

OWNING OUR FUTURE: TWENTY-FIRST CENTURY LIBRARIANS

THE 2009 ELIZABETH W. STONE LECTURE

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ABSTRACT

Our skills in managing and accessing information and knowledge are vital to social and economic development. They enable new solutions to be applied – from new seeds to controlling pests, from new materials to remediating polluted regions, from revitalising ancient cultures and languages to promoting new ventures. But we need to apply them differently, rethinking our professional identities, reforming our organisations, re-imagining our potential and opening our hearts and minds. In these ways we will regenerate our professional identities, attract talented colleagues, build great teams, inspire leadership and continually develop.

KNOWING WHO WE ARE

I want to first talk about identity because it is crucial to know who we are. I start by saying: “Welcome to Bologna. We acknowledge the traditional owners of this land, the Villanovians.” This will sound strange to you because you and I know Bologna as the capital city of Emilia-Romagna in the Po Valley and home of the oldest university in the Western world, the *Alma Mater Studiorum*, founded in 1088.

But I come from Australia, one of the modern world’s post colonial nations which, more than a century after it became a modern democratic nation, is attempting to come to terms with its doppelganger history of settlement and dispossession. Many Australians feel it is important to recognise the prior owners and cultural significance of the land on which we have built our houses, businesses and universities. So on formal occasions at the University of Technology, Sydney and at many other public events, we acknowledge the traditional, indigenous, owners of the land on which we meet and their elders, the Cadigal people of the Eora nation in the case of our central Sydney campus. This acknowledgement goes some way towards cultural reparation and is a facet of a most important project to move beyond the sometimes terrible history of the last two centuries since the European colonisation of Australia into a shared future in which we can celebrate

both our rich indigenous heritage of more than four hundred centuries and the many cultural riches that have come to us from across the world over the last two centuries.

Here in Bologna it seems odd to acknowledge the Villanovians because twenty-five centuries have passed since they were farmers and shepherds in this area.¹ They were replaced by the Etruscans who were in turn conquered by the Boii, a Gallic tribe, leading to the establishment in about 189 BC of the Roman colony Bononia. That was a long time ago. But to really know this region, it is important to recognise and understand that history which has doubtless left traces in its landscape, language and even cuisine.

It is similarly important to understand the deep roots which shape other aspects of our modern world including, in the context of this conference, our profession. Those roots continue to nourish our professional identity and give us our place in the modern world. We are long removed from our predecessors who archived clay tablets in Babylon or collected early divinations on bone fragments in China but the continuities of our concern with access to information and its long term preservation remain at the core of our profession. Not that our profession is static, concerned only with memorialising the past. It is, and should be, a dynamic profession that responds to the needs of the contemporary world: 'moving in, moving up, and moving on' as the theme of this conference puts it.

A CHANGING WORLD: FROM WSIS TO THE GFC

Our Janus-like commitment to looking back to preserve knowledge and looking forward to its wider availability is never more important than in today's information society. As the extent and ramifications of the Global Financial Crisis (GFC) have become increasingly apparent over the last couple of years, we have been forcefully reminded that we live in a world that is saturated in information, in a world in which good, well understood and well managed information can mean the difference between prosperity and penury. The GFC snowballed from poor prudential practice in banks and other financial institutions.² We are told that it started to unravel when it became apparent that many banks had backed through financial derivatives the so-called "subprime" or very low equity loans, which were unlikely to be repaid. Intended to assist needy Americans to buy housing, those subprime loans were bundled into derivative instruments which masked their high risk to lenders who should have been more cautious. Coupled with high levels of loans to equity for many banks and corporations, this situation became a house of cards which began to tumble, leading to many losses and growing unemployment. At root, it was a question of insufficient knowledge about the bases of the loans and their inherent risks: among the myriad data, the information which might have encouraged more prudent investment was not communicated, or at least well hidden.

