



Date : 20/07/2006

Whose Model, What Context?: Cultural Bias And The Nested Model Of Context Stratification For Information Seeking And Retrieval

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Meeting:	145 Division of Education and Research
Simultaneous Interpretation:	Yes

WORLD LIBRARY AND INFORMATION CONGRESS: 72ND IFLA GENERAL CONFERENCE AND COUNCIL

20-24 August 2006, Seoul, Korea
<http://www.ifla.org/IV/ifla72/index.htm>

Abstract

Models of information seeking and retrieval (IS&R) can carry cultural bias into local research sites. This paper examines the socio-cultural bias of the cognitive approach and the ideological bias of 'remote contexts' in Peter Ingwersen and Kalervo Järvelin's nested model of context stratification for IS&R. Examples are drawn from experience with South Africa's Promotion of Access to Information Act 2 of 2000. Ways of modifying the nested model of context and of sensitizing educators and researchers to hidden biases in library concepts are recommended.

Introduction

It is usually easier to be destructive than constructive in academic research. And if one is from a developing country in the south, an appeal to historical injustice and moral outrage often make critique of theories and models from the north more compelling. But this is dishonest, divisive and ultimately a waste of time. In South Africa we are often our own worst enemies when we uncritically accept and apply theories and models developed elsewhere, and when we reject them out of hand because they are foreign and out of touch with local realities.

The politics and economics of knowledge production in LIS require from researchers in developing countries a kind of engagement that is both critical and self-critical – critical of how unequal material resources shape the production and consumption of theories and models, and self-critical of how these theories and models shape local research agendas. This is nicely demonstrated in the case of Peter Ingwersen and Kalervo Järvelin's nested model of context stratification for information seeking and retrieval (IS&R).

This model emanates from the well-endowed LIS departments in North American and European countries. It consolidates more than a decade of research in IS&R with a view to proposing a new integrated framework for future research (Schneider, 2006). The model was introduced and discussed in the past few years at seminars and workshops in the United States and some European countries. More significantly, the authors of the model also made presentations at a ProLISSA conference in South Africa in October 2004 (Ingwersen, 2004; Järvelin, 2004a), and it was work-shopped in Brazil in August 2005 (Information retrieval, 2005).

In South Africa, the model's association with the ProLISSA 2004 Conference is significant. This Conference continued the DISSAnet project that has been funded by the Danish International Development Agency (DANIDA) since 1998, and was started as an initiative of Irene Wormell and Peter Ingwersen (then associated with the Royal School of Library and Information Science in Copenhagen, Denmark), assisted by Rocky Ralebipi of the University of Venda and Theo Bothma of the University of Pretoria in South Africa (Bothma, 2004).

This project aimed at developing the research capacity in information science of LIS researchers in South Africa. From 1998-2000, special courses were offered to 20 Masters and doctoral students, of which a few worked closely with leading European information science researchers to advance their studies. The connection of patronage and intellectual outlook is not always self-evident, and did not necessarily translate into discipleship, neither dutiful attachment to this model's conceptual commitments.

The authors of the model, moreover, invite wider participation by interested researchers in an effort to extend IS&R research. They admit that their model may provide ingredients for developing conflicting approaches to Information Science since many approaches are welcome and possible, and "Progress may be achieved also through disagreement" (Ingwersen and Järvelin, 2005: 379).

Models usually become building blocks for theories, and in the case, for example, of information behavior theories they usually guide and direct research "to the point of producing something closer to a true theory" (Bates, 2005: 3). What is therefore necessary and indeed timely is constructive engagement with the model and its theoretical underpinnings so that local research trajectories become possible. This is the aim of my paper.

The cognitive approach and socio-cultural bias

The model is ambitious in trying to deal with technological, human behavioral and cooperative aspects in a coherent way. And reviewer Tom Wilson (2005) says that while it may not satisfy every critic, at least it has the virtue of coherence. But he notes, ironically, a schism between a dominant positivist paradigm in information retrieval research and a dominant qualitative and interpretative paradigm in information behavior research. The integration of these paradigms in the model implies an essential tension that manifests, for example, in an uneasy mix of algorithmic and affective relevance.

More relevant to the purpose of this paper is the question whether the cognitive approach, as conceived by the model's authors, can truly meet the criticism of individualism and non-sociality. Criticism of the cognitive approach is well-documented (Hjørland, 2006), and is captured neatly as follows: "The cognitive viewpoint offers no concrete and obvious solutions to

the question of how to conceptualize and study the socio-cultural context of information processes” (Talja 1997: 67).

