

Bridging the North-South Divide in Scholarly Communication in Africa – a library and information systems perspective

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Peter Johan Lor¹

Abstract

This paper takes a broad, general perspective of scholarly communication in Africa, using a simple systems model based on the Lasswell formula. The model identifies and analyses the following components: Creators, Contents, Mediation, Users and Infrastructure. It recognises that these are to be studied in their cultural, political, economic, legal and ethical contexts. Taking each component in turn, a number of critical issues and problems relevant to the North-South/South-North divide are identified and some observations are made on the position and roles of libraries. The paper presents a list of desiderata and emphasises that scholarly communication has both digital and analogue dimensions. It is a complex phenomenon that needs to be addressed holistically.

Introduction

Some time ago I agreed to present a keynote address at this Conference, “representing the point of view of the library community”. But having typed the heading “Introduction”, I hesitated for a long time, faced with an otherwise blank page on my screen. I was reminded of the character in Albert Camus’s novel *La Peste*, who wanted to write a book but could not progress beyond the opening sentence. On reflection I realised that my discomfort was twofold: First, I am not an expert on any of the topics under discussion here. Second, I felt that a simple presentation of the library’s role would not do for a keynote. Although libraries are important, the Conference calls for something more comprehensive.

Making a virtue of necessity, I intend to take a broad, general perspective. My point of departure is that many interlinked factors play a role in bridging the north-south divide in scholarly communication. I will attempt to show that the divide is by no means purely digital. It is a complex problem that has to be tackled holistically. As a heuristic tool I shall use a simple, old-fashioned systems model for use as a roadmap of the terrain. Since we are talking about Africa I shall refer to this walkthrough as a safari. Along the way, I hope to make some critical comments on various features on the map, emphasising their relevance to the North-South divide. I shall also make some observations on the position and roles of libraries. In this paper I draw extensively on a number of recent papers,

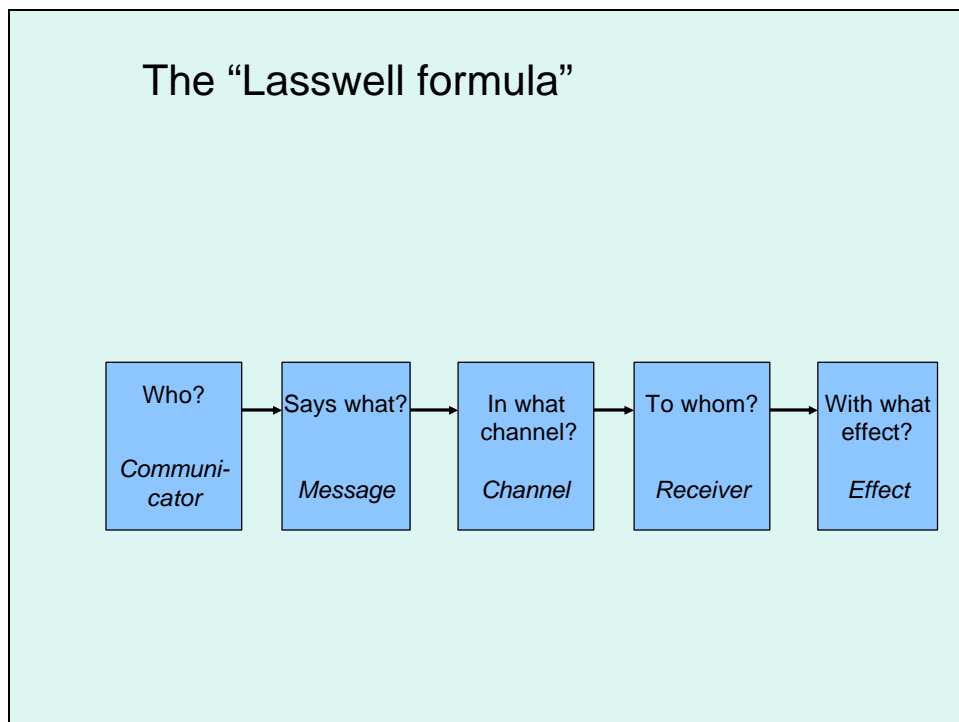
¹ Dr Lor is Secretary General, International Federation of Library Associations and Institutions (IFLA), PO Box 95312, 2509 CH, The Hague, The Netherlands, and Professor Extraordinary, Department of Information Science, University of Pretoria, Pretoria 0002, South Africa. The opinions expressed here are the author’s own, not necessarily those of IFLA.

mostly co-authored with Hannes Britz, in which we have dealt with various aspects of international information flows. I apologise for the resulting self-citation.

An old-fashioned systems approach

The point of departure for my roadmap is the well-known “Lasswell Formula” of Harold D. Lasswell. It dates from 1948 and although it is no longer so politically correct, coming as it does from a behaviouralist stable, it has proved remarkably useful over the years (Figure 1)²:

FIGURE 1: The “Lasswell Formula”



Lasswell, who belonged to the Chicago school of sociology, was mainly concerned with mass media and propaganda, and his model provides for one-way communication only. A contemporary model by Shannon and Weaver³, with origins in the mathematical theory of telecommunications, was similar, but included a feedback loop. The Lasswell formula and the Shannon and Weaver model are referred to as “transmission models” because they emphasise the transmission of messages or signals without much concern about meaning, context or the interaction between senders and receivers.⁴

² Barton, G. 2005. The Lasswell formula. Available: <http://www.geoffbarton.co.uk/files/student-resources/Communication/Theory%20Sheets/The%20Lasswell%20Formula.doc>; accessed 2006-09-04.

³ Shannon, C. & Weaver, W. 1949. The mathematical theory of communication. Urbana: University of Illinois.

⁴ Cultsock CCMS-Infobase: <http://www.cultsock.ndirect.co.uk/MUHome/cshtml/introductory/trancrit.html>, accessed 2006-08-31.

