

## Librarians or Information Scientists

### - What does a university need? -

Anthony Evans

There is a well worn adage in Education with many variations.

- Say what you're going to say, say it, and then say why you've said it.

I'm not going to do this - more the opposite - I'm going to start by telling you what I'm not going to say.

You won't hear from me the philosophical approach, the sociological approach, even the cultural approach - not directly at least - that's not me. A great deal - possibly even too much has been written in this area. Some time, I keep telling myself, I must find time to sit down and think instead of dealing with the detail of running a University Library mixed with travelling overseas to tell other people how to run theirs.

I'm very much a pragmatist I'm afraid - probably too much so at times - but that's where the emphasis of my paper lies.

Perhaps my theme ought to be 'The transformation of Librarianship to Information Science'. Like all such themes it is I trust open to wide interpretation - added to the question of whether it is a translation or a transliteration from Chinese to English is a further problem. Let us look first of all at the word 'transformation' - a change or alteration especially a radical one says one dictionary - some definitions suggest it is rapid - other that it is gradual.

The cynics might say it has been gradual but that the library profession has only just woken up to it. One author - and I shall not give you his name for obvious reasons - said "In the United States, the majority of library schools have attempted to respond to changes in various ways. Many schools have changed their names from schools of library services or science to schools of library and information science" - end of quote! Indeed my own University is no exception to this having just changed its name from the Department of Library and Information Studies to the Department of Information and Library Studies!

So what about all this information - what should we teach our students - how should we help our users? When I was put into the position of producing this paper I found myself very much like a typical student - wanting reading matter on a particular subject - fairly quickly - not too much - not too little - and of course all absolutely relevant. Where did I start - with colleagues of course where else! - that along with my own fairly poor memory didn't produce very much. I fairly soon then went to the Information section in my University Library - "Yes Sir", they said, "What is the profile of your search?" - "Well", I replied - "Education, Research, Librarianship, Information, even perhaps 'transformation'" I suspect actually that my information officer (that is my librarian) would have preferred to pursue the term transformation - entries under witchcraft in Psychological Abstracts might have proved much more interesting. The printer disgorged its usual mass - many of them in languages other than English. Another barrier! I found myself in the end taking home some 30 plus articles - which was getting very close to information indigestion but just about manageable. I commend you particularly to a special issue of Education for Information which contains the Proceedings of a British-German symposium held in 1986

(Ref: 4) - also a series of short presentations edited by Toni Carbo Bearman in a recent issue of the journal Library Hi Tech (Ref: 1).

The wealth - if that is the right word - of information in just the first of these, the Anglo-German symposium, is immense, 146 pages of it with a total of a further 128 references - it was all too much for me - I wasn't taught and still haven't learnt how to absorb such large quantities of words in a meaningful way - is this a hole in our general educational system let alone for our information specialists - we complain about the growing mass of literature for we have to contend with it in our libraries but we are of course just as bad at providing it in large quantities. Let us look then at what I felt were some of the most salient points made by these experts.

Toni Carbo Bearman - Dean of the School of Library and Information Science at the University of Pittsburgh

'... a need for a combination of educators with a partnership among academic institutions, employers and professionals themselves'

- there is of course nothing particularly new in this - we have been hearing this in a university like mine in terms of engineering education for several decades.

- it may not be new but it certainly needs repeating time and time again - and indeed being put into operation.

Herbert Brindberg - from the US information industry

'... to often, the training of the individuals we call professionals has been too narrow and too skill-oriented. Students have not been taught to think conceptually or reason logically. We must promote the education of the

true professionals but not lose sight of the need for the technician and specialist'.

and then

David Bender - Executive Director of the Special Libraries Association  
"... at the executive level tomorrows information professional must become a visionary, setting the direction for the future of the profession. To move into this level of management information professionals will need to acquire advocacy skills - a greater sensitivity to social and political forces and an increased ability to define and articulate values and value systems'.

I must say I have been only too aware of my own needs in this direction in the past. Some time ago when I had for example to appear before the University Resources Committee - I was making the case for a new integrated computer system at a cost of just under 100 million escudos - I won! I think however it might have been better - and easier - if I had been an advocate rather than a humble librarian.