This is borne out in the portrayal of an information seeker acquiring information from ‘man-made’ signs in natural settings, as an element of the IS&R model (Ingwersen and Järvelin, 2005: 51-2; 273). This process is called the *Okavango* (sic) *Pursuit* and draws on the experience of tourists to the Okavango Delta near the Kalahari Desert in the south-western region of Africa. The information seeker is an African tour guide whose boat falls behind another leading the way on a boat safari. The tourists are amazed at how quickly the tour guide is nonetheless able to catch up to the first by detecting things like wet reeds caused by the first boat and the direction of water lilies.

What is more amazing, though, is that this opportunity for the cognitive approach to explore the socio-cultural context of the African tour guide’s information acquisition is completely overlooked. Instead, the tour guide’s intellectual processes are disappointingly described in terms of the testing and verification of hypotheses and Karl Popper’s three-world ontology. The role of context in individual cognition that the authors postulate as a principle of complementary social and cognitive influence (Ingwersen and Järvelin, 2005: 31) is not carried through to explain how the African cultural environment and information space influences the way that the tour guide acquires information.

Individualism and non-sociality is affirmed in the description of how the tour guide sets about seeking and acquiring the information needed to find the way back to the leading boat. The explanations by the tour guide himself about wet reeds and turned water lilies would, however, more effectively be sought in what is called indigenous knowledge, understood as any knowledge held collectively by a group and that informs its interpretation of the world. This is not inconsistent with De Mey’s founding idea for the cognitive approach that people effectively process information using a model of their world (de Mey, 1977: 48). The world of the tour guide and not the world of the tourists is what would best explain the tour guide’s cognitive processes.

Indigenous knowledge is geographically located, based on experience, tested over centuries of use, and adapted to local culture and environment. It is conditioned by socio-cultural tradition and inculcated into individuals from

birth. It is shared and exists nowhere as a totality or in a grand repository (Sillitoe, 2005: 3). Popper's ontology is therefore not an appropriate explanatory model for how information is sought or stored and retrieved by the African tour guide. This is not to make a paternalistic or racist point that the African tour guide does not share the cognitive capacity and skills of the tourists but that his world shapes the way he uses signals from nature, and is best explained and understood in those terms.

Unless the model recognizes this, a cultural bias will persist where individual information seekers are viewed in terms of abstract concepts considered valid for all information seekers regardless of geographical and socio-cultural contexts.

The IS&R model and remote contexts

The focus on pragmatically improving access is a major goal in information seeking, which for the IS&R model orients it towards work tasks and interests. But these are understood generally as tasks and interests found in the stable communities of established democracies in North America and Europe. In this way, the only kind of change factored into the IS&R model is technological change, which remains rather innocent of its relations with socio-economic and political forces.

Simple technological change like "replacing pen and paper by (sic) a pocket calculator" and complex technological change like "the ultimate goals of work" that involve information seeking processes for task performance (Järvelin and Ingwersen, 2004b: 9) are therefore not analyzed in terms of how the global economy works, and its geopolitical and cultural consequences for new labour and employment practices. One example is the growing call centre industry in India that involves both job losses in the United States and the socio-cultural impact on young Indian women.

This narrowly conceived goal also overlooks the seeking of information for social justice and of access to information as a socio-economic right, as well as the historical and socio-economic contexts that shape these issues. Although relevant universally, it is especially in developing countries and newly emerging democracies that these dimensions of information seeking are significant.

To its credit, the IS&R model goes some way to accommodate historical and economic contexts of information seeking (See figure 1). But these require further elaboration to respond to a wider area of application than it presently speaks to. A couple of examples relating to experience with information access legislation in South Africa highlight the cultural bias in the model's stratification of these contexts.