I adapted the Lasswell formula to serve as a roadmap for my discussion of scholarly communication, first by renaming the components as follows:

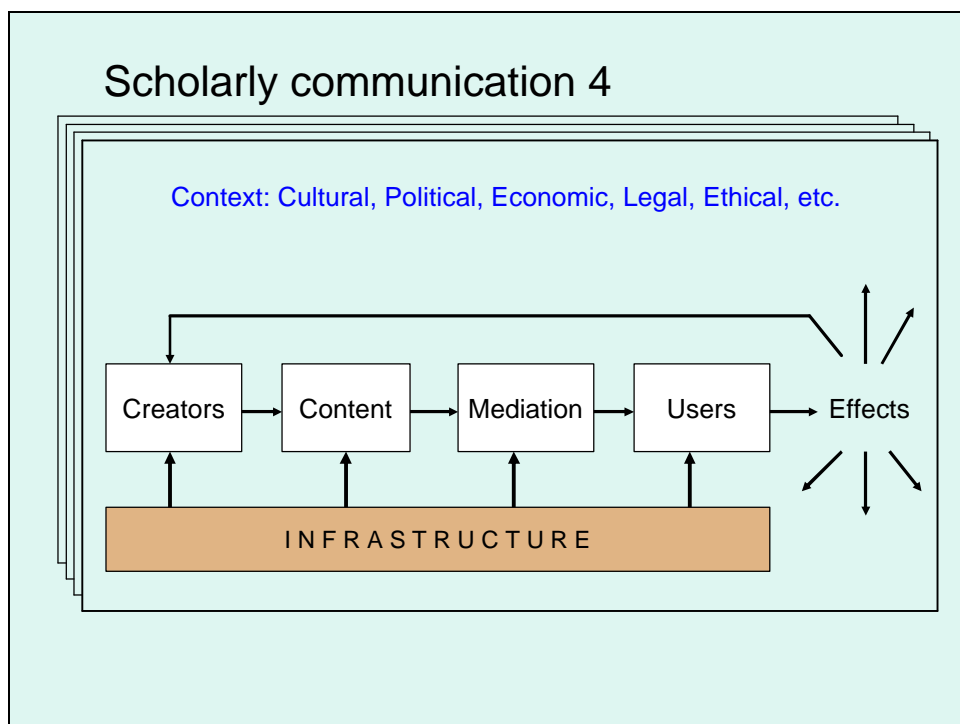
Communicator	becomes Creator (of content)
Message	becomes Content
Channel	becomes Mediation
Audience	becomes Users

Next I added a feedback loop, since scholarly communicators or content creators necessarily have to be users of content themselves.

I also added Infrastructure to the roadmap. If we are discussing scholarly communication in Africa, the infrastructure cannot be taken for granted.

Finally, we need to consider the broader cultural, political, economic, legal and ethical context, which includes national and other policy frameworks. The result is depicted in Figure 2).

FIGURE 2: A Roadmap of Scholarly Communication



On Safari

The safari starts with a visit to Infrastructure, at the bottom of the map.

Infrastructure

In an information delivery and dissemination system there are two aspects of the infrastructure to be considered. The most obvious aspect is the information and communications technology (ICT) infrastructure. This is emphasised in the expression “digital divide”, which points to disparities between haves and have-nots (both between and within countries) in terms of:

- Availability and maintenance of workstations and peripherals such as scanners, printers, etc. It is estimated that currently in Africa there are 0,9 PCs per 100 inhabitants.⁵ In many countries the cost of a PC exceeds the mean annual per capita income, which puts PC ownership well beyond the means of the majority.⁶ Unfortunately, all too often taxes and customs duties add substantially to the price.
- Affordability of software: hardware does not run itself. The cost of licensing proprietary software, as distinct from open source, is a big obstacle in developing countries.
- Connectivity: the availability of reliable telephone lines and other telecommunications connections. Currently Africa, with 14,1% of the world’s population, has 2,3% of the world’s Internet users. But growth is rapid: 424% between 200 and 2005, considerably higher than the world average.⁷
- Bandwidth: the amount of traffic that can be carried and at what cost. (In my home in The Hague I have more bandwidth available at less cost than is available – or was until recently – to some universities in Africa.) Unfortunately, in some countries the traffic is throttled by telecommunications monopolies. At the *Workshop on ICTs in the Library: Experiences, Opportunities and Challenges for Libraries in Africa*, which was held in Benoni, South Africa, from 21 to 23 July 2004 under the auspices of the Carnegie Corporation of New York, it was noted that universities in West Africa are starved of affordable bandwidth in spite of the laying of the submarine SAT-3/WASC/SAFE cable around the coast of Africa.⁸
- Equity: in most countries access to the infrastructure is skewed towards a small, mainly urban elite. This is illustrated by the International Telecommunication Union’s statistics for main telephone lines in Africa: 3,0 per 100 inhabitants for

⁵ Zulu, B. 2006. Africa: ITU support for NEPAD. AllAfrica.com. Available: <http://allafrica.com/stories/200608110136.html>, accessed 2006-09-05.

⁶ Kanellos, M. 2004. A billion PC users on the way. Available: http://news.zdnet.com/2100-9584_22-5290988.html, accessed 2006-09-05.

⁷ Internet World Stats. 2006. Internet usage statistics for Africa. Available: <http://www.internetworldstats.com/stats1.htm>, accessed 2006-09-04.

⁸ Lor, P.J. 2004. Report on the Workshop on ICTs and the Library: Experiences, Opportunities and Challenges for Libraries in Africa, Kopanong Hotel, Benoni, South Africa, 20-23 July 2004. Unpublished.

Africa as a whole, 1,0 per 100 for Sub-Saharan Africa, 28,5 in Mauritius.⁹ The corresponding figure for the Netherlands is 61,4%.¹⁰

There are other dimensions of the digital divide, such as human capacity and content, but I shall deal with these later.

