

Information Literacy, the Information Society and international development

report of a meeting

On 21 January 2003 a meeting was convened by the Information for Development Forum (IDF), hosted in London by the British Computer Society Developing Countries Specialist Group (BCS-DCSG). The purpose of the meeting was to discuss the topic of **Information Literacy** in the context of the preparations for the United Nations **World Summit on the Information Society** (WSIS).

The World Summit on the Information Society is to be held in Geneva in December 2003, with a follow-up event planned for Tunis in 2005. WSIS will be organised by two agencies: the International Telecommunications Union (ITU) and the United Nations Educational, Scientific and Cultural Organization (UNESCO).

In mid-2002, the UK National Commission on UNESCO, met to consider the preparations for WSIS, and it was through participating in that meeting that the IDF was prompted to call its own seminar, as described below.

UNESCO had already produced a preparatory document for WSIS, which we quote later in this meeting report (see page 6). Paragraph one of that document argues that a new 'Information Literacy' is a necessity in the modern information landscape – and also that this skill offers hope in overcoming 'many of the problems confronting human societies'.

This claim presents an interesting challenge to members of the Information for Development Forum, which was

set up in 1983 to co-ordinate and collaborate on issues of information for international development. At that time – in the days before ICTs – 'information' was understood as meaning bibliographic records, classification schemes, thematic cataloguing and subject-controlled vocabularies. The IDF has held a couple of meetings every year since it was founded.

In reaction to UNESCO's claims, it was decided that the IDF should convene a meeting to discuss the concept of Information Literacy in the context of WSIS, and the Developing Countries Specialist Group of the British Computer Society (BCS-DCSG), which is a member of IDF, took responsibility for hosting this. BCS-DCSG has also provided resources for the production of this report of that meeting.

Participants for the IDF meeting were contacted via a number of electronic mailing lists,¹ and members of the UK UNESCO committee were contacted through its secretariat. The chairs of all the specialist groups of the BCS were contacted, and the Electronic Publishing

1. Lists used included **Information for Development Forum** (www.jiscmail.ac.uk/lists/eldis), **BCS-DCSG** (www.jiscmail.ac.uk/lists/bcs-devel), the librarianship community (www.jiscmail.ac.uk/lists/lis-link) and the **National Forum on Information Planning** (www.jiscmail.ac.uk/lists/nfip)

Specialist Group showed particular interest. Through these approaches, plus personal contacts, responses of interest were built into an email list, which then went through a series of discussion cycles and exchanges of position papers. In November 2002 a Web site was constructed² to hold these papers and other links and resources in preparation for the meeting

Originally the meeting was scheduled for 12th December 2003, but it was found that this date would clash with an event on Information Literacy organised by the company Task Force Pro Libra (TFPL). The focus of the TFPL meeting was to be Information Literacy in the context of the business community, whereas the focus of the IDF is international development and the overcoming of poverty, but we decided to postpone the IDF meeting until January 2003 so that people could attend both and because these two constituencies need to collaborate.

A discussion in rounds

The meeting on 21 January was structured around a number of cycles of discussion, following a preparatory round of introductions in which participants declared their backgrounds and ‘enthusiasms’ and how they viewed the concept of Information Literacy.

After this, we had a discussion round dubbed ‘The archaeology of knowledge’. The intention here was to discover how many different experiences and viewpoints might cast light on a meaning of Information Literacy.

One discernable distinction may be that between the approach of those people who teach or help people to be more skilful in accessing sources of information (mainly information professionals operating in academic and library contexts), and those whose work focuses on making such sources of information easier to access and understand (such as authors and editors, designers, publishers and HCI experts). What transpired from the discussion, however, is that these viewpoints are not opposed to each other. If information is thought of as ‘coin’, these two communities are experts on different sides of the same coin, and have much to learn from and contribute to each other.

We discussed whether the advent of ICTs brings something genuinely new to the ‘information society’ of which UNESCO speaks, or simply represents a continuation of what has been for a long time. The answer probably is ‘both at the same time’. The issue is to decide what is new and in what way, and what it incorporates; which

elements of the old are as relevant as ever, and which will to be discarded or modified. This could be difficult for professionals whose intellectual integrity might have to be discarded simply because what they know is now wrong or less relevant than formerly.

Bodies of knowledge

The theme of the second ‘round’ was on the existence of bodies of knowledge. A search on ‘Information Literacy’ within Library and Information Science Abstracts (LISA) produced 911 results, of which the large majority were concerned with library skills in higher education, and the impact of the Internet on undergraduate learning. Such a perspective is clearly much too narrow to apply to the whole world community, where information policy must take into account the information needs of poor people whose concerns are daily survival and economic development, not academic achievement.

