher or the university computer centre, but the library also comes on the screen here. Once the publication is ready, the library is the appropriate body (or one of the appropriate bodies) for the provision of facilities to electronically publish and distribute it.

One of the issues that is being discussed is whether the university should endeavour to digitally publish all of its researchers’ scientific output within the university or via the university’s own channels. There is much to be said for doing this with doctoral theses, inaugural lectures and the like. Nevertheless, I believe that the freedom of authors and research groups to choose their own publishing channels for their research results ought to be respected. In my opinion, the first port of call for the publication of scientific articles and other matters should be open archive infrastructures or the infrastructures of learned societies and commercial scientific publishers rather than the researcher’s own university. With some exceptions, scientific research is national or international in nature; consequently, the infrastructures that are used for the publication of such research should also be national or international. The one does not have to exclude the other, however. In any case, there would not seem to be a single reason why libraries should not participate actively in this, bearing in mind that assessment at a national and international level is of crucial importance for the researcher to gain recognition.

As far as expertise and management is concerned, I am an advocate of universities looking after the entire information chain within its own walls, including publication. Experience has taught that universities are able to successfully do the job of publishing themselves. This does not mean however, that I am advocating banning or doing away with commercial publishers. Some of the aspects of publishing (marketing, for example) are less suited to university ways. My library has consequently chosen to publish a periodical in conjunction with a (small) publisher. As far as scientific material is concerned, I envisage a plurality of publishing situations in the future. In principle, not a single party within the chain of information need find themselves redundant.

Just as universities are moving into the field that was once the sole prerogative of publishers, the reverse situation is also occurring: publishers and other suppliers of information are taking over typical library tasks such as document delivery and end-user services. In the future, both old and new parties are likely to play a part in the information market; not only in respect of the production and publication of information, but also in respect of document delivery and end-user services. How long it will take before a new balance is found between all of the actors within the information chain is unclear.

The information chain. Storage and archiving

I want to make a few brief comments about the final phase in the information chain: the process of filing, storage and archiving of information, whether printed or digital. As we all know, this is not an easy task by any means for printed material. In view of the non-physical nature and immense volume of digital information, the library has to face quite another situation here.

It is not feasible and also not necessary that the library would have to file, store and archive all digital information locally, and keep it locally accessible. As far as accessibility is concerned, it only needs to do this for information that especially refers to its own university. The storage and conservation of all other digital information ought to be organised in consultation with national or international bodies. National libraries have a specific responsibility within such processes. It is fortunate that an increasing number of other bodies (JSTOR, for example) and publishers are aware of the issues involved and are proposing or working on solutions. However, it is going to take some time before specific and appropriate solutions are found.

The library ought not to use its expertise in the field of filing, storage and conservation to focus only on printed and digital material, but should also include other types of information carriers. There are a lot of places within universities (too many, really) where records of slide collections, photographic files, sound recordings and other sorts of collections (both in the form of documents and otherwise) are still being kept, usually in outdated card systems. It is important that the valuable material of this type be better conserved than it is, preferably by digital means in the future, but also retrospectively. Depending on the university’s policy and its financial and personnel situation, the library is the most appropriate body to assist such processes. As a rule, it will not be able to carry out digitalization processes on any great scale itself, but nevertheless ought to make sure that whatever else happens, classification and public accessibility are done adequately. Information will increasingly be of a multi-media type; consequently, libraries ought not to deal negligently with multi-media information carriers, whatever form they take.
Expertise centre as front office

As an expertise centre, the library’s front office function is even more important than the back office function. The expertise that the library has built up has to be made available to its users via high-quality service. Just like any other library, my library is able to offer its users a whole range of services. Whenever various user groups are asked about what services they know are available, the result is disappointing in many ways. In spite of briefings, printed and electronic directories, information services and so on, there is inadequate knowledge of some of the possibilities. When investigations are carried out to ascertain whether there is perhaps no demand or need for these services, they prove to be needed after all. Services that have an intrinsic value remain under-utilized because they are not well enough known about. As a consequence, the library’s investment in time and effort is not bringing sufficient return. The library can never put too much energy into drawing attention to the many possibilities it has in store.