The second aspect of infrastructure is sometimes overlooked. This is the infrastructure needed for the physical delivery of goods and services, as distinct from the delivery of digital content. Tele-medicine (or e-medicine) is a great idea if it helps medical staff in a remote rural clinic to accurately diagnose an infectious disease that has broken out in their province. We can feel a warm glow of charitable gratification about connecting the clinic staff by Internet to the medical experts at some western institute of tropical medicine to confirm the diagnosis. But how do we get the necessary vaccines, medicines and equipment there to fight the epidemic if the nearest airfield, currently in the hands of an insurgent militia, is 120 kilometres away on rutted tracks that are only negotiable in the dry season? There are limits to “leapfrogging” – the notion that African countries can leap directly from an agrarian to an information era, without having to pass through the intervening development stages. Every country needs a physical infrastructure of airports, roads, railways, power transmission lines, etc.¹¹

Creators

In the African context, when we speak of scholarly communication, from creators to users of scholarly content, we need to ask: who are the creators? Are we thinking of the flow of information from North to South, as suggested by the phrase “North-South divide”? Hard on the heels of the metaphor “digital divide” came that of “bridging the digital divide”. The question is: when we have bridged the digital divide, in which way will the traffic flow? Information needs to flow South-North as well as North-South. Because the bibliographical control systems are mainly based in the North, scholarly communication from South to North is also essential to facilitate South-South information flow.¹²

With Hannes Britz I have argued that the Knowledge Society only dawns in a country when its scholars are not merely users of imported knowledge, but themselves contribute to knowledge creation. This implies active participation in scholarly work, not merely absorbing knowledge produced elsewhere.¹³

Africa needs to build its capacity for knowledge creation. Here are some of the conditions for African scholars to contribute as content creators:

⁹ International Telecommunication Union. 2004. Africa, ICT indicators, 2003. Available http://www.itu.int/ITU-D/ict/statistics/at_glance/af_ictindicators.html, accessed 2006-09-04.

¹⁰ International Telecommunication Union. 2004. ICT indicators, 2003: Europe and CIS. Available http://www.itu.int/ITU-D/ict/statistics/at_glance/E2_EuropeICTIndicators_2003.pdf, accessed 2006-09-04.

¹¹ Britz, J.J., Lor, P.J., Coetzee, E., & Bester, B.C. In press. Africa en route to a knowledge society: a reality check. *International information & library review*.

¹² Lor, P.J & Britz, J.J. 2005. Knowledge production from an African perspective: international information flows and intellectual property. *International information and library review* 37(2):61-76.

¹³ Britz, J.J. et al. In press. Africa en route to a knowledge society: a reality check.

- Good quality schooling and undergraduate education, with well-trained teachers and adequate provision of texts, supplementary and recommended reading in the undergraduate library collection, and teaching laboratories.
- Good facilities for post-graduate education, with adequate provision of library material and laboratories for research.
- Professors with adequate doctoral and post-doctoral research experience. It is worrying that in so many cases new PhDs with no post-doctoral research experience are appointed as full professors and even as heads of department. Having completed a PhD does not necessarily qualify one for supervising PhD students oneself.
- Access to research literature: a major problem in many African universities, where funding problems have led to serious erosion of research holdings.¹⁴
- An adequate level of information literacy: both students and teachers need to be trained in determining their information needs, in identifying, locating and accessing resources, and in evaluating and utilising these. Access to the Internet brings many more resources within reach, but a disadvantage is that digital resources that are rapidly discovered may leave both students and inexperienced researchers with the illusion that they have found everything worth finding. Increasingly researchers assume that if information is not available digitally, it is not worth looking for. Many students assume that if something is not on Google, it does not exist. Information literacy education is a major challenge for librarians, which has been recognised by the International Federation of Library Associations and Institutions (IFLA), and by UNESCO, which is funding a series of IFLA expert seminars on information literacy. Last year, in the run-up to the World Summit on the Information Society, IFLA issued a statement emphasising its importance.¹⁵
- Exposure to ongoing research work elsewhere in the continent. Budding as well as established scholars need to be able to measure themselves against their peers. Digital availability of African theses and dissertations, as for example, through the DATAD¹⁶ project can help to raise the standard of masters and doctoral dissertations, inter alia by putting pressure on dissertation supervisors.¹⁷
- Somewhat less tangible is something I would call a culture of scholarship. There are signs that the decades-long book and journal famine in many African universities has given rise to a new generation of scholars who were not exposed to a culture of reading and keeping up with current scholarship. They may also not have time for this, as some may be driving taxis, keeping spaza shops or holding down other jobs after hours to feed themselves and their families.
- A favourable institutional environment: there has to be a technological and a physical delivery infrastructure for African scholars to make a contribution. Salaries must be paid. Universities should be properly funded and managed.

¹⁴ Rosenberg, D. (1997) University libraries in Africa: a review of their current state and future potential. London: International Africa Institute. 3v.

¹⁵ IFLA. 2005. Beacons of the information society: the Alexandria proclamation on information literacy and lifelong learning. Available: <http://www.ifla.org/III/wsis/BeaconInfSoc.html>, accessed 2006-09-06.

¹⁶ DATAD: Database of African Theses and Dissertations. See: <http://www.aau.org/datad/>, accessed 2006-09-05-06.

¹⁷ Cf. Kiondo, E. 2004. Historical practice in managing theses and dissertations at African universities and university libraries. Presentation to the Association of African Universities DATAD workshop on Intellectual Property, Governance, Dissemination and Funding Strategies, Accra, Ghana, February 19-20, 2004. Available: <http://www.crl.edu/PDF/datadkiondo.pdf>, accessed 2006-09-05.

