

'Harnessing information to empower the profession to empower nations' or 'the end of libraries?'

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Abstract

A brief history of the development of librarianship from 8th century B.C. to the present and the rise and usage of information science today provides background to Arguments. These are that today, with information everywhere easily accessible via smart phones and Apps etc., Users require libraries and their services less. Their problems exist however: how to sift the grains of information from the 'floods' of chaff? To assist Users some sectors of librarianship have acquired knowledge of information science and the skills with which to empower Users with the provisions of information that they seek – these divorced from the techniques and skills necessary to manage resources necessary to provide 'traditional' services from libraries. In the future to adequately develop the efficient and sophisticated information-handling skills required by the 'new Users': the 'IS' 'wing' of the 'L' of Librarianship will need to concentrate on the sciences that are concerned with information flow and its organization. This will be where challenges will exist for the LIS profession. Only in this way will libraries maintain their relevance to, and empower, Users and permit the skills of librarianship to develop to help to meet Users' sophisticated information requirements. By such enhancements [and possibly division] will librarianship ensure that it remains relevant enough to make certain that the current revolution does not denote the 'End of Libraries'.

Keywords: *Librarianship, Information Science, Users*

Major changes are predicted and indicated in future LIS [Library and Information Science] practices. These, in turn, will result in radical changes in the LIS profession with consequences, most significantly, not only for Users but for managers and parent-organisations of Libraries and Information Services of all types and for those who will work in them.

As background a brief history is necessary to place in context what follows. Until the 1920's there had been apparently few major changes in the practices of librarianship that could have affected the developed 'unities of practices'. These had grown from the ancient collections and the scholars in charge of them: in

Athens the Lyceum with Aristotle [circa 335 B.C.], Serapeum [late 3rd century B.C.] and thereafter from the earliest scholar Librarians of the Alexandria Library [circa 367-48 B.C.] – Zenodotus of Ephesus [its first Librarian], Aristophanes of Byzantium [its fourth], Aristarchus of Samothrace [its sixth and most Homeric scholar]; Demetrius of Phaleras [a student of Aristotle], Callimachus [the first indexer, bibliographer], Eratosthenes and Apollonius of Rhodes. (Luttwak. 2012) Preceding Aristotle's Lyceum and Alexander the Great's Library had been the two Royal Libraries of Assyria in Nineveh founded by king Sennacheri [705-681 B.C.] and king Ashurbannipal [668-627 B.C.] as well as those in Persepolis [capital of the Achaemenid Empire circa 550 – 330 B.C.] and of Pergamon with its 200,000 volumes built by king Eumenes II in 2nd century B.C.

The first signs of needs for changes in the then current practices of librarianship appeared in the late 1920's and early '30's in the US and the UK. Users, primarily in research and industrial development, were failing to obtain from librarians the assistance that they had come to need and consequently expect. Changes in these, then current, librarianship practices adequate enough to satisfy them failed to take place. So was established the American 'Association for Information Science & Technology' in 1937. [In some ways there had already been a forerunner of these developments with the establishment in Belgium by Paul Otlet and Henri Lafontaine of the International Federation for Information and Documentation – FID – in 1895.] In the U.K. the same frustration with 'traditional' librarianship services had been felt leading to the establishment of the Association of Special Libraries and Information Bureaux [ASLIB] in 1924. Nevertheless the spark that lit the fire for major changes was Jason Farradane's then radical paper, in London to the Royal Society Scientific Information Conference in 1948, which concentrated scientists' and government's attentions on the need for such major changes. Ten years later, in 1958 in the UK he contributed professionally to the founding of the Institute of Information Scientists which represented a breakaway not only from The Library Association, the Standing Conference of National and University Libraries [SCONUL] but also ASLIB. Meanwhile in the U.S. Eugene Garfield had founded the Institute for Scientific Information in 1960 and had developed "a comprehensive index of how scientific thinking propagates" for his own Science Citation Index. By the 1960's the term 'documentation' had already fallen out of favour in the U.S. to be replaced by 'information science' further encouraged and developed in Viniti [the All-Union Institute of Scientific and Technical Information] by A.I. Mikhailov's concept of 'Informatics'. The imprimatur placed on these developments came with Unesco's abandonment of its earlier works that had concentrated, via conferences, on the development of libraries, particularly public, in Europe [Vienna 1948], Latin America [Sao Paulo 1951], Asia [Delhi 1955] and for Africa [Ibadan 1953], in 1971 when, responding to pressures exerted by the International Council of Scientific and Technical Institutions [ICSTI] on the UN, it established its 'UN International Scientific Information Systems' [UNISIST] programme leading to the abandonment in 1976 of its earliest objectives in favour of the General Information Programme. International concerns about this