There are clearly many bodies of knowledge, many not yet codified or brought into being; one might more usefully speak at this stage of ‘communities of knowledge’. As well as the obvious case of Library and Information Science, the emerging and somewhat overlapping disciplines of Information Design and Human Computer Interaction were also represented within the meeting, each concerned in its own way with understanding how people approach and access sources of information, and how to design those sources more effectively. Linguistics and translation were also put forward as relevant communities of knowledge with perspectives to contribute on information policy.

Models of Information Literacy

From here the discussion turned to whether there are useful models of Information Literacy. One that was discussed in detail was that produced by the Society of College, National and University Libraries (SCONUL) in Britain. The SCONUL model tends to focus on information skills that are relevant in higher education. Our group did wonder whether it was possible to extract an even more generic model of information literacy which could apply convincingly to the needs for information and problem-solving of the rural and urban poor.

Among other points made were about the inadequacy of such a ‘librarianship’ model to explain how sources of information are designed, created and propagated, and the importance of the sometimes problematic role of ‘information intermediaries’. In societies where direct

2. <http://www.ideography.co.uk/wsis-focus/> — constructed by discussion participant Conrad Taylor on his own web site.

access to sources of information is limited and skills in handling information are not widespread, information intermediaries are 'gatekeepers' who have the power to facilitate access to information, but who often control, filter or bias information or deny it to those of whom they don't approve.

However we understand the roles that information and knowledge, decisions and action play in international development, there must be some relation between (a) the workings of 'knowledge factories' (which includes universities) (b) the governance of the polity at different levels, and (c) the life and practice of communities, which is where development is located. Much more work needs to be done if we are to understand how information is produced by those communities in practice, how that impacts on governance and feeds the knowledge factories, how this process is understood and how it contributes to information literacy. But at least we have an idea of the best well known models to start with.

This concluded the aspect of the day that was intended to cover the past, what was already known, to provide a starting point and foundation on which we might then proceed.

Communities and agendas

The second half of the meeting had the aim of planning for future action. It was apparent from the morning's discussion that all present shared a 'pro-poor' agenda. This agenda provides a special class of problems and needs, distinct and sometimes opposed to the priorities of other communities of information literacy. The business community, the IT industry and the higher education sector were identified as other communities, and there might well be more.

The Globalisation and Development White Paper (2000) of the UK's Department for International Development (DFID) can be taken a starting point. There we find concepts of knowledge and research in international development, the concept of an International Public Good and the concept of Intellectual Property Rights. From here we can engage in a discussion of what the contribution of the British government should be to the World Summit on the Information Society.

We discussed what the core contribution of information practitioners and professionals might be, with the initial suggestion that it was the ability to work with metadata and taxonomies. This, it was clear, was too narrow a muster of the competences around the table. Other ones significant in the context of the WSIS agenda are skills

in design and publishing methods and technologies, and skills in teaching them, which could be important in empowering communities to make their own information and to publish their own voice.

This shows in some measure the state we are in. Shifts in meanings and representations, and the practises of the professional societies and publicly funded institutions have exacerbated the old distinction between the boxes and the books, between the IT professionals and the information professionals, which was part of the original reason for setting up the IDF.

Frameworks for future work

Finally we considered what institutional framework there might be for future work on Information Literacy and the WSIS agenda. One opportunity is the Framework 6 research agenda of the European Commission, the first call for which was published on 17th December 2002.

It was agreed that we need to participate in other international forums to promote a pro-poor perspective, to head off the tendency to reserve privileged access to information and freedom of expression. The mechanism for moving forward on this probably resides in vigilance and opportunism.

The offer was accepted of a further meeting at the University of Plymouth when there is enough new material to review and develop further.

This report is produced in a somewhat unusual form – as close as possible to a verbatim account of what was said, in order that it might be plundered by anyone who wishes, for the development of further argument out of the discussion strands reported here. Some diagrams have been added, either because they were produced during the meeting or were alluded to.

Our thanks are due to the BCS DCSG for enabling the production of this report, to Conrad Taylor for its editing and preparation, and to participants at the meeting who contributed clarification and editorial suggestions.

John Lindsay

Chair, BCS-DCSG

Note: this meeting report has been edited from a recording of the meeting. Names appear in bold primarily to show where there was a change of speaker. Thanks to all participants who helped me with clarifications and suggestions. My special thanks to Susie Andretta for her editorial help. — **Conrad Taylor**

An account of the discussion on 21 January 2003

The discussion participants, and others in the circle

John Lindsay started the day's meeting by suggesting that we make a first round to introduce ourselves and explain our 'enthusiasms'. Various different perspectives on information were revealed...