Whilst I was struggling with the paper at home the other Saturday morning - the postman knocked on the front door - a welcome break I thought - three not very interesting looking packets - the first a bank statement - thankfully it showed I didn't owe then any money - second a vacancies supplement from the Library Association - only one post at even half my salary. Third however a newsletter from the university, College and Research Section of the Library Association which had an article entitled Quantitative Ideas for Library Management. The last sentence read as follows - 'The numerate manager, like other mammals

which have adapted during profound climatic changes, is a creature of the future'.

You may have noticed - no mention so far of information technology - vast amounts have been written on this over the last decade and perhaps surprisingly one can almost treat it as a 'sine qua non'. School of Librarianship or Information Science - call them what you will - have long since come out of the woodwork in this area. We did feel in the UK we had achieved recognition at last when relatively recently the University Grants Committee pronounced that for funding purposes such departments would be treated like computer studies departments and not traditional arts departments.

What this does all give rise to however - a problem which we don't seem to have tackled very thoroughly is how much we can teach our students in a very limited time - from the above and many other criticisms of our educational programmes it would seem that a good liberal arts degree would be useful, first to give the right cultural background, then a specialist honours degree to give sufficient depth subject knowledge (and of course academic respectability) followed by some 3 masters degrees - one in librarianship, one in information science and one in business administration or management. You might of course take the view of one of our well known Oxbridge librarians who is said to have offered the comment that '... as long as they have a good first class degree in a respectable subject it doesn't matter' - and he certainly didn't mean librarianship!

There is no doubt whatsoever that we just cannot meet all needs - we do not seem capable somehow of producing a truly educational programme as distinct from a vocational or training one - the concept of a total

graduate profession has not in my opinion helped overall but we do not readily accept sub-professionals - or at least we don't offer them enough incentives - financial or otherwise - to make it attractive. At the 'upper' end of the scale Brindbergs comments on 'thinking conceptually and reasoning logically' are very relevant indeed.

I will not venture into the librarian, versus information scientist argument - suffice it so say that I use information and computer systems widely but the profession 'Librarian' remains and will indeed remain on my passport! I was amused however to see in another paper in Toni Bearmans Forum - this one by Richard Rowe, President of The Faxon Company - the statements - 'Librarians more than most other persons in our society hold the key to information. We must understand who uses the library, why they use it and when they are successful in fulfilling their needs. Librarians are better prepared for the position of 'Chief Information Officer' than most persons coming from other disciplines.'

I must bring in an aside here if you will allow me - we are continuously hearing from our information technology colleagues about the need for standardisation - communication formats, protocols, etc. etc. This journal to which I have been referring however - Library Hi Tech - has on its front cover the following information - Consecutive Issue 18; vol 5, No. 2, Summer 1987. Each issue is also obviously numbered separately from 1 to the end including some but not all of the advertisements. Perhaps we librarians should teach them some 'bibliographic control'.

To return then to the theme - or nearly at least.

You may find that what I have been saying and indeed others that I have quoted from contrast rather markedly with a sentence in Stephen

Schwarz's paper (Ref: 5) where he says 'It therefore seems crucial to admit that, controversially, library science needs information science but not vice versa'. I accept that this might be out of context and particularly as he is essentially talking about research and development but nevertheless it is a feeling that has often been expressed by the one end of our professional spectrum (I don't know whether you would call it the hard left or the hard right).

The literature in general must be recognized and put in some semblance of order - collection building is still an art rather than a science - the basics are still librarianship before the information scientist starts his manipulative procedures. Another of Schwarz's statements is to me however particularly relevant - 'One key factor for research level training is the avoidance of unrealistic design which cannot conceivably be filled with a proper context of sufficient depth within the time span available, and where practice will inevitably fall short of objectives.'

We can give our students in whatever discipline a taste of research by final year or postgraduate projects but as yet we have not, I'm glad to say, approached anywhere near to the situation that appears to prevail in areas such as Chemistry where the 'better' students fairly automatically carry on to research at Doctoral level. We do not have a tradition of academic research and consequently have considerable opportunities for looking at the modus operandi afresh. Where should research in Library and Information Science be carried out? Particularly in the purer information technology end we must lean heavily into areas such as electronics and computer science for example. A major project in the UK called Project Quartet, concerned with the future of scholarly communication combines the expertise and experience of four academic institutions - the subject areas involved range from computer

conferencing techniques to mass storage devices such as optical discs and man-computer interaction. More of this particular project later.