apparent shift in UNESCO's priorities were strongly expressed but to no avail: they continued. With it the die was cast that marked the division of what, for centuries earlier had been a single profession of librarianship, instead into two, demarcated by practices and services, from libraries by librarians and from information services by information scientists both very different in practices one to the other.

In the intervening three decades this rift in what had been for centuries a single profession had just about healed as Information Scientists were forced to accept the fact that without books, documentation and libraries much information either lost some of its value or was incomplete: Librarians, in their turn, began to adopt some of the practices associated with information usage into librarianship practices. Thus two formerly relatively separate 'wings' of the profession of LIS – librarianship and information science co-existed – until, for example, in 2002 in the UK members of their representative professional organizations - The Library Association and the Institute of Information Scientists - agreed to merge under a new descriptive name – the Chartered Institute of Library and Information Professionals – CILIP.

However the fourteen years ensuing have brought about new even more major changes: LIS practices and users' expectations of them have again undergone revolutionary alterations in response correctly, as always, to Users' requirements. Whereas earlier it was journals, books and documents that held the requisite information [and where, in so-called 'Developing Countries', often these were not available so that an information 'famine' was recognized]. In contrast, today, the world suffers from a surfeit of information where it has been freed from the strangle-hold of documents or artifacts. Instead it is all around us in the ether and 'clouds' available to all who have the technology required to access it. The 'technology' referred to being the take-up and usage of smart phones, social tools and services, clouding and, for education particularly, the necessity for Users' to learn and apply information literacy skills. The consequence of what two decades ago had been an 'information famine' has now become the 'flood'. So much so that users are in danger of drowning without informed advice and expert assistance. Indeed so radical has been this evolution that access to information is being internationally urged to be recognized as a fundamental Human Right [*In parenthesis* - Attention however must be directed to the morality that requires the recognition of 'rights' being accompanied by acceptance of 'responsibilities' which, when related to information provision, are significant. For more see Bowden (1994)]. Equally significantly no longer does the technology tie its potential required to desks, laboratories, offices or classrooms it is available almost everywhere via smart phones and tablets using selected applications ['apps'] and social tools represented by practices such as Googling Wikipedia-ing, surfing the web, tweeting, accessing and contributing to Facebook, twitter, tweets and countless other similar access services.

Consequent upon these radical developments it is now possible to legitimately hypothecate that users now – perhaps more than ever - require professionally skilled information specialists to come to their aid with informed advice founded on solid knowledge. A further consequence of this is that within the LIS profession and its practices it is the 'I.S' that has, or is becoming, a priority for users – less so the 'L' of librarianship.

From this it is obvious to see within librarianship and information science [or, better, their management] how great, and possibly dire, are the implications for what have become to be perceived and associated with the almost 'traditional' practices associated with the former. This is most obvious in the university library sector where recent reviews [including some in Sri Lanka] have indicated that information-seekers no longer think first of a journey to the library as a possible source to satisfy their information needs and even when inside it they no longer bother to consult the library's catalogue [which some librarians for long have held to represent more of an obstacle and a hurdle to access than a help – witness Maurice Line's famous 'On the construction and care of White Elephants' i.e. the catalogues!].

Access to information - without the use of a library and its catalogues and contents therefore for many Users no longer represent a problem. But problems do still remain. When there is so much from which to select what does the user take to use and what ['chaff'] is set aside and discarded? Information literacy skills' acquisition supply part of the answer. Most significantly, what are the criteria on which to base such judgments? It is here that the knowledge, competencies and skills of the information scientist or [better] the 'information manager' come into their own. Before we investigate these further some definitions for greater clarity are necessary.