It is a graphic and painful example of the importance of information to our global community. The crisis has extended from the United States to affect all nations from those with a high concentration of financial organisations, the United Kingdom in particular, to the manufacturing behemoth of China, to poor countries such as Bangladesh.³ This confirms, if we needed any confirmation, that we truly live in a global information society and demonstrates that skilled management of information is vital to its effective operation.

That tenet was at the core of the World Summit on the Information Society (WSIS) in which IFLA participated from preliminary meetings early in 2002, to the summit meetings in Geneva at the end of 2003 and Tunis at the end of 2005, and continuing on into the current negotiations on Internet governance. WSIS was a crucial watershed which recognised the centrality of our concerns with information, knowledge and their management and accessibility to the future of the planet. The summit offered a process through which the developmental goals of the United Nations Millennium Declaration⁴ could be linked to the application of technology, the importance of culture and human rights including, particularly, the right to know which we hold so dear. The outcomes, agreed by all the governments, were expressed in the *Declaration* and *Plan of Action* agreed in Geneva and the Tunis *Commitment* and *Agenda for the Information Society* adopted two years later.⁵ They established eleven action lines to be coordinated by intergovernmental organisations:

- C1. The role of public governance authorities and all stakeholders in the promotion of ICTs for development
- C2. Information and communication infrastructure
- C3. Access to information and knowledge
- C4. Capacity building
- C5. Building confidence and security in the use of ICTs
- C6. Enabling environment
- C7. ICT Applications:
 - E-government
 - E-business
 - E-learning
 - E-health
 - E-employment
 - E-environment
 - E-agriculture
 - E-science
- C8. Cultural diversity and identity, linguistic diversity and local content
- C9. Media
- C10. Ethical dimensions of the Information Society
- C11. International and regional cooperation

These action lines established a program for the global community to pursue over the decade from the 2005 Tunis meeting to the UN Millennium goals deadline of 2015 – a decade that is now almost half completed. The WSIS action lines encompass the information aspects of the enormous challenges faced by humanity in environmental sustainability and the underlying science, in health and agriculture, in education and industrial development. It is a much broader program than was envisaged by the initiators of WSIS who focussed on information and communication technologies (ICTs) and the accompanying infrastructural issues. As civil society organisations, including IFLA, and sympathetic governments demonstrated through the WSIS process, the vital matters to be addressed lie in social, cultural, education, linguistic and ethical concerns – issues of direct concern to the library and information sector.⁶

OUR SKILLS NEEDED MORE THAN EVER

How is our profession positioned in the face of these major global concerns? Are we able to contribute to the urgently needed, worldwide response to the two headline examples of the importance of information: the imminence of significant climate change and the immediate threat to livelihoods posed by the GFC? Is our profession relevant to the needs of the twenty-first century?

As the example of the GFC demonstrates, there is a pressing need for relevant and effective management of information and an appreciation of how knowledge is constructed, communicated and mediated by culture. Understanding and responding both to the big challenges we face, including the GFC and climate change, demand the capacity to manage and apply very large amounts of information and to make them available not only to the scientists but also to policy makers and the general public. Effective, culturally appropriate knowledge management and access to comprehensive information are central to determining how and how quickly we – humanity, on our one small globe – can respond to the threat of environmental catastrophe.

We are not the analysts or the journalists but, through our international network of libraries and information centres, we have a big responsibility to ensure that all needed information is readily available without economic or other hindrance to those who need it and that unpalatable data and views are not suppressed. However, we are not that well prepared to fulfil this responsibility in the information age. As Rahman has shown in relation to Bangladesh, there are enormous disparities in access to information.⁷ He cites a selection of the World Bank's world development indicators to demonstrate the reality of the digital divide as is reproduced in Table 1. This divide is a reality with which libraries are equipped to engage, as Rahman notes, and with which we must engage if all the peoples of the world are to obtain the information they need to live happy and fulfilled lives – a necessary precondition for peace and harmony as the history of Europe over the last century has demonstrated.