The point is often made that research is the prerogative of the real academic - in other words in a university it is only the faculty professors who should be thinking in depth - after all we librarians are simply there to provide a service, to meet the will and whim of the faculty and of course the students.

Over the last 20 years or so I have had to re-educate a total of 5 Vice-Chancellors (President) at Loughborough that the Library is not just a service unit, not just an oiling or greasing station, but that it has a life of its own with research and teaching activities like any other academic department (and I do mean the Library itself not the Department of Library and Information Studies).

Let me be just a little more controversial and ask - how far removed is the academic teacher from the practical day to day problems of a university library. Is expertise in research techniques always sufficient in an area of professional activity such as librarianship and information science? I well remember one particularly piece of research into interlibrary loan costs carried out by somebody who although library 'trained' was not and had not for some time, been a practising librarian. Amongst other things they did not even include in their estimates the cost of the form we have to send to the British Library - a major part of the total cost - need I say more!

My contention for many years has been that a great deal of invaluable research can be carried out in a working university library environment and indeed by the regular library staff.

I am however digressing - let me return to the overall educational theme but predominantly in relation to users. Earlier I quoted the President of Faxon's - 'we must understand who uses the library, why they use it and when they are successful in fulfilling their needs.'

My own philosophy of librarianship has always been based around the user - for example, our early work on automation, well over 20 years ago now, had a built in philosophy that at every stage there must be some benefit to the user and not just a means of making things easier for library staff. There is also therefore a need for such consideration to be given to our educational programmes - whilst the so-called theory of librarianship in its various sub-sections must play a positive role nevertheless the teaching of cataloguing and classification for example let alone collection management, automation, or whatever must also clearly indicate its relationship with the user.

Should we for example approach it from the view that 'the catalogue is a finding tool to that small portion of the worlds literature that you happen to have on your shelf' or should we go into the depths of MARC cataloguing, Cutter numbers and all the rest of the frills that so many professional librarians hold tight to so that the mysticism remains unsullied.

When I am showing any visitors around my library I tend to stress two major points - firstly that a great deal of time at the planning stage was spent on how we expected people to use the library and secondly that we spend some 400 teaching hours on our user education programme across all departments of the university. In some way I feel quite sad that more times than not they express considerable surprise.

In some ways the information explosion as such may be said to be over - the complexity of information isn't however and we are beginning to invent even more complex ways of accessing it. This together with the various aspects of information technology will bring on even greater need for user education into our library service. In the past the need has been expressed and largely met in the higher education area - over recent years emphasis in the UK at least has been in the schools but it will undoubtedly have to spread more wider. We all know that our users put a microfiche in upside down 9 times out of 10 let alone chew up a microfilm on threading it in - will they cope better with a compact disc or a sophisticated terminal? The other side of the coin is however that our children are rapidly becoming computer literate - the fact that they can't do mental arithmetic any more is another matter. Such educational developments however will quite rightly bring a much higher level of expectation and I'm not sure as yet that we are really prepared for it. I mentioned earlier that we've recently convinced my university on the value of purchasing a sophisticated integrated automated library system - we are well aware however that if say 50 academic researchers try to do a boolean search at the same time we have more than a little problem. In such areas as these continuing education for staff will also become an increasing requirement - not just for the older members who have to be taught new tricks but also because as I said earlier it is just not possible even to begin to cover all aspects in the limited time available in our educational programmes. Entry to the profession is still essentially arts based an an understanding at least of what are predominantly scientific disciplines is almost a pre-requisite.

As a result of the World Conference on Continuing Education for the Library and Information Professions in 1985 a proposal was put forward

to form a Round Table on Continuing education within the IFLA structure. The reasons put forward by the Section on Library Schools to the IFLA Professional Board were essentially those outlined below.

1. In a field which is changing so rapidly, continuing education is essential for all information professionals who wish to keep up-to-date, especially with changing technology.
2. Curricula in library schools cannot cover in sufficient depth all subjects of importance to librarians. They must continue their education after they have begun to work.
3. Continuing education has a different didactic and a different philosophy from education in library schools and is frequently carried out by practising librarians and sponsored by Associations.