NESTED MODEL OF CONTEXT STRATIFICATION FOR IS&R

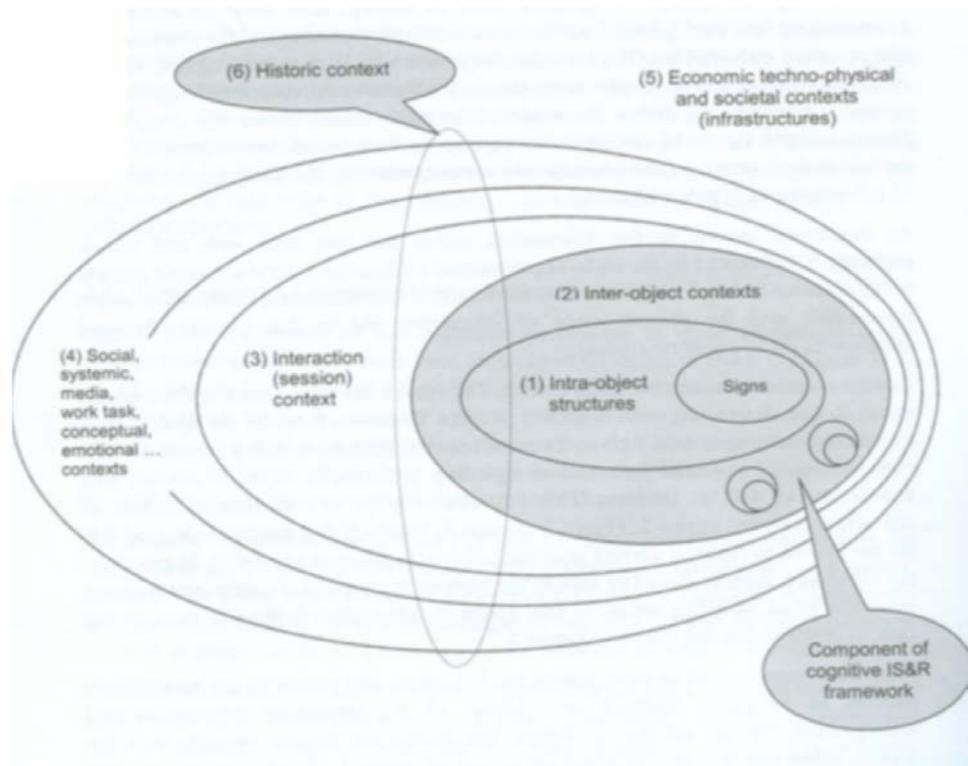


Figure 1

(Source: Ingwersen & Jarvelin, 2005: 281)

South Africa's Promotion of access to information act (PAIA) of 2000 is a landmark for access to information and is internationally admired. The Act can be found on the Internet at www.law.wits.ac.za/rula.documents.html. This progressive piece of legislation is especially significant because it seeks to give effect to the South African constitutional right of public access to information following the control of information and the secrecy that was at the heart of the anti-democratic character of the apartheid system (Mathews, 1979). The PAIA, according to Richard Calland (2002, 2003) of the Open Democracy Advice Centre (ODAC) in Cape Town, is an example of pro-poor legislation that involves issues of socio-economic justice for all South African citizens.

But the poor implementation track record of the PAIA still effectively denies a fundamental human right and the tool needed to empower South African citizens and to fight corruption. South Africa is still an extremely unequal society. A growing body of research suggests that the negotiated settlement brokered in the early 1990s involved compromises with the apartheid regime that led to dramatic political changes, but little meaningful poverty and inequality changes in South Africa (Marais, 1998; Bond, 2000; Saul, 2001).

It is disappointing then that in October 2004, the ODAC's five-country pilot study on access to information placed South Africa last in ignoring requests for access to information held by the state. The ODAC monitored 100 information requests by a diverse group of requesters to a range of government institutions. The study showed that 17% of requests could not be submitted at all for a variety of reasons. It also found that South African deputy information officers simply ignored 62% of the submitted requests (South Africa fails, 2004).

The case of the Truth and Reconciliation Commission (TRC)

The apartheid government destroyed state documents over a number of years in order to deny the new government access to incriminating evidence and to sanitise the history of the apartheid era (McKinley, 2003). But South Africa's Truth and Reconciliation Commission (TRC) collected a large amount of

valuable information about the apartheid security establishment and the violation of human rights.

The TRC report recommended that upon completion of its work all TRC records should be transferred to the National Archives, and that they should be accessible by the public. However, 34 boxes and two folders that contained information on apartheid regime informers, the Civil Cooperation Bureau, the Dulcie September case, Wouter Basson's Project Coast on chemical warfare, and confidential military intelligence submissions by the African National Congress, went missing. In early 2001 the South African History Archives (SAHA – a human rights archive), submitted a PAIA request to the Department of Justice for a list of the missing files.

Full access to these files however is still impossible, which shows how determined government departments and politicians are to hide sensitive information. Former Minister of Justice, Penuell Maduna, granted the South African Secret Service (SASS) and the National Intelligence Agency (NIA), where the missing files were located, an exemption until 2008 from compliance with the PAIA disclosure provisions. It came to light recently, through the PAIA, that the directors-general of SASS and the NIA had requested this exemption.

Although the PAIA does provide grounds for refusal to disclose sensitive information, these officials referred in their request letters to 'compromising mandates' and 'jeopardising national security' (Bell, 2004). The point is that full access to all the missing files dealing with sensitive information around human rights violations now seems more remote than ever.

The case of the Treatment Action Campaign (TAC)

On 19 November 2003, the South African Cabinet announced its operational plan on Comprehensive Care and Treatment for HIV and Aids. This gave hope to the more than 6 million people living with Aids in South Africa. The operational plan committed government to roll out antiretroviral treatment, improve the public health system by hiring 22 000 more health care workers over a five-year period, provide nutritional programmes and improve accessibility to counselling and testing.

The implementation of this treatment plan would proceed according to a timetable that appeared as 'Annexure A' of the operational plan. The Treatment Action Campaign (TAC), a non-government organisation that campaigns for greater access to HIV treatment for all South Africans, sought access to this timetable in order to assist government with its implementation by ascertaining dates, locations and numbers of clinics, hospitals and numbers of patients to be treated and additional health care workers that would be hired.