Table 1: Sample ICT statistics on world (per 1000 people)

Country	Population (millions)	Radios*	Households with TV sets	Phones		PC	Internet user
				Fixed	Mobile		
Albania	3.1	260	9.0	82	356	12	24
Denmark	5.4	1,400	9.8	643	956	656	696
Sweden	9	2,811	9.4	767	1034	763	756
France	60.4	950	9.5	561	738	487	414
Germany	82.5	570	9.4	661	864	561	500
UK	59.9	1,445	9.9	563	1021	599	628
USA	293.7	2,109	9.7	606	617	749	630
Australia	20.1	1,996	9.6	541	818	682	646
New Zealand	4.1	991	9.8	443	745	474	788
Bangladesh	139.2	49	2.9	6	31	12	2
India	1,079.7	120	3.7	41	44	12	32
Sri Lanka	19.4	215	3.2	51	114	27	14
Pakistan	152.1	105	3.9	30	33	5	13
Japan	127.8	956	9.9	460	716	542	587
Malaysia	24.9	420	9.8	179	587	197	397
Singapore	4.2	672	9.8	440	910	763	571
Source: *World development indicators 2005 World development indicators 2006							

Delivering on that promise of “all information for all” is a massive project which will demand innovative application of the skills of all elements of our profession including school and public librarians, information scientists, metadata and system specialists, and those who develop information literacy.

But many of us continue to live in the past, in the pre-cyber world. Our notions of collection, for example, often continue to be based on the books, journals, maps and other resources we can house in a building or buildings. We find it difficult to conceptualise, let alone describe and manage, a ‘collection’ which is a reflection of our clients’ interests and needs, a ‘collection’ that draws on the bibliosphere and blogosphere as necessary to fulfil those interests and needs but is not a tangible presence in our library buildings. Yet that cyber world is precisely what our clients inhabit and use. Both our experience and formal studies show us that they – and we – first go to Google or other search engines or to social networking technologies such as Facebook which combine accessibility with peer involvement. Having commenced to discover useful materials in those tools, they may zero in to needed information via the tools we make available – or they may pass us by.

Understanding those emergent behaviours is crucial. At the University of Technology-Sydney (UTS), for example, LIBQUAL+ data in 2008 told us that undergraduate students report the patterns of use shown in Figure 1 while the use by faculty is in Figure 2. These patterns confirm that both, and postgraduate students

whose usage is very similar to faculty, tend to use the Internet more often than our discovery tools when seeking information.

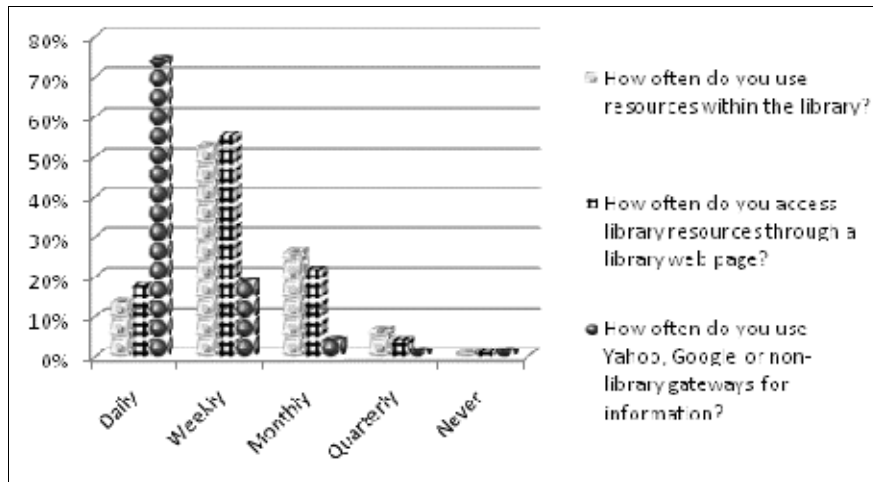


Figure 1: UTS undergraduate students' patterns of use reported via LIBQUAL+ 2008 (n= 740)