Clifford Morse — Associated with BCS-DCSG for many years, Clifford is an 'enterprise data architect' with a supplementary concern about development issues. He has recently been active lobbying on development issues raised by GATS (the General Agreement on Trade in Services of the World Trade Organisation).

Pat Norrish — currently an independent consultant in Communication for Development. 'Communication' in this context means the whole gamut, from face-to-face meetings, to all the different media, including the new ICTs. Previously she worked at the University of Reading in the AERDD (Agricultural Extension and Rural Development Department), a postgraduate department primarily for students from developing countries. Currently Pat chairs the Steering Group of EXCHANGE, a DFID-funded programme on Health Communication, and is on the steering group of DFID NRSP (Natural Resources Systems Programme) advising on communication. Her interest is in communication projects associated with developing-country programmes of action for development.

Justine Johnstone — teaches Information Literacy at London Metropolitan University, which is an amalgamation of North London and Guildhall Universities. The University requires all entry level students in the Department of Art, Media and Design and the Department of Applied Social Sciences to study Information Literacy, and Justine teaches on the humanities side of the curriculum. Her own research is concerned with knowledge and Internet use in developing countries. She is keen to see how a broader discussion of Information Literacy might reflect on how they teach the courses at London Metropolitan University.

Susie Andretta — Also from London Metropolitan University, Susie initiated the provision of teaching on Information Literacy (IL) at the University of North London five years ago, and is now responsible for the delivery of the IL module in London Metropolitan's Department of Applied Social Sciences. Her principle interest is in Information Literacy as a tool for independent learning. Susie's work on IL does not have a direct

link with developing countries, but her consultancy work in Sierra Leone and Ukraine has made her realise that the technological infrastructure of a country determines what is or is not feasible in implementing programmes of Information Literacy, especially where ICTs are involved. In her view, the most effective approach to IL provision is one based on appropriate technologies that address local and national needs.

Penny Trigg — Penny is the Information Manager in the British Council's team for the UK National Commission for UNESCO. The National Commission is preparing for WSIS by responding to requests from UNESCO to gather specialists to critique its position papers on policies for the Summit; John Lindsay has also been involved in this process. One of their reports has made its way onto the UNESCO Web site, and the rest of the work they have been doing can be found at unesco.org.uk. The work of the UK National Commission is currently under review; they are waiting for a decision from government as to what the Commission's future will be. A report submitted to Ministers can also be found on the Web site.

Sue Hughes — Sue's background is in business information; she managed a wide-ranging information service for the DTI and has worked overseas in business information consultancy, setting up business information centres in Egypt. She recently took over as Head of the Information Society Sector at the British Council. Sue explained that the British Council is keen to explore the topic of Information Literacy; little work has been done yet, but they want to make sure that those with whom the Council works worldwide understand the implications of IL issues. At the same time, Sue is trying to ensure that the Council is connected to all UK initiatives related to WSIS, and hopes to develop work-strands on this across the Council, up to the Geneva Summit in 2003, the Tunis summit in 2005, and beyond.

Andy Smith — Andy has been on the BCS-DCSG mailing list for years. A Reader in Human-Computer Interaction at the University of Luton, he believes there's an overlap between concerns of HCI and concerns about usability of information systems. His main topic of research is on

cultural differences in usability, and how to build systems that are usable in different cultural contexts. He recently started on an EU-funded project looking at usability in India, working with a network of contacts throughout India on a whole range of issues – the Indian IT industry, localization issues, and the generation of usable systems from the ‘bottom up’ in poor and remote communities. He will be involved in similar project work in China.

David Penfold — David has a scientific background, and works as a publishing consultant; he is also the Chairman of the BCS Electronic Publishing Specialist Group (BCS-EPSPG) and sits on the BCS Knowledge Services Board. David has reviewed many projects for the European Commission within their programme of support for research in information and communication technologies, especially on multimedia tools and content. Editorially, he has worked on publications on worldwide renewable energy and the environment. He is also the author of two of the BCS study guides for the ‘European Computer Driving Licence’ scheme (ECDL).

Conrad Taylor — A freelance teacher and consultant in electronic publishing and information design, Conrad has built and continues to maintain the Web site created to support this meeting. His involvement with issues of development and the environment go back to teenage years; he worked for Third World First and the Europe/Third World Research Centre, and has been active in Asian human rights campaigns. His recent voluntary engagement has been with Black community projects in the UK. He also helps to maintain InfoDesign-Cafe, a discussion list on Information Design on the Internet, is on the editorial board of *Information Design Journal*, and is Secretary of BCS-EPSPG. Conrad considers non-ICT information delivery systems to be still important. He is interested in how we create, design, lay out and typeset, publish and organise information materials to make them as easy as possible to access and understand.