The proposal went on to say - 'This view is endorsed by the Section on Theory and Research, for it is through the provision of continuing education programmes, in different parts of the world, that a cadre of professionals is emerging who are interested in, and are capable of carrying our research.'

As I said earlier this is, of course, the philosophy we have been adopting at my university for some considerable time. There is a need, however, for continuing education to start almost immediately after any formal education programme and certainly at the very beginning of any new appointment particularly if, of course, it is the first professional one.

I would commend you to a recent and extremely good article by Margaret Coutts of Aberdeen University Library (Ref: 2) entitled 'New

Professionals - Training for the Present and the Future'. It covers many of the problems experienced by 'new recruits' not least of which whether the areas studied in their university days do or indeed could possibly expect to match up to their real work requirements.

She says for example 'For many years, employers in academic libraries have found that newly qualified recruits have not had the level of practical experience necessary for the real-life posts. The comparison of current course content and job requirements reveals that sadly this mismatch still exists.'

I would have said, however, that this is inevitable - whilst we all accept, or should accept, that Librarianship is and always will be essentially a practical profession nevertheless Universities should predominantly be concerned with Education rather than Training. There is no possibility in any case even with a 3 year undergraduate programme let alone little chance of a 1 year postgraduate one covering all areas that might be required by an increasingly wide range of potential employers. You certainly won't be able to teach them the discipline of an eight hour fixed working day which, however, in contrast also requires them to have a much greater responsibility for planning and executing their work. I have as you will have seen attached as an Appendix to this paper an outline of the various courses we offer now at Loughborough - I, of course, took my librarianship course over 30 years ago and indeed still have the final exam papers.

Is 'Bibliography: Materials and Research in General and Specific fields' the same as 'Information Handling'? - I ask myself - is 'Cataloguing and Classification' the same as 'Indexing'. I answered, or at least attempted to answer such questions as:-

- (i) 'Evaluate' the methods by which librarian may acquire and maintain awareness of their readers' needs.
- (ii) 'Compare' the various kinds of abstracting services you have used. Have you reached any conclusions about their usefulness?
- and (iii) Discuss the advantages and difficulties of inter library co-operation as they affect university libraries.

Is there anything new under the sun I ask myself - of course there is! As one of my colleagues, Eric Davies put it (Ref: 3) in a very comprehensive picture of training for IT - 'There is no doubt that some skills and perhaps even some knowledge may have to be relegated or even discarded in the light of the satisfactory and effective use of information technology.'

As I indicated earlier - are the basics still essentially the same - is not the reference librarian (or informations scientist so-called) still faced with understanding, evaluating and in effect quantifying not only what answer the user thinks he wants but also, and usually more importantly what he actually does want. I have a strong conviction that a good reference librarian must have a good background in cataloguing and classification (or indexing!) as well as a basic study of both the structure and content of reference material. I have even been known to say 'it's a good thing for the senior library assistants or newly qualified professionals to be responsible for re-shelving the reference books every day.'

There is, of course, no doubt that information technology has given us a much wider and more sophisticated range of bibliographical tools than we could have dreamed of only a few years ago. As Davies said in his paper which I referred to earlier (Ref: 3) - 'Within the IT context, training assumes a greater significance than hitherto because it is far more critical to the successful operation and development of services.' It might be fairer to put a rather different slant on that, however, in that success or otherwise in the use of such new systems is often more obvious. Do we always know whether a user finds the answer to his query in a reference book in a deep dark corner of our library compared to the use of a computer terminal right next to the enquiry desk which he invariably, in the beginning at least, requires some help with.

We could argue that there is a definite need for what we might call 'patient after-care'. An example of this occurred recently with one of our senior professors in the Department of Human Sciences - a department who are well versed in various aspect of man-computer interaction. He complained that our new availability of all the Citation Index databases that he could access on his own terminal in his office did not give him the same facilities and end results as the normal print copies that we had cancelled. It appeared that it was too sophisticated for him! With a little investigation and user-education, however, I think we now have another satisfied customer. As one of my colleagues put it - 'The IT Tiger can be ridden, it's getting of that's risky!'