It is for this reason that the library has to advertise itself as a centre of expertise not only internally, but to the outside world as well. A good way of doing this is via the setting up of good help desks, both in physical as well as electronic space, whose job it is to offer library users professional assistance in their search for scientific information. The library will have to organize user support and give instructions on how to search for and retrieve relevant data in various databases via the help desk function. The user will have to be informed about the content and nature of the printed and digital material that can be accessed, and taught how to look in those data files that are relevant to his or her purposes. Information specialists at the library will have to be prepared to carry out commissioned library searches. In fact, every new research project ought initially to be accompanied by a thorough search made by information specialists for information that is relevant for the project.

The Library as a Modern Study Environment

A teaching institution such as a university is not only obliged to provide its students with adequate information material. One of its obligations is to make good study facilities available. Good study facilities with modern work areas is of real importance for ensuring quality of education. The study facilities I have in mind ought to both contain printed collections in study areas and provide access to relevant digital information. Virtual and physical facilities should complement each other. For study facilities, it is equally undesirable to separate physical and digital libraries from each other. The student has a right to study areas where he or she can quietly go over study material and take it in, but also the right to work areas where he or she can work in conjunction with other students on assignments, projects and the like.

The work areas in the library must be able to provide users with access to the university network infrastructure. Since equipping every individual study area with a p.c. (in my own branch, this would involve about 2,500) would be an onerous undertaking, both from the point of view of how to look after them all as well as financially, I would recommend providing the study areas with liberal numbers of remote control network connections so that students can connect to the network using their own appliances (laptops). However, despite this, if the library is to keep its study facilities at a good level, it will not be able to avoid considerable investment and running costs related to hardware, software and licences.

The library’s function as provider of study facilities is closely tied to that of social meeting place and discussion forum. In its physical form, the library’s layout ought to be such that students enjoy coming to meet each other there and exchanging ideas about their field, their study and research projects they are involved in. If the library can provide suitable areas for doing this, it will be providing an important contribution to a good scientific and educational climate within the university.

The Changing Role of the Librarian

In the above, I have spoken about the four pillars of the dual-purpose library in a functional sense. How these functions are envisaged within the library’s organizational structure will differ from one library to another and depend on the nature and size of the university. In my opinion, they are functions that every library organization will perform (and must be able to perform) in one shape or another. I have gone into the library’s functions in such depth because it would otherwise be difficult to say anything concrete about the role played by the librarian. I have already mentioned the librarian’s tasks several times. In what follows, I shall deal with some issues in a more systematic way.

It will have become apparent that the librarian’s functions and roles are undergoing various changes. To be sure, the more traditional tasks will remain, but as set out above, new ones will be added to them. It will be a matter of a shift in accent from the old to the new. As a consequence, the librarian is going to have to comply with different work demands and different qualifications are going to be required in order to carry out the job successfully. Nevertheless, within the changing information network, the position of librarian as such is not unfavourable. He is positioned closer to the teaching and research process than the publisher or any other actor within the field of information. With his daily contacts with students, teachers and researchers, who else is as well aware of their informational needs and as able to satisfy them?

The librarian’s role is going to be characterized by three aspects: he will have to act as an information mediator, information expert and information manager.
The Librarian as Information Mediator

In my opinion, there will be a growing need for the librarian to have been trained at university level or at least have had a technical education at tertiary level. Supplementary courses and training sessions will have to be followed to make him the information specialist in his particular field. He must have a general knowledge of education and research in his field of discipline and use his knowledge and skills in scientific information to effectively assist the education and research processes.

He has to know what printed information is available for acquisition and what digital information has to be licensed and made accessible via the university’s network. The librarian will have to be an information mediator able to link the supply of information to the demand, or potential demand, for it. He must be able to assist the user in his search for information in various ways, and if required to do so, carry out commissioned library searches. His activities will extend to the creation of literature lists, current awareness services, the correlation of user profiles in relation to relevant collection data, and so on. He must be able to do this at a level that students and starting-out researchers find useful. He must be able to prove himself indispensable to researchers by providing them with information that will prevent them from having to do double work. In fact, he must be able to completely fill research groups’ information needs, and do this at a professional level.

In addition, the librarian will have to have good teaching skills and to be a good teacher in order to contribute positively to the educational process. A lot of universities are creating electronic learning environments. The element of the provision of information frequently plays a modest (in my eyes, a too modest) role here. Information plays a major role in the teaching and acquisition of knowledge. In his professional capacity, the librarian is the one to explain what the information networks of the particular field look like, show students how to get around within it, and how to deal with information. In the development of teaching programmes, the librarian must be able to provide input from his own professional point of view.