Requests were directed at the Minister of Health since 20 February 2004, and letters were addressed to the African National Congress (ANC) and the Parliamentary Portfolio Committee on Health appealing for intervention. All of this in vain! When the TAC finally took the Minister of Health to court on 18 June 2004 to compel access under the PAIA, the Department of Health responded in September 2004 that 'Annexure A' was in fact a draft, and that references in the operational plan to this annexure were errors that should have been corrected (Why the TAC is going to court, 2004). So it took the department about a year to realise and announce that a poorly edited document was officially released to the public!

The TAC asked the Pretoria High Court to award legal costs for taking the case so far before being informed that 'Annexure A' was just a draft. And in December 2004 the Minister of Health was ordered to pay punitive costs (TAC awarded punitive costs, 2004). According to the High Court judgement, the Minister had had eleven opportunities to inform the TAC of the true situation but failed to do so. The TAC is also considering proceeding with separate litigation to compel the government to make the timetable available.

On 4 November 2004 thousands of TAC members marched and demonstrated in six cities around the country to demand access to information (Brief note, 2004). Possible litigation could be ended if the Minister of Health simply provides the information (Achmat, 2004: 38). But the Minister remains defiant and still refuses to make an implementation timetable publicly available.

Implications for the nested model of context

These examples provide evidence that public access to information is not automatically guaranteed by a constitution, a bill of rights and a piece of legislation like the PAIA. It also shows that information seeking can involve issues of social justice and human rights, and that it can take on strong collective and socio-political dimensions. In these examples, ordinary South Africans work together through organisations and groups to have any hope of success with information seeking.

Confronting state and private power requires a coordinated effort from civil society organisations committed to strengthening the public sector, and enforcing compliance with the PAIA. It is only in a collective and integrated effort that demands will yield results. There is already talk of the need for a coalition of civil society forces and a broader strategy of engagement in the struggle for public access to information in South Africa (McKinley, 2003).

The information seeking practices in these cases not only highlight the limitations of individualism and non-sociality in the IS&R model, but question also the interpretation and arrangement of its layers of context. The model's historical context, for example, should have more politico-historical content than just the personal and private experience of information seekers, and could mean the collective historical experience of denied access to information, as was the case in apartheid South Africa (Merrett, 1994). This would make the model more historically specific and socially sensitive.

The model's *remote* historical and economic and socio-cultural contexts, moreover, are in fact more *immediate* and salient in respect of their influence in a country like South Africa. What is therefore needed is a less rigidly stratified nested model of context to allow a more flexible interplay of the several layers of context, sensitive to time, place and circumstances.

In a middle-income developing country like South Africa with deep structural inequalities, information seeking and retrieval operate at both the typically advanced level described in the model, and at the more basic level illustrated by the PAIA examples. In other words, some sections of South African society would comply with the model, as it would apply in the mature and stable democracies of North America and Europe. But other sections of South African society would not.

At the more basic level, the layers of context would need to nest themselves differently because of the power dynamics associated with the socio-economic circumstances of many information seekers. The historical legacy of apartheid and its damaging personal and social impact mean that matters of self-confidence, literacy levels and financial status will rank as more critical success factors for many information seekers, and are decisive for simply getting involved in a search for information. It is therefore unsurprising that wealthy South African citizens and organizations have had greater success with the PAIA than poorer citizens.

Conclusion

Despite its bias, the IS&R model attempts to deal with the cognitive approach's limitations of individualism and non-sociality, and to theorise context for information seeking and retrieval. It deserves constructive comment in order to expand its scope of application. The following recommendations are offered for elaboration of the model:

- It needs to take on board the recent challenges of social epistemology to the traditional individualist epistemological position of its cognitive outlook (Fallis 2002, 2005; Zandonade 2004);
- It needs to take a wider view of the social contexts in which information seeking and retrieval take place;
- It needs to clarify its position on whether and how contexts can nest themselves differently. The reference to 'context stratification' implies an unfortunate rigidity of the model, and the distinction between *immediate* and *remote* contexts should be dropped;
- Its references to historical, economic and societal contexts are encouraging. But they require further elaboration to confirm the secular dimensions of information seeking and retrieval, and so underscore a social responsibility orientation; and
- It needs to connect an understanding of social, cultural and political contexts of information seeking and retrieval with programmes of action to improve access for all information seekers.

In an attempt to deal with bias, LIS researchers should constantly be aware that model building and theory construction are social practices and cannot be neatly separated from the goals, values and interests that shape them. In the end, knowledge production is a collective enterprise and bias detection is as much a researcher's responsibility as bias correction in pursuit of better LIS theories.

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