- Policies to promote scholarly productivity: the funding mechanisms for universities and research institutes should stimulate research and reward research outputs. This implies measuring outputs and evaluating them in an international context. However, such policies should be carefully designed to avoid negative side-effects. (For example, in my opinion the South African policy of rewarding publications in “accredited journals” places excessive reliance on bibliometric measures based on the coverage of journals in the citation databases of the US Company Thomson Scientific, formerly known as the Institute for Scientific Information, and hence discourages SA scholars from publishing in African journals.¹⁸)

Content

It is useful to distinguish between research outputs (reports, dissertations, journal articles, etc.) and research data (raw or primary data). Researchers may use published data (e.g. census data) or collect new data. In the past the latter remained in filing cabinets or on computer storage media in the researchers’ offices. Today it is becoming more common for raw research data to be made available electronically, for example through a clickable link from an electronic journal article – communication *of* data as distinct from communication *about* data. This makes it possible for data to be re-used by other researchers, to replicate research, verify findings or answer other questions. Open access to research data is an asset that enhances national research productivity. In the Netherlands a new organisation, Data Archiving and Networked services (DANS) was recently launched to archive research data in the social sciences and humanities comprehensively.¹⁹ In South Africa some discussion on the sharing of data archives has been held between government departments and agencies.²⁰ To what extent is this receiving attention in other African countries?

Scholarly communication in Africa can be communication *about* Africa (among Africans, among Africanists, and between these two groups) or simply scholarly communication *in* Africa (among African scholars, not necessarily about anything African.)

Mainstream western science tends to be built up out of an accumulation of small chunks of findings organised around a currently accepted paradigm. In Africa the western model is being challenged. In discussing scholarly communication in Africa we need to be open to different concepts of science, and we need to recognise the wealth and value of Africa’s indigenous knowledge. Libraries can play a significant role in the preservation of indigenous knowledge, aiding in its discovery and recording, organising it for use,

¹⁸ This reliance on the Thomson Scientific citation databases appears to have been uncritically accepted in a recent report by the Academy of Science of South Africa (2006) *Report on a strategic approach to research publishing in South Africa*, available

http://blues.sabinet.co.za/images/ejour/assaf/assaf_strategic_research_publishing.pdf, accessed 2006-09-05.

¹⁹ Open dataverkeer versterkt de productiviteit van het onderzoek. 2006. *e-Data & research* 1(1):5.

²⁰ Lor, P.J. 2000. Role of the National Library of South Africa in ensuring access to research results and data collections among organs of state. *Meta-info bulletin* 9(3):10-15.

preserving it, and promoting its appreciation (including respect for the dignity of the communities that produce it) and use.²¹

Content today is found in two forms: analogue and digital. There is so much emphasis on digital media that the importance of analogue materials (ranging from manuscripts through print to a range of analogue audio-visual media) is sometimes overlooked. Libraries will need to maintain extensive analogue collections for the foreseeable future, and provide for voluminous additions to their analogue holdings. This is particularly true of research and national libraries, which have a long-term preservation responsibility. It is no coincidence that major national libraries in highly developed countries (such as the Koninklijke Bibliotheek here in the Netherlands) are extending their conventional storage space very significantly. In Pretoria, a new building is being erected for the National Library of South Africa, which will more than double its capacity for the storage of conventional printed materials.

Digitisation is often suggested as an answer to the problems of preserving analogue material. I shall argue that digitisation is not as such a means of preservation. It is a powerful tool for promoting access, but at best it assists preservation of analogue content by reducing pressure of use on fragile or vulnerable analogue material. A considerable number of projects are being undertaken to digitise African heritage material.^{22 23} At face value this is a wonderful way of promoting an awareness and appreciation of Africa's rich cultural heritage, but caution is called for. We need to ask critical questions, for example on the ownership of the digitised content, who benefits from the project, and whether the people whose heritage it is will be able to gain access to the digitised content. The ethical considerations should not be overlooked.²⁴

Digital content can be divided into two categories:

- digitised content: analogue content that was subsequently digitised, as just referred to
- born-digital content, which originated and is disseminated digitally, mostly without analogue equivalents

This distinction is sometimes overlooked, so that the term “digital preservation” can mean two things:

- preservation by means of digitisation (which should rather be called “preservation digitisation”, by analogy with “preservation microfilming”)
- preservation of digital content

Preservation of digital content is a much bigger problem than the digitisation of content. For various reasons (such as vulnerability of the storage media and rapid obsolescence of

²¹ Lor, P.J. 2004. Storehouses of knowledge? The role of libraries in preserving and promoting indigenous knowledge. *Indilinga: African journal of indigenous knowledge systems* 3(1):45-56.

²² Tsebe, J. 2005. Networking digital heritage: Africa. Paper 157-E presented at the IFLA World Library and Information Congress, Oslo, Norway, 14-18 August 2005. Available <http://www.ifla.org/IV/ifla71/papers/157e-Tsebe.pdf>, accessed 2006-09-04.

²³ Britz, J.J. & Lor, P.J. 2004 A moral reflection on the digitization of Africa's documentary heritage. *IFLA journal* 30(3):216-223.

²⁴ Lor, P.J. & Britz, J.J. 2004. Digitization of Africa's documentary heritage: aid or exploitation? *Journal of information ethics* (Fall): 78-93.

hardware and software)²⁵ digital content is much more vulnerable and threatened than conventional printed or microfilmed materials. Born-digital content is at particular risk, since there is no analogue backup. The importance of websites as sources of raw research data for historians, political scientists, sociologists, media scientists and other students of the social sciences and humanities is increasing rapidly as the web takes over more and more of the communication functions of printed media such as newspapers, posters, fliers, directories and magazines. However, the websites are far more ephemeral than the printed sources they replace.²⁶ Worldwide a vast amount of this material is disappearing into cyberspace on a daily basis. In some developed countries attempts are being made to archive websites systematically, but this is not yet happening in African countries. The Internet Archive is not necessarily a reliable and comprehensive repository of websites from developing countries.²⁷ In 1998 South Africa enacted legal deposit legislation that provides for the downloading and archiving of South African websites, but this provision has not yet been put into effect due to financial constraints.²⁸ In the mean time much of Africa's digital heritage is being lost.