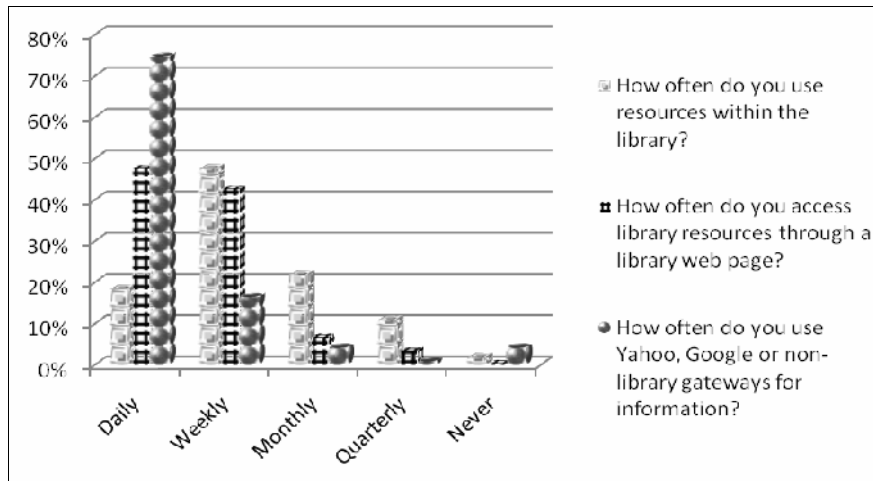


Figure 2: UTS faculty patterns of use reported via LIBQUAL+ 2008 (n=122).

This tells us that it is “oh, so twentieth century” to focus on our catalogues and in-house collections and tools when our clients are out in the Web. We too have to be out in the Web, exposing our resources and capabilities to harvesting and linking via del.icio.us, Facebook, Twitter, YouTube, Flickr, etc and bringing the power of

those tools into our services. It is not merely a question of exposing resources – collections – but also promoting them and developing information literacy so that users will be better equipped to discern what will be of value to them.

Of course, different libraries have different purposes. The environment I work in, the academic library, is quite different from a public library, a special library or information service, and a national library. As we are all aware, national libraries have a responsibility to maintain the documentary records of their countries' histories and cultures and may also drive aspects of library and information service provision. Public libraries have a much tighter focus on the needs and well being of the communities they serve, just as special libraries and information services support the enterprises to which they belong. Academic libraries focus on assisting learning, scholarship and research but sometimes also have a commitment to building and maintaining rich collections. These are all important foci but they cannot be interpreted in the same way as they would have been less than a decade ago.

For all of us, the world has changed. We truly live in an information society. It may not be as evident in a country in sub-Saharan Africa or on the pampas of Argentina as it is in a European economy such as Italy but all are affected by the interweaving of communication and information technologies and policy and regulatory regimes that has created the shimmering, ever changing, now-you-see-it now-you-don't, information society. That magic carpet on which we fly ever so fast into the future profoundly affects our employment, our democracies, even the food we eat.

We are more than ever conscious of the rapidity and unpredictability of change, recalling the provocative question "Does the flap of a butterfly's wings in Brazil set off a tornado in Texas?" suggested by a colleague for Edward Lorenz's 1972 address at the American Association for the Advancement of Science.⁸ The phrase has found its way into popular culture as a metaphor for the inconsequential origins of major events. The original point made by Lorenz, who died last year, was to characterise the sensitive interdependence of elements of complex systems by highlighting the fact that very small changes in parameters can produce dramatic changes in outcomes. Nearly four decades since the question was phrased, we live in a world in which small stimuli can be almost immediately have large effects elsewhere.

The subprime mortgage problem in the USA may have been a rather heavy butterfly but no-one foresaw that it could bring down the world's largest financial institutions, undermine world trade and threaten the livelihood of so many across the world, from merchant bankers in London to manufacturing workers of China and the struggling in Bangladesh. That interdependence is founded on information, the stuff in which we deal.