'Librarianship' has many definitions; the philosophy of librarianship suggests that it is "the identification and articulation of the main principles underlying the practical operation of libraries and information services, particularly those relating to collection policies, conservation, access functions and role of libraries in society"(Thompson. 1997) further exemplified in "the skills of librarianship" and expanded into the "basic definition of 'library', [where] we note that the components – collection, materials, organization, use – describe interconnected and interacting parts of an operational system. Furthermore, when we analyze these components we find that they yield most of the core subjects and practical problems in the systematic study of library and information science. ... The operations of collecting and organizing may be analyzed further into the professional techniques of selection, classification, cataloguing, information management and information retrieval." This same quotation usefully continues "The library, in its primary sense, has habitually been identified with imaginative literature and the arts; information, in its technical sense, tends to be associated with the sciences and technology" (McGarry. 1997)- thus reinforcing the point made earlier.

On the other hand “Information science is that discipline that investigates the properties and behavior of processing information, the forces governing the flow of information, and the means of processing information for the optimum accessibility and usability. It is concerned with the body of knowledge relating to the origination, collection, organisation, storage, retrieval, interpretation and utilization of information.” (Borko, 1968) Another definition provides a fuller explanation - “information science brings together and uses the theories, principles, techniques and technologies of a variety of disciplines toward the solution of information problems. Among the disciplines brought together in this amalgam called information science are computer sciences, cognitive science, psychology, mathematics, logic, information theory, electronics, communications, linguistics, economics, classification science, systems science, library science and management science. They are brought to bear in solving the problems with information - its generation, organization, representation, processing, distribution, communication and use.” (Williams. 1987 / 1988) More precisely stated “information science is a field of professional practice and scientific enquiry addressing the effective communication of information and information objects, particularly knowledge records, among humans in the context of social, organizational, and individual needs for and use of information.” (Saracevic. 2009)

From what has just gone before it is possible to distinguish and clearly differentiate between the practices identified with librarianship and those with information science. The former is made up primarily of technical practices and skills whilst information science - being a ‘science’ - is constructed and founded, as with all sciences, on laws when ‘laws’ are [dictionary] defined as “Body of enacted or customary rules recognized by a community, as binding.” (OED) No such laws underpin librarianship. Another difference is that little research is undertaken for librarianship *per se* and when it is it is usually less theoretical and more practice-based. The existence of laws such as Bradford’s ‘Law of Scattering’ [1934 - concerned with estimating “the exponentially diminishing returns of extending a search for references in science journals.”] and those underpinning citation indexing such as the work in Cambridge University’s Computer Laboratory of Karen Sparke-Jones, from the 1950’s to her death in 2002. This concentrated on natural language processing and information retrieval “and her realization of the concept of inverse document frequency weighting in information retrieval”, used in most search engines today. (Wiki) These provide further proof of the legitimacy of applying ‘science’ [when it is dictionary-defined as “systematic and formulated knowledge”(OED)] in the phrase ‘information science’. Her work serves to underline the research and investigative elements that have [and continue] to underpin the information science sector [for example of Mike Lynch in Sheffield University on chemical information and in London by people like Harold Coblans and Brian Vickery] both of these elements are invariably absent from librarianship.

Here let me make unchallengeably clear that the skills and techniques of librarianship obviously will continue to most significantly fulfill functions and needs in the best interests of effectively and efficiently managing the fabric, staffs, materials and other resources and services of Libraries. Nevertheless from the 'front-of-house' perception of users, they represent, to them, 'backstage' matters. As Line and others have pointed out users have little interest in which classification is applied to organise materials on the shelves or how materials are described in catalogues or whether it is Brown or some other issuing system employed to record what Users borrow and return. These are techniques that contribute to the deliverance effectively of library services.

But compare these to the primary concerns of information users[not forgetting in doing so the quotation from Williams above of the disciplines and subjects related to information science] which include knowledge expertise and skills related to the perceived relevance to envisaged usage, relevance, up-to-date-ness, comprehensiveness, reliability of sources and frequency of use by others as indicated in citations as well as Sparke-Jones' 'inverse document frequency weighting' all coupled with the relevance and abilities of the user's personal management and manipulation of the information supplied to suit intended specific purposes etc.