Brian Layzell — Treasurer of BCS-DCSG, Brian has spent most of his working life in the Department of Health, introducing computing systems into the Health Service from the days of mainframes onwards. He retired from the DoH eight years ago and now works as a consultant in IT systems security, data security and business continuity, mostly for UK clients and some overseas clients. Brian recently became chair of a BCS group concerned with issues of disability and accessibility, e.g. hardware and software design, information design and screen arrays. He commented that accessing information through new technologies such as the Internet and a laptop computer is something a lot of people in the developed societies are

familiar with, but in parts of the world where health and social care provision are inadequate, and the economic infrastructure is fragile, the ability to disseminate information is similarly hampered.

John Lindsay — John is a Reader in Information Systems Design at Kingston University (UK), where he specialises in strategic information systems, information science and information systems design. He is a Member of the British Computer Society, and chairs the BCS Developing Countries Specialist Group. He was long an Associate of the Library Association (now merged with the Institute of Information Scientists to become CILIP). For thirty years, John has been interested in the relation between information and the organisation of power in society – as described below in the section on ‘the archaeology of concepts’. He helped set up the Information for Development Forum and the Transport Information Planning Forum, and through both became a representative to the National Forum on Information Planning. In the 1970s he set up Librarians for Social Change, and the Need to Know project at South Hackney School. He is currently involved with the task group working on the government white paper on e-commerce.

Other contributors

John Lindsay then gave a brief description of the people who had been involved in the email discussion group in preparation for this day’s meeting, but who were unable to attend in person.

Mark Perkins — For a long time in the Information for Development Forum in Britain, Mark was the Librarian of the Overseas Development Institute, and for the last couple of years has been working in the Pacific.

Alan Hancock — Alan has occupied a senior position in UNESCO, and has been involved in the work of the UK Commission on UNESCO. His special interest is the role and contribution of the media.

Pat Hall — Pat is Professor of Computing at the Open University and has been a member of the Developing Countries Specialist Group for a long time.

Justin Smith — Director of the Information Literacy programme at Plymouth University, Justin has a background in Librarianship.

Jill Needham — Jill is responsible for the Information Literacy programme at the Open University.

David Baldon — Editor of the *Journal of Documentation*, David teaches at City University in London. He is also the only British representative on the official UNESCO

working party on Information Literacy – a body which, it appears, has not actually met to date.

Val Skelton — from TFPL³, Val was one of the organisers of the TFPL meeting on Information Literacy on the 12th December 2002, at which Sheila Corral, incoming President of CILIP, was the closing speaker.

Judy Stephen — Information Manager for Oxfam, and the chair of the Information for Development Forum.

Rosemary Raddon — Rosemary was Deputy Director of Learning Services Support in the former Inner London Education Authority (ILEA). Recently she worked in Sri Lanka on Information Literacy in a rural bank project.

Peter Murray — Peter works as an independent health informatics and telematics consultant, and is also an Honorary Research Fellow in Health Informatics at King Alfred's, Winchester. He co-ordinates the Education, Training and Development task force of the BCS Health Informatics Committee; sits on the Executive Committee of the BCS Nursing Specialist Group; and is also BCS's representative to the International Medical Informatics Association. His interests include health informatics in developing countries and the potential of open source software to help in those situations.

The discussion begins: towards an archæology of concepts

John explained that he draws the idea of the 'archæology of concepts' from Michel Foucault's ideas of an archæology of knowledge. 'These old ideas have shards that still can come up and get you in the foot,' he said. He started by drawing our attention to papers he distributed at the start of the meeting. One of these was a copy of the first page of UNESCO's Strategic Orientation to the World Summit. Paragraph One reads:

The emergence of the Information Society is a revolution comparable to the deep transformation of the world engendered by the invention of the alphabet and the printing press. A new culture is emerging, based on symbols, codes, models, programs, formal languages, algorithms, virtual representations, mental landscapes, which imply the need for a new 'information literacy'. Information and knowledge have not only become the principal forces of social transformation. They also hold the promise that many of the problems confronting human societies could be significantly alleviated if only the requisite information and expertise were systematically and equitably employed and shared.

Surely, said John, the assertion that there is a 'revolution' going on similar to the invention of the alphabet and the printing press is contentious? If the invention of the printing press led to the cutting off of King Charles' head, as Christopher Hill argued in *The World Turned Upside Down*, whose head will roll as a result of this revolution? Do we really think a fundamental transformation is being caused by these developments in technology? If so, what will it be? Our particular concern, John suggested, should

be the role of the professional societies, of which some of those present were chartered members.