In this context, our skills in managing and accessing information and knowledge are ever more vital to social and economic development. They enable new solutions to be applied – from new seeds to controlling pests, from new materials

to remediating polluted regions, from revitalising ancient cultures and languages to promoting new ventures. But we need to apply them differently, rethinking our professional identities, reforming our organisations, re-imagining our potential and opening our hearts and minds both to these great needs and the tremendous professional opportunities they entail.

It is no longer sufficient to focus on developing great collections of printed and archival materials, describing them accurately in catalogues and working to bring clients to our libraries. We have many centuries of achievement in those domains and we must continue to care for the collections we built up when that was the most effective way of transmitting knowledge through time and to broader audiences. But that is no longer enough because knowledge and information have now escaped from the control of the expert and the vaults of our memory institutions. It is now a global currency which all can create, use, share and transmit for humanity's betterment or, sometimes, ill.

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So the skills which we have developed to such a high level need to be reinvented in this very different world. We need to reconceptualise the domain of knowledge in which we deal and what that means for our skills. The great revolution in information handling which we achieved by harnessing standardisation through the Anglo American Cataloguing Rules, classification systems, the MARC record and other protocols, by employing technology, and by establishing national and global bibliographic systems has to be reapplied in this new connected world.

And we are doing so. The IFLA-CDNL Alliance for Bibliographic Standards (ICABS) was established in 2003 by IFLA and the Conference of Directors of National Libraries with the commitment of several leading national libraries (National Library of Australia, Library of Congress, British Library, Koninklijke Bibliotheek, Die Deutsche Bibliothek, and Biblioteca Nacional de Portugal) to assure ongoing coordination, communication and support for key activities in the areas of bibliographic and resource control for all types of resources. It places particular emphasis on metadata, persistent identifiers, and interoperability standards and has supported, to take a most important example, the completion of the Functional Requirements for Bibliographic Records (FRBR).

Through taking such initiatives, we are beginning to reinvent our institutions. Several national libraries, including those in Australia, Sweden, and The Netherlands are seeking to record the digital realm through preserving the Web domains of interest to their countries and archiving digital publications. The National Library of New Zealand/Aotearoa initiated and drove New Zealand's national digital strategy.⁹

These initiatives are having profound effects. The National Digital Strategy in New Zealand, for example, is changing the way New Zealanders think about their

nation and its place in a digital world where the geography that has consigned their islands to be distant from the major centres of cultural and business activity has become much, much less important. As shown in Figure 3, the digital strategy expresses a vision of leadership for New Zealand as a “prosperous, sustainable and vibrant society” that enjoys a healthy environment, high value economy and vibrant communities and culture. Although the diagram does not identify libraries as key enabling organisations, the enablers it lists – the four ‘Cs’ of Connection/ Confidence/ Capability/ Content clearly point to the central role of even handed social institutions such as libraries and information services. In the bicultural context of Aotearoa/ New Zealand, libraries join with museums and other social and cultural institutions to progress that vision of community harmony and prosperity. The National Library of New Zealand/ Te Puna Mātauranga o Aotearoa itself pursues these broad goals in many ways in a country with a bi-cultural foundation and a multicultural national community. The Library’s plan for responsiveness to Māori is entitled “Te Kaupapa Mahi Tahi: a Plan for Partnership,” a title which signals the importance of matching our skills to community needs.¹⁰