In 2005, on the eve of the World Summit on the Information Society (WSIS) in Tunis, the Conference of Directors of National Libraries issued a communiqué stating that “national libraries in all countries have a mandate and duty to collect and preserve ... digital cultural heritage and to make it accessible both now and to future generations”, and calling on all states to “develop coordinated national strategies for inclusive information societies in which our digital heritage will be preserved and made accessible with the same commitment already shown to our nations' printed records”.²⁹ This follows a statement, *Preserving the memory of the world in perpetuity: a joint statement on the archiving and preserving of digital information*, issued in 2002 by a joint Steering Group of IFLA and the International Publishers Association (IPA).³⁰

Mediation

In Figure 3 I have expanded the Mediation component to indicate the main transmission channels between creators and users of content.

The two main groups of intermediaries are aggregators and libraries. For convenience I have grouped all the various players and agencies involved in the quality control,

²⁵ Lor, P.J. & Snyman, M.M.M. 2005. Preservation of electronic documents in the private sector: business imperative and heritage responsibility. *South African journal of information management* 7(1). Available: <http://general.rau.ac.za/infosci/raujournal/default.asp?to=peervol7nr1>.

²⁶ Cf. *Political communications web archiving: an investigation funded by the Andrew W. Mellon Foundation. Final report*. 2004. Chicago: Center for Research Libraries. Available: <http://www.crl.edu/PDF/PCWAFinalReport.pdf>, accessed 2006-09-06.

²⁷ Thelwall, M. & Vaughan, L. 2004. A fair history of the Web? Examining country balance in the Internet archive. *Library & information science research* 26(2):162-176.

²⁸ Lor, P.J., Britz, J.J. & Watermeyer, H.C. 2006. Everything, for ever? The preservation of South African websites for future research and scholarship. *Journal of information Science* 32(1):39-48.

²⁹ Conference of Directors of National Libraries. 2005. Maintaining our digital memory: a declaration of support for the World Summit on the Information society. Available <http://www.ifla.org/III/wsis/declaration-CDNL2005.html>, accessed 2006-07-22.

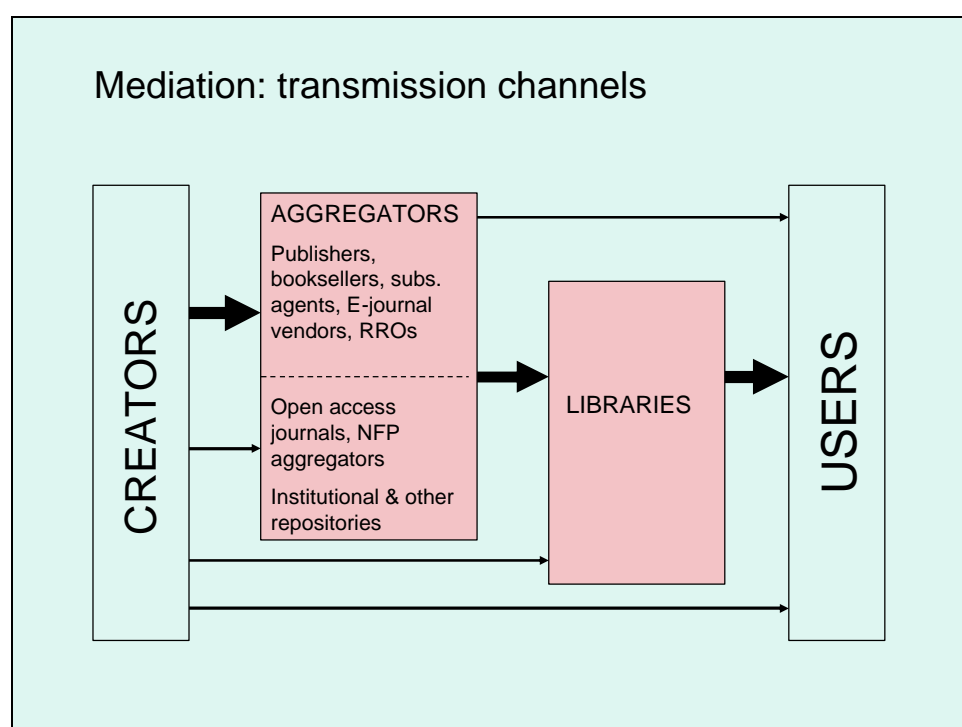
³⁰ IFLA/IPA Steering Group. 2002. Preserving the memory of the world in perpetuity: a joint statement on the archiving and preserving of digital information. Available <http://www.ifla.org/V/press/ifla-ipa02.htm>, accessed 2006-09-04.

packaging and dissemination of content under the generic term “aggregators”. They can be divided into two subgroups: the for-profit and the not-for-profit aggregators.

The conventional for-profit sector includes the following:

- Journal and other publishers (including university presses and scientific societies), with their editors, editorial boards and referees, etc.
- Booksellers
- Periodical subscription agents
- Electronic journal vendors (aggregators)
- Reproduction rights organisations

Figure 3: Main transmission channels between creators and users of content



In the last decades, largely thanks to the emergence of digital media, a variety of alternatives to the for-profit sector have come forward. These include:

- Not-for-profit aggregators (e.g. eIFL³¹, J-STOR³², PERI³³)
- Open access journals
- Institutional repositories
- Discipline or problem-oriented repositories

³¹ eIFL stands for electronic Information For Libraries. See <http://www.eifl.net/>, accessed 2006-09-06.

³² JSTOR: the Scholarly Journal Archive. See <http://www.jstor.org/>, accessed 2006-09-06.