As for the issues listed by UNESCO – 'symbols, codes, models, programs, formal languages, algorithms, virtual representations, mental landscapes' – do we recognise that list? Does it make any sense to us? Would we have some other list we would be happier with? John also pointed out the language about equitable sharing of information and expertise, and the use of the buzzwords 'information' and 'systematically'. It was that first paragraph which suggested to John, at a meeting of the UK National Commission on UNESCO which Penny Trigg also attended, that a follow-up meeting should be organised to try to work through these issues. This, then, was the rationale leading to the current day's meeting.

John also passed around an editorial, 'Information Literacy: a New Frontier', from the *UNISIST Newsletter*,⁴ written by Philippe Quéau, the Director of UNESCO's Information Society Division. John found it interesting that information is described in that article as a 'new frontier'. However, John finds the 'frontier' metaphor distasteful: it suggests the killing of natives and bison... Nor is he happy with the idea of Information Literacy, a topic we'd return to. However, Quéau does seem to tackle some of the big issues which should be examined in this day's discussion.

As for John's personal 'archæology', it goes back to his time as a trainee librarian in Durban, South Africa in the 1960s, when Black people were excluded from the public

3. TFPL is a company which works in areas of information and knowledge management and library systems. The meeting on 12 December 2002 was called "Joining In: the benefits of information literacy". Speakers were: Marc Aukland (BT), Angela Abell (TFPL), James Binks (CBI), Sheila Webber (Sheffield University), Stephen Town (Cranfield University), Carey Craddock and Angela Donnelly (Unilever), Jenny Brook (Huddersfield University) Lynn Barrett (Dixons City Technology College) and Sheila Corral (CILIP and Southampton University).

4. UNISIST Newsletter Vol. 28, No. 2, 2001 — pp 3–4.

library system by an act of law. In theory, a separate 'but equal' Black library system was going to be set up, but this was clearly not happening. That seemed to John to be a real professional challenge; though he had not yet done his exams in librarianship, he still felt as if he had a professional obligation to do something.

John reminded us what the emergent communication technologies were in the 'sixties – early dry-toner photocopiers, Letraset, Banda spirit duplicators and mimeographs, and small paper-plate offset litho presses. John assembled a group of progressive South Africans willing to show people how to make their own books, create their own voices. For a while, he was also editor for the youth organisation of the Progressive Party. This continued until he felt he had to leave South Africa.

John then ran a project called 'The Need to Know', at South Hackney School, funded by the British Library. Also about 30 years ago, he was involved in setting up the Gay Switchboard, in recognition of the isolation and marginalisation felt by many young gay people. The Gay Switchboard ensured such wide publicity for its phone number that no-one could remain ignorant of it. The Information for Development Forum started not long after, in 1983. Then John was asked to join the BCS, and the Royal Society of Arts, and has been agitating on 'pro-poor policies' in those contexts ever since.

John ended by pointing out that Clare Short had brought a pro-poor agenda into the public arena in the UK government's White Paper on Globalization.⁵ So John begins to think that he is at least partially 'cutting with the grain' for the first time in his career as an information professional.

Clifford described his long-term interest in literacy of the traditional sort, through his involvement with the Summer Institute of Linguistics, an American-based organisation which (in support of Christian evangelism) has been helping to create writing systems for traditional languages that have not hitherto been written down. Almost all these projects involve literacy issues; the creation of new scripts and orthographies have to be followed up by teaching people how to read and write with them, and how to find their way around a written document – for some of those communities, the written word is a new concept.

Clifford's other strand of interest is in getting computers to understand each other. Computers are rather good

at the syntax of languages, he said; but the semantics – the meaning contained within those texts – evades them. He thought there must be some overlap between these subjects – literacy, and natural language processing – and today's area of discussion.

As for his role as an enterprise data architect, Clifford said that this job sits between the business and its data. The job of the data architect is to ensure that gathering and structuring the data is done in a way that promotes effective business management. Data architects have developed some interesting semi-formal techniques which might find application in Information Literacy.

Pat's background involves 14 years living and working in Thailand, Ethiopia and Ghana, where for much of the time she worked in educational television and radio. In Ghana, during the first Sahelian drought, the challenge was how to communicate drought-related issues to illiterate farmers using print material.

At Reading University, it fell to Pat to teach the literacy component of the MA in Rural Development overseas students. Pat recognised the power relations wrapped up in literacy. Too much literacy teaching has concentrated on how to teach people to read. For Pat, the real concern has been to teach people how to *write* – the power is in the pen, so to speak. The Reading communication curriculum for all masters students focused on how to 'write' across the media spectrum so that people could understand the power relationships around information and its creation.