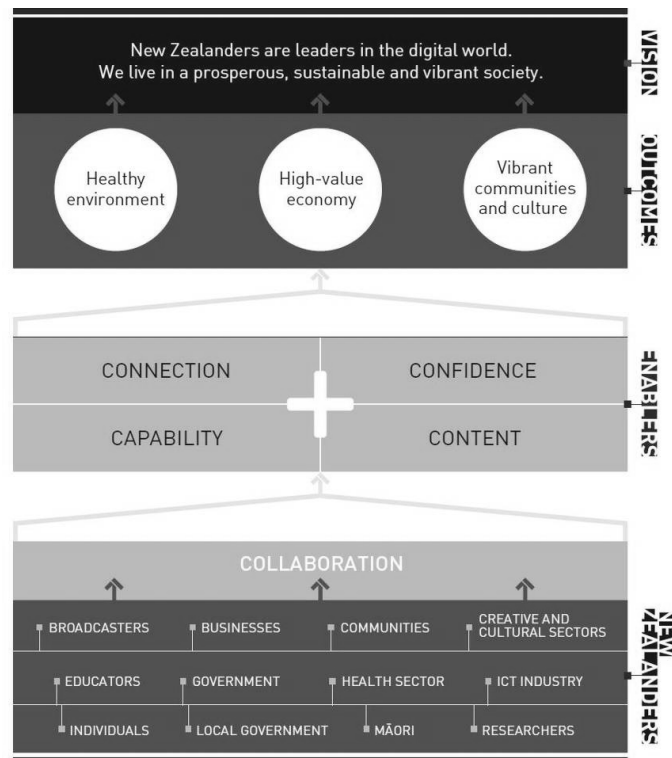


Figure 3: New Zealand National Digital Strategy

This example from one small and geographically isolated nation illustrates the profound challenges that we face. Those challenges lead us to reconsider our pre-occupations and to identify new opportunities which arise in the digital information environment. We need to embrace those opportunities if we are not to become irrelevant museums of highly processed wood pulp, as a colleague information technology director described our business.

Other libraries are engaging with other issues such as initiatives in digital publication through open access and with data curation, as we are at UTS. The UT-SeScholarship initiative has three legs to its stool: publication of scholarly journals, conference proceedings and books through UTSePress; supporting research collaboration and dissemination of findings through UTSiResearch; and curating research data in the social sciences through the Australian Social Sciences Data Archive with a special responsibility to develop a national indigenous data archive, ATSIDA. By engaging with those areas, we hope to contribute to influencing the shape of information provision which has been distorted by the commodified publishing model in which the major multinational publishing houses have taken control not only of scholarly publishing but of the means of assessing its quality. Companies such as Thomson Reuters and Elsevier have vertically integrated by seeking to control editing, publishing and assessment of value, the key elements shown in Figure 4. This has created a profitably closed system of scholarly journals while monographs have largely fallen by the wayside. The open access movement, led by such consortia as the Association of Research Libraries' SPARC program, has begun to make inroads into that profitable, monopolistic model but there is a long way to go. We must recognise such challenges and engage with them as may be appropriate for our organisations and our professional roles but we cannot ignore them. To ignore them places not only those issues at peril but also weakens our profession which comes to be seen as irrelevant, mere curators of what others produce rather than vital creators and navigators in the information realm.



Figure 4: The scholarly journal publishing system

AN AGENDA FOR TWENTY-FIRST CENTURY LIBRARIES

In a paper last year, I proposed an agenda for twenty-first century academic libraries¹¹ which must address:

1. *Research discovery and curation*
 - facilitating eResearch including both the promotion of sophisticated literature and data discovery systems and the implementation of techniques for the curation of research data
2. *Learning discovery and skills*
 - supporting eLearning and the development of human capital not just in the instrumental vocational sense but to enable the realisation of the human potential for creativity
3. *Capacity building*
 - developing the systems and staff of academic libraries to respond to continually changing needs of universities, to continually ‘reinvent’ the academic library adaptively while remaining true to its central roles
4. *Shaping the information society*
 - contributing to the drive to regain balance in intellectual property regulation, to promote ethical practice and to protect intellectual freedom which are all essential foundations for freedom and integrity in scholarship.

Although they focus specifically on the university library environment in which I work, the four challenges in this agenda extend across our profession. We must all be concerned with discovery in a world awash in information and must recognise that we have a significant role to play in supporting the essential need for ongoing learning by all in a fast changing world. By making those contributions we help to shape the information society so that it will benefit all but we can only do so if we continue to build our capacity and continually reinvent ourselves, individually, and our profession, collectively. So our agenda for twenty-first century libraries continues our core commitments to curation – preserving and carrying forward the knowledge of the past and present, to discovery – finding information not only in our ‘collections’ but in the broad realm of information, and to society – but with a much broader and more urgent remit.