Let me finish with a little of what I said at the beginning of this paper I would not do - philosophise. What are we trying to do - whether it be as librarian or information scientist doesn't really

matter. In general and in the university world in particular of course we are trying to provide the means for a scholar to add in some way or other to the total sum of human knowledge - a communication link. At the moment what happens in very simplistic terms is that a scientist thinks - reads around the subject - carries out some research - writes down the results to tell the world how creative he's been - publishes it in the highest quality publication he can persuade to accept it - and then sits back in the hope that another scientist when he is reading around his subject will come across it.

Up until the middle of the 17th century by far the greatest majority of scientific communication was directly from person to person. It was only the publication of the Journal des Scavans followed rapidly by the Philosophical Transactions of the Royal Society early in 1665 that a major advance was made.

The modern scientific journal went through quite a lot of birth pangs and unfortunately now the birth rate has expanded so much that few of us if any are able to cope. The basic urge to establish priority formed one of the essential factors in the establishment of scientific journals. Now unfortunately, however, the need is expressed more in terms of the total weight of publications that can be shown on a curriculum vitae. It is, however, particularly interesting to note that even in the 18th century publication delays ranged from 2 to 6 years - and we complain nowadays!

One of the British Library supported projects we had a few years ago at my University was project BLEND (Birmingham/Loughborough Electronic Network Development) which was essentially concerned with computer conferencing and the

testing of an electronic journal. Some 50 scientists were connected through a network so that they could talk about their research activity, referee articles, etc. and subsequently 'publish' (in quotes) an electronic journal. We were in a way back to the 16th and 17th century and the invisible college. I remember saying to Brian Shackel, the Director of the project one day - 'when you've finished somebody's going to say - let's invent the scientific periodical so that we can reach a wider audience, etc.'

We have thus been dealing essentially with the mechanics of that bit of the whole communication process from the time the researcher actually writes his results down to the time the next researcher picks it up from one source or another. Merely converting the quill pen to the electronic signal.

The successor to BLEND, Project Quartet that I mentioned earlier did I'm glad to say stretch just a little, at least, into what I called the two black holes at the end of the overall communication chain. The dominance is, however, still with the technological or electronic aspects. A statement - in italics no doubt to emphasise it - in their new newsletter was I felt a little outdated or even perhaps condescending - it says: 'The gap between the computer services domain and the library and information services domain, which is cultural as well as technological, needs to be bridged.'

What is particularly interesting, of course, and perhaps even a little unkind is that here was this new 'electronic project' and in the first issue of its quite normally looking printed newsletter (produced, of course, by laser printer, etc. via a software package!) it said right in the first few lines: 'The project has now been running for over a

year and it seems time to begin making the results of the research more widely known. The newsletter is intended to help us reach this wider audience.'

As librarians, of course, we now have to identify it bibliographically (not that obvious) record its receipt, file it, issue it and perhaps eventually, relegate it to store or even discard it.

Librarian or information scientist - the problem remains.

## SOURCES OF INFORMATION

1. Bearman, T. C. ed. Educating the future information professional.  
Library Hi Tech 1987, 5 (2) 27-40 (Issue 18)
2. Coutts, M. M. New Professionals - Training for the Present and the Future.  
Library Review, 1991, 40 (2/3), 9-20
3. Davies, J. E. Investing in people, or cramming for the Turing test? Professional, training, development, and IT.  
IT's news - The Newsletter of the Library Association's Information Technology Group.  
1989, 18 (Feb), 22-38
4. Kaegbein, P. and McGarry, K. eds.  
Education for Information 1987, 5 (2/3)  
Special issue containing the Proceedings of the British-German symposium on education and training in the information fields, Cologne, 3-5 November, 1986
5. Schwarz, S. Education for research in library and information science: a basis for policy analysis in the Nordic countries.  
Education for Information 1985, 3 (2), 83-102

## COURSES AND DEGREES IN THE DEPARTMENT

The following degrees are awarded after study in this Department: brief details follow.