In her current work there is a lot of emphasis on issues of information provision, and universal access to it. There is also an understanding – or misunderstanding rather – about the role ICTs have to play in this. An organisation may set up a Web site to disseminate information without sufficient thought about what this means for everybody, particularly those beyond the end of the infrastructure. CD-ROMs are also increasingly popular, but issues of appropriateness and content remain. 'Let's send out CD-ROMs about how to break it to a woman that she's been diagnosed with breast cancer' was one proposal. Just think about that in a developing-country context – it doesn't make sense to do it this way (which is not to trivialise the needs of those women who need to be diagnosed and to receive treatment).

Pat mentioned a project funded by DFID Engineering: the Knowledge and Research (KAR) Programme, highly

5. "Eliminating World Poverty: Making Globalisation Work for the Poor." White Paper on International Development, December 2000. See <http://www.globalisation.gov.uk/WhitePaper/FullPaper.pdf>

oriented towards the use of ICTs in disseminating information. Pat was involved in a small way in a KAR project called ‘Sustainable ICTs’ (primarily a sharing of case studies). What she found interesting was that most of the projects running ‘sustainably’ were those where the initiative came from within the developing country, rather than ‘injected’ from outside. It might seem so obvious; but many fail to understand the obvious!

To illustrate other uses of ICT in development, Pat mentioned a DFID NRSP project for rainwater harvesting – a big issue for Tanzania and other African countries where rainfall and water supply can be problematic, and also in South Asia too. This work uses a computer modelling tool called ‘PARCHED-THIRST’, with which users can simulate the most important processes in a rainwater harvesting system, incorporating simulations of the growth of sorghum, maize and millet under semi-arid conditions. The aim for such projects is to make the planning process as participatory as possible, in spite of the great distances involved when the creative expertise is in one country and the users are in another.

Justine said she was concerned about where the boundaries of ‘information’ and ‘information literacy’ lie; she worries that these concepts are in danger of becoming so diffuse as to become useless. As an example, she drew attention to part of the Philippe Quéau article circulated earlier by John Lindsay:

I see four aspects to Information Literacy:

- the ability to access meaningful information (and exclude garbage)
- the ability to develop a capacity for personal evaluation and critical thinking
- the ability to participate in the public or collective information spaces
- the ability to memorize and nurture roots

Justine is comfortable with a definition of Information Literacy that is about accessing information, searching and sorting, but she is not comfortable with expanding the definition, as Quéau does, to include personal evaluation or participation in political life, however noble the sentiments may be.

Justine’s own background is in philosophy, particularly epistemology (the theory of knowledge), so she has an interest in defining boundaries between information and knowledge – asking what added value ‘knowledge’ has which can be excluded from a definition of information. The teaching of IL skills at London Metropolitan University touches on skills in evaluating information, which comes close to knowledge skills. In research, for example, how can one evaluate an information source

without evaluating its reliability? At that point, said Justine, one is beginning to talk about knowledge.

Though we may not wish to exclude topics that fall outside a strict definition of Information, we need to be aware that boundaries between information and knowledge are extremely nebulous. When knowledge comes into the picture, so do such factors as conceptual frameworks, people’s world views, values, and issues of power relations; also issues such as motivation: why people are looking for information in the first place, and what information is considered to be relevant. The issue is not just about access to information: we already have more information than we can cope with. Similarly, there are all kinds of knowledge which we may have no interest in acquiring. So, while endorsing the importance of the current debate on Information Literacy, Justine favours a more critical view of what this means.

Susie said that she didn’t know she was ‘information literate’ fifteen years ago; had she then known what she knows now, her contribution to Information Literacy would have been more comprehensive. Her task since 1998 has been to try to get her Higher Education institution to take on Information Literacy as a learning and teaching target, and integrate it into the wider curriculum. So far this has been extended to 800 out of Metropolitan’s 21,000 student population. The issue of integration into the wider curriculum is a political one, and contentious as well.

Susie admitted her experience at a global level is limited, but her work in Sierra Leone offers a good case in point. She found that programmes designed to train librarians in that country were biased towards IT and towards written English culture – in particular the work of Shakespeare, the study of which was compulsory at all levels. This contrasted with a primarily oral culture in Sierra Leone, in which neither IT nor the work of Shakespeare were relevant or useful.

Susie therefore suggested including ‘oral literacy’ in our discussion, since in developing countries much knowledge is contained within an oral tradition. Information can also be descriptive/pictorial in its form of delivery, so perhaps pictorial information can be as important as written language in some societies.

In Ukraine, working for DFID on a project to develop distance learning, Susie experienced the power of the myth of computers as ‘the answer to everything’. The Ukrainian partners dreamt of an Internet and Intranet infrastructure covering the whole country – yet, in the capital city of Kiev, it was often impossible to make a

simple phone call from one building to another. The role played by ICTs has to take into account the quality and availability of the local/national infrastructure.