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We need to remember always that we deal in information and that our skills lie in making information available through time and across borders, the borders of place and time and those of the mind: geographic, political, linguistic, cultural and other borders. It is those avocations which lie at the heart of our profession, not the Dewey, UDC and other tools which we use. Our success in building the international bibliographic network has cut us off from the broader world of information

which has developed so dramatically, especially over the last decade since the invention of the World Wide Web.

We are no longer the primary keepers of the bibliosphere and it – the bibliosphere – is not longer limited essentially to the books, journals, manuscripts and other records kept in libraries and archives. Those resources are still important but have been immersed in an ocean of other materials – the interactive contributory blogosphere expressed via Wikipedia, – by means of which individuals, groups, corporations, governments and every form of human expression expose what they chose. No longer is information beyond current reportage, the personal and tacit safeguarded and rationed out to users almost exclusively by our institutions. It is now posted on the dimensionless democracy walls of cyberspace in its splendid anarchic tapestry of official pronouncements, factual data, educational resources, commercial activity, creativity, self expression, and demagoguery. We must throw open our doors and move out into the highways and byways of the global information culture to cultivate a new profession which steps out comfortably in a borderless information world, no longer confined to curating formed collections in shuttered libraries.

REGENERATING THE PROFESSION

In many countries we have seen a drop off in the number and quality of entrants to the profession and, as a result, many library and information studies schools have closed while others have reinvented themselves as “iSchools” or “information and knowledge management” programs. While worthy, these changes miss the point: they focus on the profession as a body of knowledge and skills, not as an avocation with a predisposition of values. That is, they focus on the mind not the heart. We need both. We need a highly skilled profession which is quick to embrace the opportunities of new technologies and new approaches but it must also be a profession which is important to society. We do not wish to be like the nineteenth century milliners who disappeared in the face of industrialised clothing production with only a few remaining as “bespoke” practitioners making curios and items for the rich and privileged.

To avoid the death of our profession, we need to hold tight to our values for we are one of the few professions – along with our colleagues in archives and museums – to take the long view about the need to preserve and make available without bias the knowledge of the past, present and the future. But we need to situate those values within a borderless information world in which we cannot hide in our institutions but must become “barefoot librarians” of the cyber street. To do this, we need to be very active and to encourage and mentor enthusiastic people into our profession, taking the wisdom of the experienced and the energy and curiosity of novices to create a new, highly communicative profession. To do so demands new organisational structures which no longer inhibit invention and exploration

through hierarchy and blockages. These are structures that are tolerant and resilient, able to foster innovation and accept occasional failure. They are structures which attract, develop and retain good people in positive, team based work environments but are also supportive of individual initiative and creativity, avoiding the tyranny of conformity to the norm.

Those new organisations need to be supported by adventurous professional associations which will break down professional isolation and reinforce values. Not associations which separate us into librarian, school librarian, archivist, curator, information scientist and many other finer distinctions but associations which bring us together to delineate and celebrate our identity. Removing the dead hands of the old and privileged, those associations will give new opportunities to the young and vibrant and help new leaders to develop. Not just leaders by position but leaders “in place,” leaders at all levels of our profession and our organisations, leaders who lead by initiative and by example, not by direction.

This will not, of course, happen easily. We need to continue to apply and further develop our methods and standards. But we need to apply them differently, re-thinking our professional identities, reforming our organisations, re-imagining our potential and opening our hearts and minds. In these ways we will regenerate our professional identities, attract talented colleagues, build great teams, inspire leadership and continually develop.