³³ PERI (Programme for the Enhancement of Research Information) is a programme of the International Network for Availability of Scientific Publications (INASP). See <http://www.inasp.info/peri/index.shtml>, accessed 2006-09-06.

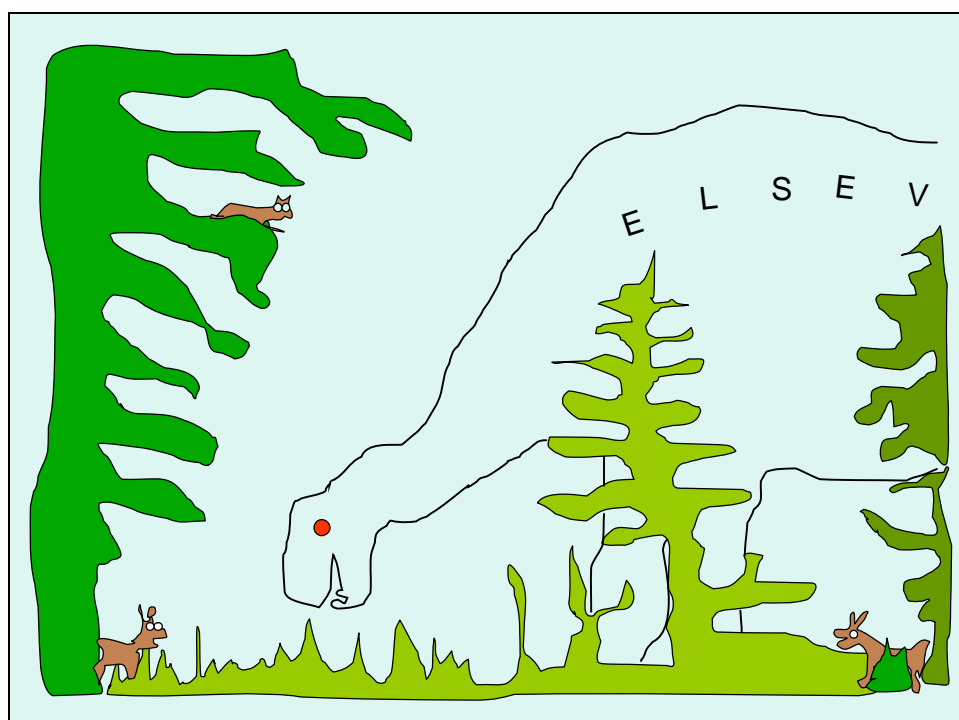
Note that the diagram is highly simplified. I have lumped all of these players in one cell without attempting to suggest the differences or complex interactions between them. The dividing line between the for-profit and the not-for-profit sectors is not always so sharp.

Although some content is transmitted directly from creators to users, or from creators to libraries and thence to users, currently most of the high value content flows from creators to for-profit aggregators. These stand accused of presenting serious obstacles to the transmission of content to users, particularly users in developing countries. For example:

- Steeply rising, unaffordable prices
- Unfair licensing schemes
- Double dipping (the client is made to pay twice, first as creator, then as user)
- Excessive profits
- Predatory intellectual property tactics^{34, 35}

Libraries and users in developing countries are most severely affected by these conditions, but even the wealthiest research libraries in the developed countries are affected. It is not surprising that alternatives are being developed, and their multiplication is made possible by rapid developments in information technology. A combination of new technology, outdated business models and greed threatens the survival of the current for-profit journal publishing industry. To use an evolutionary metaphor, in the changing environment new, smaller and more agile players are scurrying about and yapping at the heels of the lumbering dinosaurs (Figure 4).

Figure 4: An evolutionary analogy?



³⁴ Britz, J.J. & Lor, P.J. 2003. A moral reflection on the information flow from South to North: an African perspective. *Libri* 53(3):160-173.

³⁵ Lor, P.J. & Britz, J.J. 2005. Knowledge production from an African perspective: international information flows and intellectual property. *International information & library review* 37:61-76.

Various such alternatives are being discussed at this conference. The open access movement has attracted much attention and wide support from many quarters, including governments, grant-making bodies, and professional organisations. IFLA stated its position on open access in 2003, in its *IFLA Statement on Open Access to Scholarly Literature and Research Documentation*. The statement affirms the importance of comprehensive open access to scholarly literature and research documentation.

Focussing on content generated in Africa, we can distinguish between domestic African and international channels:

- Dissemination via “international” journals: this has been touched on. African authors who wish to publish internationally face various barriers, including bias.³⁷
- Domestic/African dissemination: Much has been written about the problems faced by African journal editors and publishers. The work of organisations such as INASP in building African journal publishing capacity is praiseworthy.³⁸ Problems remain in respect of the dissemination and reception of African journals outside Africa, but web-based publication offers greater exposure than conventional print.

The second major intermediary in the Mediation component is Libraries. The mediating roles of libraries include the following:

- Selection includes assessing the authenticity and integrity of the acquired content, and making price/benefit decisions
- Acquisition: This does not necessarily mean adding physical material to stock. In the case of digital content what is acquired may simply be access. This is in line with the “just in time” service management thinking. The idea that access is more important than ownership has been gaining acceptance for some time and is now common wisdom among librarians.
- Preservation: There are dangers to the “access over ownership” approach. If a library buys access to an electronic journal it may find that in terms of the licence conditions it has no access to back runs if the subscription is cancelled. Responsible aggregators no longer impose this sort of condition, but corporations, even very big ones, do not live for ever. What happens to the back files if an electronic publisher disappears? Much attention is currently being paid to options for the long-term preservation of digital scholarly content, e.g. legal deposit, “trusted digital repositories”^{39,40} and the LOCKSS (Lots of copies keep stuff safe)⁴¹ concept. All of these incur costs. These may be borne by the state,

³⁶ IFLA. 2003. IFLA statement on open access to scholarly literature and research documentation.