Susie emphasises that ICTs do not *equate to* information literacy. She reminded us that Alan Hancock, in a statement circulated to the group before the meeting, had talked about 'tool literacy' and 'publishing literacy' – these are other facets of Information Literacy we need to explore.

Motivation is an important issue, as Justine had said. Why do we look for information? Especially in higher education, buzzwords such as 'lifelong learning' are in circulation – but the discussion is very top-down. People need a more bottom-up perspective on lifelong learning.

The disempowerment of learners in developing countries seems similar to the marginalisation of some learners in the UK (especially in institutions like London Metropolitan) who, owing to lack of independent learning skills, are unable to engage effectively with written information. There seems to be a psychological dissociation between the learner and the written word. We have come full circle, from an oral culture to a written one and back again – the written word now seems to be shunned by our students. (Maybe that is a bleak picture, but it matches experience at London Metropolitan. Oxford University might promote a different perspective!)

Penny has experience of teaching English overseas, in a university where the only technology was one Gestetner duplicator for the whole English department, and blackboard and chalk. At the British Council, much of Penny's experience has been as an editor in their publishing department, working on products from promotional leaflets to English language books, and exhibitions. She has also produced a science education newsletter that is circulated worldwide. This experience influences how she approaches the topic of information and its provision.

At the British Council, Penny acts as an additional 'door' to UNESCO for specialists and Civil Society groups in the UK who want to engage with what UNESCO is doing. She said that UNESCO's position on Information Literacy is not a clear one. On one hand, it claims we need a 'new' Information Literacy. During consultations on UNESCO policy in preparation for the World Summit, people have raised the important roles of educators and Information Literacy, and these expressions have made their way into UNESCO's public statements. However, UNESCO's Web site offers little on Information Literacy;

one has to go behind the scenes to discover UNESCO's thinking on IL. John Lindsay had found out that there is an topic IL group in UNESCO, but appears not yet to have met. Penny thought that UNESCO could benefit from input from groups like this one gathered today; she was sure there would be opportunities to add thinking from this group to what is beginning to coalesce at UNESCO.

A couple of years ago, the US National Forum on Information Literacy had approached UNESCO and said 'We need to be thinking about Information Literacy'. Ross Shimmon from the International Federation of Library Associations (IFLA) produced an article a couple of years ago for UNESCO, '*From Digital Divide to Digital Opportunity*',⁶ in which he discussed Information Literacy. So, there are circles of people out there willing to engage with UNESCO on this question. If we keep coming back to UNESCO and saying, 'This still hasn't been addressed', they will listen, she thought.

Sue said the British Council is already involved with what could be described as 'Information Literacy' projects, but is struggling with definitions, and how to support projects so they will reach the widest number of people.

A workshop was held in mid-January 2003 to look at these issues in the build-up to the World Summit. One of the stronger ideas was to use links with young people with whom the Council already works across the globe, and to look at ways to use existing British Council projects to help champion Information Literacy issues.

Sue also said that the British Council is also interested in the 'cultural diversity' agenda.

The British Council is engaged with two kinds of topic. One kind is driven by a country-by-country or region-by-region agenda, but there are also topics on which the Council works more globally – for example there is an arts agenda, a youth agenda, and so on. The Information Society is currently perceived in the Council as one of those global themes. Sue wants to find clear, thoughtful messages about Information Literacy that the British Council can spread through its network, in a way which respects established local agendas and cultures.

Andy returned to considering how the 'information revolution' compares to the invention of the printing press, writing or number systems. In his view, this analogy is questionable. Helping people to access the written word or number systems is 'a one-way problem' – by teaching literacy or numeracy, we do not influence the

6. http://www.unesco.org/webworld/points_of_views/shimmon.shtml

word or number system itself. ICT is different, because the way we offer it to people can be extensively customised. This puts an onus on us to provide information in a form that is easy to access. It may be inevitable that new users always require training to make use of ICT-based information systems, but a lot can be done to mitigate that by making these systems more usable.

Andy reminded us of his interest in cultural issues, and picked up on Pat's comment that information systems which prove to be of real use are those built locally. In his research, Andy tries to discover what we need to understand about localisation needs in different cultures. He drew a distinction between 'internationalisation' (where you develop one system and propagate it globally, which may include translation), and true 'localisation'. Localisation has to engage with cultural diversity, and it requires much more research, but it is necessary to make sure we have a proper understanding about the usability of information systems in a global context.

David said that he has worked as an editor for about 30 years, the first 15 on international scientific journals. Most of these were written in English, with about 15% in French and 5% in German. He became aware that a German writing in English would not necessarily be understood by an Indian writing in English, although another German might understand it! This led to occasional arguments with authors about rephrasing.