Undergraduate courses (3 years, or 4 years including a year out working in an appropriate institution)

BA or BSc in Library Studies

BA or BSc in Library Studies and Another Subject (Joint Honours)

BSc in Information and Computing Studies

BLS (Bachelor of Library Studies) (also obtainable in one year after an appropriate diploma)

Postgraduate courses (12 months)

MA and MSc in Library and Information Studies

MA in Publishing (in abeyance in the current year)

MA in Archive Administration and Records Management

MA in School Librarianship (no new entrants now being taken)

MSc in Information Studies

Research

MPhil (Master of Philosophy) (usually two years)

PhD (Doctor of Philosophy) (three years minimum)

## **Honours Degree in Library and Information Studies**

For the purpose of organising lectures and tutorials and practical work, the course is divided into several topic areas. These are listed below:-

### ***Information and Society***

A first year background course which is really an invitation to think about information, knowledge, communication, literacy, technology and the information society, libraries and books and their role.

### ***Information Handling***

In the first year there is an introduction to information sources of various sorts and their use to answer questions about publications, and enquiries for information. This continues in the second year, with extra advice on handling enquiries and the alternatives for keeping clients up-to-date with information in their work.

### ***Indexing***

A first year course in techniques for cataloguing documents and the standard procedures involved. Retrieving from indexes and databases using words as keys, and the importance of a controlled indexing vocabulary.

### ***Data Analysis and Presentation***

In making investigations and reporting them, in administration of any service (and also in following a course of study) one needs a reliable background of skills: numeracy, analysis and presentation of results, summarisation and reporting, editing, oral presentation and so on. This course aims to inculcate these skills. It is taught over two years, and is unexamined.

### ***Applications of Information Technology***

The first year is spent gaining confidence in using microcomputers and software over a wide range of library and information work. You get to know what is important in good software and information systems. In the second year automating the administration of a library is covered, also the theory and practice of searching databases, database management, and recent trends in information retrieval research.

### ***Management***

The first year course aims to give an understanding of the different types of library and information service. In the second year students learn how to use marketing principles, based on a knowledge of clients' needs, in the design and operation of library and information services. The final year teaches the skills and understanding needed to actually manage a service, to manage the people and the resources.

## MA/MSc Library and Information Studies

### *1. Academic and professional objectives*

- 1.1 To give a broad professional education, and a training in basic professional skills, which will enable the student to enter confidently into work appropriate to a newly-qualified postgraduate in the information professions.
- 1.2 To provide a broad understanding of the principles of librarianship, of the organisation of libraries and other information agencies and of the handling, storage and retrieval of information in all media.
- 1.3 To provide an understanding of the use of information, in both printed and non-printed forms, of the identification of user groups, of the demands made by users and of the effectiveness of a library or other information agency in meeting those demands.
- 1.4 To initiate the student into the theory and practice of research as it is applied in the field of library and information studies and cognate subjects.

### *2. Course outline*

Part I of the degree consists of seven core courses and an option.

The core courses are:

- information management
- information sources, use and searching
- information handling
- information technology
- research methodology
- user studies and services
- collection management

Part II of the degree consists of an individual project leading to the submission of a 20,000 word dissertation. Project work normally begins during the Easter vacation, and the dissertation must be submitted by the 15 September. Assistance will be given in choosing a suitable dissertation topic at an early stage in the Spring term, and an individual supervisor will be assigned to each student.

## MSc Information Studies

### 1. *Academic and professional objectives*

- 1.1 To give a broad professional education, and a training in basic professional skills, which will enable the student to enter confidently into work appropriate to a newly-qualified postgraduate in the information professions.
- 1.2 To provide an understanding of the nature of information in all aspects, its generation, communication, subject analysis and description, storage, retrieval, manipulation, value and use.
- 1.3 To provide a knowledge of the environments in which information is used, especially in industrial, commercial and academic contexts, and an understanding of information needs and information-seeking behaviour of individuals and organisations.
- 1.4 To provide a knowledge of the technologies and systems by which information is handled, the sources from which it is available, and the necessary skills to use these confidently and competently.
- 1.5 To describe constraints on the free flow of information.
- 1.6 To initiate the student into the theory and practice of research as it is applied in the field of library and information studies and cognate subjects.

### 2. *Course outline*

Part I of the degree consists of six core courses, a course tutorial and an option.

The core courses are :

- information management
- information sources, use and searching
- information handling
- information technology
- research methodology
- database structure and design

The option is chosen from the following (not all of which will be offered in any one year):

- business information
- health & welfare information management
- human factors in information systems design
- legal and professional issues
- mass media and audiovisual communication
- records management