Available: <http://www.ifla.org/V/cdoc/open-access04.html>, accessed 2006-09-06.

³⁷ Lor, P.J. & Britz, J.J. 2004. Information imperialism: moral problems in information flows from South to North. In: *Information ethics in the electronic age: current issues in Africa and the world*; ed. by Tom Mendoza and Johannes J. Britz. Jefferson (North Carolina): McFarland: 15-21.

³⁸ INASP. 2006. Publishing support initiatives. Available: <http://www.inasp.info/psi/index.shtml>, accessed 2006-09-06.

³⁹ Research Libraries Group. 2001. Attributes of a trusted digital repository: meeting the needs of research resources. Draft for public comment. Available: <http://www.rlg.org/longterm/attributes01.pdf#search=%22trusted%20repositories%22>, accessed 2006-09-06.

⁴⁰ Hank, C. 2006. Digital curation and trusted repositories, seeking success: JDCL Workshop report. *D-Lib magazine* 12(7/8). Available: <http://www.dlib.org/dlib/july06/hank/07hank.html>, accessed 2006-09-06.

⁴¹ LOCKSS. 2006. Homepage, available <http://www.lockss.org/lockss/Home>, accessed 2006-09-06.

through the legal deposit responsibilities of a national library, or by a consortium of research libraries. If membership of a consortium is a prerequisite for sharing in the benefits of long-term preservation of digital content, most African libraries are likely to find themselves cut off from this material.

- Integrated access: the library is where analogue material, born-digital material and digitised material come together – these must be made accessible to users seamlessly through bibliographic, physical and digital organisation that enables users to discover and access resources regardless of their format or where they are held physically.
- Dissemination: libraries provide awareness and alerting services.
- Information literacy education: Librarians are ideally placed to provide this education, including education about copyright. Copyright education on university campuses is best not left to publishers' representatives or reproduction rights organisations, eager as they may be to offer it free of charge, since they commonly forget to mention details such as "fair use".
- User support: this includes motivating, conscientising, educating, and counselling users.

The integrated management of digital resources is becoming the key challenge for library managers.

Users

In an ideal world creators and users are two sides of the same coin. In the real world not all users are creators. The user base too, can never be taken for granted and continuing efforts are needed to expand it. In Africa this is important because in many countries the reading culture and information literacy are not well developed.

Development of a reading culture and a high level of information literacy depends on many factors, including:

- A good literacy rate
- Authors writing in the languages used by the population
- A well-developed domestic publishing industry
- Affordable access to imported books
- Effective country-wide distribution, through bookshops and a range of smaller, less formal points of sale for books
- Widespread availability of reading matter for all age groups, through a network of school, public and community libraries. I want to emphasise that a good system of university libraries cannot be developed in a country which lacks good libraries for children and the general public.
- Exposing pre-schoolers to reading (by parents and care-givers)
- Promotion of reading as an enjoyable activity during schooling
- Exposure of students to a wide range of information sources, including digital sources
- Activity-centred and resource-based teaching

These are all interlinked. The list is not exhaustive. Also, note that I have not said much here about availability of digital media – if anything, widespread availability of digital media such as computer games is likely to be detrimental rather than beneficial to the development of a reading culture. From my discussions with publishers' organisations I know that they would add additional factors to this list, specifically:

- Enhanced copyright protection for authors
- The establishment of a reproduction rights organisation

I am unenthusiastic about these two. In many developing countries enhanced copyright protection means extending the term and scope of copyright, and the main beneficiaries will be foreign rights holders (not necessarily authors) rather than the authors of the developing country itself. I would argue that piracy is at least partly the result of inequitable intellectual property regimes. The imposition in poor countries of copyright laws derived from developed countries, often achieved by the carrot and stick method of "free trade" agreements, is likely to stifle the book industry and inhibit the development of a reading culture in the poorer countries.⁴² A recent report from Consumers International stated that the World Intellectual Property Organisation (WIPO) has been providing misleading advice to poorer nations, encouraging them to expand the scope of copyright protection beyond what is required by the international copyright treaties they have acceded to, with the result that these nations fail to incorporate in their legislation all the available limitations and exceptions that are needed to open up access to knowledge for their populations. One of the effects of this is to raise the cost of copyrighted educational material.⁴³ Do we not need to grow the market first, before regulating it?

Finally, freedom of access to information and freedom of expression are essential for the development of a well-educated, information-literate population that is able to participate actively in the knowledge society. There are countries that aspire to develop as knowledge societies but severely restrict freedom of expression, particularly on the Internet. Hannes Britz and I have argued that these countries may conceivably make progress towards the information society, but that the knowledge society proper is beyond their reach. A knowledge society requires a high degree of creativity, intellectual curiosity, openness to divergent views and critical interaction, which depend on intellectual freedom.⁴⁴ IFLA in 2002 issued an Internet manifesto⁴⁵ stating that access to the Internet and all its resources should be consistent with the Universal Declaration of Human Rights, particularly article 19:

⁴² Britz, J.J., Lor, P.J. & Bothma, T.J.M. 2006. Global capitalism and the fair distribution of information in the marketplace: a moral reflection from the perspective of the developing world. *Journal of information ethics* 15(1):60-69.

⁴³ Consumers International. 2006. *Copyright and access to knowledge: policy recommendations on flexibilities in copyright laws*. Kuala Lumpur. Consumers International Asia Pacific Office. Available: http://www.consumersinternational.org/Shared_ASP_Files/UploadedFiles/C50257F3-A4A3-4C41-86D9-74CABA4CBCB1_COPYRIGHTFinal16.02.06.pdf, accessed 2006-09-04.

⁴⁴ Lor, P.J. & Britz, J.J. In press. Information Society, Knowledge Society: possible without freedom of information? – a moral and pragmatic reflection. *Journal of information science*.