The Librarian as Information Expert

Librarians will have to be experts in the field of the provision of information. They must be professionals able to interact with information technicians such as programmers and web designers in the development of information systems. He must be able to specify how systems involved in searches, navigation, classification, the storage of information, and so on should work, and assess their performance. He should be able to assess expert systems on the basis of user-friendliness and effectiveness, and have an eye for the degree to which it is desirable and possible to integrate, aggregate and link information files.

As an information expert, the librarian must be well-informed about all aspects of the information chain. If the library is actively involved in the field of electronic publication, the librarian must be able to offer assistance in the electronic processing of texts, and must know how texts should be structured in order to be properly filed and electronically distributed. He must be able to make digital library facilities available or build them up according to specific scientific fields (digital research libraries). He should also be active in the field of the development of digital library facilities specifically for the personal information needs of scientific researcher’s (“my library” systems)

The Librarian as Information Manager

Apart from information mediators and experts, the library has to employ librarians who are specialized in management. As a manager, the librarian will have to be well-informed about the various business management practices within the library. He must enable the processing of printed and digital material to be carried out as efficiently as possible, and with an eye to finding the best balance between traditional and modern information carriers.

At the same time, as manager of information services, the librarian will have to know how best to organize these, and to do so according to the principle of digital services remaining permanently available to the users and localized services remaining operational for as long as possible.

He will have to be able to negotiate the price of information with the suppliers of information and able to take out licences with a due eye to legal implications. He will have to know how to draw up collection development profiles and collection acquisition budgets and to determine what allocation models can best be used in the financing of printed and digital information within the university.

Information as Teamwork

When the future of the librarian is an item on the discussion agenda, the skills that such professionals have to have are frequently referred to and listed, after which the comment follows that this person actually has to be a jack of all trades or even a wizard of sorts. Alas, the jack of all trades is a rarity in real life, and wizards don’t exist: it has to be realized that attempting to find librarians who fit such descriptions is a waste of time.

Information work is teamwork; teamwork in which the team consists of those with broad-based skills and specialists. It is high time that standard job descriptions for librarians were scrapped and the job divided into diversified jobs, with the emphasis on field-specific librarians: it is not very useful to make someone whose training is in the field of psychology an information mediator in the area of the exact or bio-medical sciences, or the other way around. As well as that, there will be librarians who feel more attracted to the position of information mediator (those who enjoy contacts with others) and others who are attracted to back office jobs.
as information experts (the whiz kids). It is nice if you can find diverse qualities in the one person, but we must not assume that everyone comes equipped this way. We expect that the librarian of the future will not be a person who can be profiled in any one way.

A Virtual Library and Real Archives?

The people who gave me this paper to write gave it the title “The Changing Role of the Librarian a Virtual Library and Real Archives?” Fortunately, it came with a question mark. As I have tried to show, the role of the librarian is changing. However, it is not changing against a background of or with a prospect of virtual libraries and real archives. We are going to have to stick to physically real and tangible libraries which will not omit the stocking of printed material or no longer carry out the tasks traditionally associated with it. However, if they want to continue to provide superior services to their users, they are going to have to become actively and intensively involved with digital information and digital services. There is no doubt whatsoever that within libraries, the accent is going to shift from printed to digital information. Nevertheless, it is my opinion that there is going to be a place for libraries of the physical type, and that libraries will always have to be housed in buildings. The need for study facilities and scientific/academic meeting-points is by itself sufficient reason for this.

In that physical-space library, science’s memory will be stored in paper form and kept alive for future generations. Conservation will remain important; after all, science cannot lose her memory! However, there is more to it than the conservation of real archives: the filing, storing and protecting of digital material is just as important as doing the same for printed material. Science’s digital memory (a more fleeting one in view of its very nature) must not be lost either. However, this memory is not a place-bound one, and thus does not have to be conserved within every library. Digital archives are more a matter of organization, division of responsibility, and making good arrangements. It is sufficient for digital material to be stored in a couple of places; places which are accessible to various organizations and people under certain conditions. This is why the title of this paper should really be changed to “Libraries and Archives; real and virtual”. The question mark can go. There is room for librarians in libraries; not virtual librarians, but flesh and blood ones.

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