As a consequence of these 'L' and 'IS' greatly-differing user-needs' priorities it seems safe to predict that the growth area for the future in LIS will be in this information sector in order to best respond to these new types of Users' demands. In the 'L' sector [if one can predict accurately] growth will change comparatively little and where it does occur it will be dependent on outside factors such as the re-design of existing 'bought-in' systems or their up-grading. This is not [I emphasise again] in any way to downplay the importance of the skilled and technical requirements associated with librarianship and the management of libraries, their contents and services. Neither is it to suggest that the two sectors will be in opposition; on the contrary both will be required, in differing degrees one in support of the other, although in what proportion or hierarchical structure we shall have to wait to see.

What has gone before will inevitably raise objections and protestations from within the Profession. However analyses of job requirements indicate the vast differences associated with the requirements of users from each of the sectors. A significant question remains that begs for an answer: cannot the two 'sectors' be protected to be preserved as one in order to best work in harmony together? I think that there are many reasons why this is not only no longer possible but also that it should not be permitted to occur. The first relates to the education that will need to be provided to adequately educate students in order for them to possess enough knowledge and training not only to be in positions to make informed choices but also, when out in the world of libraries and information, to be capable of satisfactorily meeting the needs for services from library-users and also providing assistance in resolving information problems.

LIS educationalists have for long resisted efforts to expand curricula, syllabuses and programmes on the grounds that these are already full and unable to accommodate new materials especially if to do so would result in jettisoning other subjects. This resistance has continued in some LIS Departments and received support to a degree because education for librarianship itself has undergone great changes as it has been forced [often by market or student requirements] to develop and to try to insert the new knowledge and skills necessary to keep libraries' managements up-to-date and *au fait* with the innovations that IT and computers have created. [A recent chance reference to a 'Libri' issue that I edited in 1994 exemplifies the point – particularly Guy Marco's contentions regarding the demise – from the 1970's - of the American core curriculum (Marco. 1994) which has some relevance. It could, in addition, be argued that the attitudes to particular professional 'L' and 'IS' practices require particular relevant attitudes and skills peculiar to each. Those considered to be satisfactory for the technical type work necessary for arranging and operating a 'library machine' and its contents are, in contrast, likely to be very different to those required to effectively provide services necessary and relevant for efficient information management and provision in user-client relationships.

In conclusion the question has to be posed - 'Where do we go from here?' Firstly to accept that in trying to hold together professional knowledge and skills that have so bifurcated over recent years is only to place obstacles in the ways of the development of both sectors: a division certainly, but perhaps permitting the harmonious working of the two separated 'wings' which, if possible, might be desirable. Secondly to acknowledge that space in LIS education programmes too can only accommodate both sectors' educational needs via separate programmes: to crowd each into a single programme is to so narrow the learning experiences as to make them unlikely to be relevant to, or efficient enough for, the world of work to be encountered afterwards. Thirdly that from the perspective of a professional the future intellectually-exciting area where much research to develop new theories to assist towards users' satisfaction are required will be in information science.

Proof to support these hypotheses can be found in all LIS sectors. Instead of concluding with criticisms that some might consider derogatory let me end with a couple of questions to encourage answers which, in so doing, point to where my theses can be more easily accepted. A 'National Library' plus a 'Documentation Centre' when the word 'documentation' went out of use in the US and UK half a century ago? Should it remain? A 'National Institute for Library and Information Sciences' when librarianship cannot be a science? Do not these deserve examination?

'The end of libraries?' Certainly not. Documents, books, artifacts and the buildings in which to house and use them will always be with us and, as now, excellently serviced applying the centuries-long developed skills and techniques of librarianship. What has changed and will continue more to change is that the

information in the libraries will be complemented by that which is now all around us in floods and so readily to hand but which will need to be managed in the interests of users by managers with knowledge of the laws that underpin the science of information and its dissemination.

To place all these in the historical perspective from which this paper started: these developments represent only one other new start in the eight thousand years history of libraries that, with each new change and introduction of innovations, have witnessed their adaption and secure and confident adoption. This one will be no different in following similar paths. Services from Libraries will continue [much as today] but with the addition of a new type of skilled professional advising on not only the information to be had from the libraries' contents but also from the new sources of information from without them – all in the best interests of, and for the efficient delivery of, professionals' services for their effective usage by Users.

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