We need the wisdom and skills of those who have contributed so much to our profession. But they cannot continue to sit in the captain’s seat preventing others from navigating us into this new information society. We need to transfer their skills, pass on knowledge to their successors but also move them into new roles or out of the profession so that they achieve professional renewal along with the profession itself. This process will require newer professionals to have skills in managing up as they shape the profession through leadership in place by changing the views of those in positions of power and capturing their power to create a new, vibrant profession which no longer hides behind its institutional walls but is clear about its identity as the foremost profession of the twenty-first century information society.

“FROM LITTLE THINGS, BIG THINGS GROW”

An Australian protest song by Paul Kelly and Kev Carmody, “From little things big things grow”¹² tells the story of Vincent Lingiari and the strike by Gurindji stockmen that led to the Commonwealth Aboriginal Land Rights (Northern Territory) Act 1976. The Act gave indigenous people freehold title to traditional lands in the Northern Territory and the power of veto over mining and development on those lands and, in many ways, began the long process towards proper recognition of Australia’s indigenous peoples.

That small step of taking a stand in a very remote region and its momentous consequences should encourage us. From little things, such as our 2004 establishment of UTSePress, big things such as major change to scholarly publishing can grow. But it takes all of us to make a start, to take a stand. If we do so, we can truly own the future which is rightly ours, not as “people of the book” but as the information people, the central profession of the information society. Here in Bologna, home of the oldest university in the Western world, let us make a commitment to owning our future.

REFERENCES

1. Hencken HO. *Tarquinius, Villanovans, and early Etruscans*. Cambridge, MA: Peabody Museum, 1968.
2. Shiller RJ. *The subprime solution: how today's global financial crisis happened, and what to do about it*. Princeton, NJ: Princeton University Press, 2008.
3. Rahman M. Global financial crisis: possible implications for Bangladesh. [Presentation]. *Workshop on the Global Financial Crisis and developing countries, 11 February 2009*. London: Overseas Development Institute, 2009. <http://www.odi.org.uk/events/report.asp?id=444&title=global-financial-crisis-developing-countries>
4. United Nations. *Millennium Declaration* (General Assembly Resolution 55/2.). New York, United Nations, 2000. <http://www.un.org/millennium/declaration/ares552e.htm>.
5. World Summit on the Information Society, Geneva, 10-12 December 2003, and Tunis, 16-18 November 2005, <http://www.itu.int/wsis/index.html>.
6. IFLA, Byrne A. *Promoting the global information commons: a commentary on the library and information implications of the WSIS Declaration of Principles “Building the information society: a global challenge in the new millennium” (Document WSIS/PC-3/DT/6)*. The Hague: IFLA, 2004; and *Promoting the global information commons: a response to the WSIS Declaration of Principles from the library and information sector*. The Hague: IFLA, 2004. <http://www.ifla.org>.
7. Rahman MA. Access to global information – a case of digital divide in Bangladesh. *Proceedings 28th Conference of International Association of Technological University Libraries, KTH The Royal Institute of Technology, Stockholm, 11-14 June 2007*. Stockholm: IATUL, 2007. http://dlist.sir.arizona.edu/2220/01/Rahman_A_full.pdf
8. Obituaries: Edward Lorenz, father of chaos theory and butterfly effect, 90. *MIT TechTalk* 2008;52(24):2. <http://web.mit.edu/newsoffice/2008/techtalk52-24.pdf>

9. New Zealand Digital Strategy. <http://www.digitalstrategy.govt.nz> (accessed 17 March 2009).
10. Mohi JH, Roberts WD. Delivering a strategy for working with Māori, and developing responsiveness to an increasingly multicultural population: a perspective from the National Library of New Zealand. *IFLA Journal* 2009;35(1):48-58. <http://ifl.sagepub.com/cgi/content/abstract/35/1/48>
11. Byrne A. The local in the global: academic and research library services in the information society. Keynote at *Think Global, Act Local: SCONUL Annual Conference, Edinburgh, 11-13 June 2008*.
12. Paul Kelly and the Messengers. *Comedy* [album]. Sydney: Mushroom Records, 1991.