⁴⁵ IFLA. 2002. The IFLA Internet manifesto. Available <http://www.ifla.org/III/misc/im-e.htm>, accessed 2006-09-05. The text of the Internet manifesto follows in an annexure.

Everyone has the right to freedom of opinion and expression; this right includes freedom to hold opinions without interference and to seek, receive and impart information and ideas through any media and regardless of frontiers.

Conclusion

This brings me to the end of the safari.

I have touched quite superficially on many aspects that are being dealt with more expertly and in greater detail in the course of this conference. I have pointed out a number of critical issues and problems, and you may well ask me what I think we should do about them. Without giving a prescription, I suggest the following desiderata:

- Capacity building at all levels, from undergraduates to heads of department
- Widespread promotion of information literacy
- More general sensitivity to scholarly communication issues, including ethical issues and intellectual freedom
- Greater awareness of the continuing central role of academic and research libraries, whether digital or hybrid
- Acceptance that analogue media will be with us for the foreseeable future
- Much greater awareness of the preservation challenges posed by analogue and digital content alike
- Hard-headed insistence on fairness in dealings with the for-profit sector
- Active support for the development of alternative publication channels
- Sound institutional management
- Well coordinated national policies relating to all the components of the system
- Ongoing international advocacy for equity in intellectual property laws, treaties and trade agreements, as is conducted by IFLA's Committee on Copyright and other Legal Matters at WIPO, WTO, etc.

I hope that I have been able to give an overview of the range of factors that facilitate or obstruct the bridging of the North-South/South-North divide in scholarly communication. In particular, I hope that I have been able to demonstrate that scholarly communication is a complex phenomenon, with both digital and analogue dimensions, that we need to address holistically.

IFLA Statement on Open Access to Scholarly Literature and Research Documentation

IFLA (the International Federation of Library Associations and Institutions) **is committed to** ensuring the widest possible access to information for all peoples in accordance with the principles expressed in the [Glasgow Declaration on Libraries, Information Services and Intellectual Freedom](#).

IFLA acknowledges that the discovery, contention, elaboration and application of research in all fields will enhance progress, sustainability and human well being. Peer reviewed scholarly literature is a vital element in the processes of research and scholarship. It is supported by a range of research documentation, which includes pre-prints, technical reports and records of research data.

IFLA declares that the world-wide network of library and information services provides access to past, present and future scholarly literature and research documentation; ensures its preservation; assists users in discovery and use; and offers educational programs to enable users to develop lifelong literacies.

IFLA affirms that comprehensive open access to scholarly literature and research documentation is vital to the understanding of our world and to the identification of solutions to global challenges and particularly the reduction of information inequality.

Open access guarantees the integrity of the system of scholarly communication by ensuring that all research and scholarship will be available in perpetuity for unrestricted examination and, where relevant, elaboration or refutation.

IFLA recognises the important roles played by all involved in the recording and dissemination of research, including authors, editors, publishers, libraries and institutions, and advocates the adoption of the following open access principles in order to ensure the widest possible availability of scholarly literature and research documentation:

1. **Acknowledgement** and defence of the moral rights of authors, especially the rights of attribution and integrity.

2. **Adoption** of effective peer review processes to assure the quality of scholarly literature irrespective of mode of publication.
3. **Resolute opposition** to governmental, commercial or institutional censorship of the publications deriving from research and scholarship.
4. **Succession** to the public domain of all scholarly literature and research documentation at the expiration of the limited period of copyright protection provided by law, which period should be limited to a reasonable time, and the exercise of fair use provisions, unhindered by technological or other constraints, to ensure ready access by researchers and the general public during the period of protection.
5. **Implementation** of measures to overcome information inequality by enabling both publication of quality assured scholarly literature and research documentation by researchers and scholars who may be disadvantaged, and also ensuring effective and affordable access for the peoples of developing nations and all who experience disadvantage including the disabled.
6. **Support** for collaborative initiatives to develop sustainable open access* publishing models and facilities including encouragement, such as the removal of contractual obstacles, for authors to make scholarly literature and research documentation available without charge.
7. **Implementation** of legal, contractual and technical mechanisms to ensure the preservation and perpetual availability, usability and authenticity of all scholarly literature and research documentation.

This statement was adopted by the Governing Board of IFLA at its meeting in The Hague on 5th December 2003.

Definition of open access publication:

An open access publication is one that meets the following two conditions:

1. The author(s) and copyright holder(s) grant(s) to all users a free, irrevocable, world-wide, perpetual (for the lifetime of the applicable copyright) right of access to, and a licence to copy, use, distribute, perform and display the work publicly and to make and distribute derivative works in any digital medium for any reasonable purpose, subject to proper attribution of authorship, as well as the right to make small numbers of printed copies for their personal use.
2. A complete version of the work and all supplemental materials, including a copy of the permission as stated above, in a suitable




standard electronic format is deposited immediately upon initial publication in at least one online repository that is supported by an academic institution, scholarly society, government agency, or other well-established organisation that seeks to enable open access, unrestricted distribution, interoperability, and long-term archiving.

An open access publication is a property of individual works, not necessarily of journals or of publishers.

Community standards, rather than copyright law, will continue to provide the mechanism for enforcement of proper attribution and responsible use of the published work, as they do now.

This definition of open access publication has been taken from A [Position statement by the Wellcome Trust in support of open access publishing](#) and was based on the definition arrived at by delegates who attended a meeting on open access publishing convened by the Howard Hughes Medical Institute in July 2003.

Associated documents:

-  [Press Release: IFLA supports Open Access movement](#)
-  [Glasgow Declaration on Libraries, Information Services and Intellectual Freedom](#)
-  [Position statement by the Wellcome Trust in support of open access publishing](#)

Available: <http://www.ifla.org/V/cdoc/open-access04.html>, accessed 2006-09-06.