David also referred to his wife's experience as a primary school teacher in Yorkshire. In one of her classes, there was only one white child; the rest were Muslim children from Pakistani or Bangladeshi backgrounds. During the first Yugoslav crisis, some Bosnian refugee children were placed in the school because it was thought appropriate to put them with other Muslims; but the white European, Bosnian Muslims were a completely different cultural element to those of Asian descent, born and brought up in England. Communication between these two groups was a problem. Perhaps solving problems of communication *within* British society is an appropriate starting point.

For a couple of years, David has managed production of the Cancer BACUP directory. A recent project of this organisation is concerned with making information about cancer available to members of Black and other minority communities, particularly since it has been noted that there is a problem persuading many of these to communicate their symptoms at an early enough stage; they typically wait until their symptoms are grave. Is this

due to a mismatch of communication styles? Does this illustrate a cultural aspect of Information Literacy?

Like Andy, **Conrad** expressed caution about characterising the emergence of the Information Society as a revolution parallel to the invention of the alphabet and printing press. He had studied the history of knowledge-diffusion in the Mediterranean and Middle East from the 7th to 11th centuries – including technical and development information, such as agricultural and irrigation techniques. The duplication of such texts in Hebrew and Arabic, for a paying public, was commonplace in the Muslim world at this time and employed many people. Before that, the Romans also had mass publishing using the reprographic ability of educated Greek slaves. The printing press just made the process more efficient; likewise the current new technologies, in so far as they are carriers of culture and information, are just an extension of the process, a new quill and parchment.

Conrad has always been interested in technologies of cultural production. As a graphic designer in the early 1980s he sought more control over typesetting quality, and for that reason learned how to use computers and 'desktop publishing' software. Through his connections with Asia, this interest has extended to studying problems of multilingual typesetting.

Paradoxically, he said, many problems of typesetting West African languages had been caused by the well-meaning missionaries who tried to produce simplified spelling systems by devising a unique glyph for each distinct sound. These letterforms are easy to write with a pen, and simplify learning how to read and write, but have left a messy legacy to the Information Age due to the lack of fonts and other software resources to typeset, process and present languages such as Yoruba, Krio or Twi.⁷ Conrad is interested in finding ways to transform computing, to enable better and more multilingual communication at an affordable cost for African and Asian communities. Might the adoption of UNICODE and OpenType help? Could a fund of public money be created to pay competent type designers to create multilingual font resources that could be given away free?

Finally, Conrad is interested in how to *teach* Information Design skills. How do you teach people to write better? to design better? to produce better diagrams and maps? How do you get people to understand what the design process is? He has taught these skills for 18 years – not in formal education, but in the private sector. His scholarship and teaching is done from the standpoint of a craft-

7. See Conrad Taylor's illustrated study **Typesetting African Languages**, available as a PDF from www.ideography.co.uk/library/afrolingua.html

worker who is interested in building a theory for his own practice, and communicating skills to others. He has also been evolving methods for teaching practical 'crash course' training in writing, design and media production.

As a design educator standing outside Higher Education and looking in, having seen friends struggle with their MA and PhD theses, Conrad had been horrified by the apparent inability of many university supervisors to support their research students in basic writing and editing skills, clear communication, and document design and production. He argues that this too is a literacy problem...

Brian started by saying that Conrad was not alone in not having a university degree; Brian got a 'proper job' instead of going to college, working with arc-welding equipment to design and build cooling systems for glass furnaces. That was a practical education in how one has to understand a process and how it works, and how one can learn by practising under the guidance of a skilled supervisor. Eventually one can become sufficiently proficient to devise improved methods.

In looking at technology-based information systems, we ought not to lose sight of the legacy we inherit from past systems. Whatever is done in business, public service or the armed forces is the result of years of development, layer upon layer of solutions – each using what seemed the best technology then available to do what was deemed politically necessary at the time.

Brian's major work experience is in health computing. This started in the '60s in a particular matrix of political aspiration, managerial ability, financial resource and technical capability. Nobody ever had enough money and political clout to go for a 'big bang' solution; developments were always incremental, organic and uncoordinated, with people in different sectors using different tools for different purposes.

Health computing started on a handful of very large, expensive mainframes in major teaching hospitals; they needed artificial environments and false floors, water-cooling and air-conditioning systems. Later on came the 'minicomputer' systems which didn't require such cossetting. More usable programming languages and development environments came along, so software could be developed by the people who were going to use it, rather than needing a 'priesthood' of programmers speaking in non-demotic tongues. Most recently we have seen the impact of the consumer electronic boom, the microchip and economics of mass production, so that now a computer is produced as cheaply as a television.

Telecommunications have experienced similar developments. It is no longer necessary to pre-book international phone calls with a switchboard, nor does the conversation travel through two bits of copper from end to end. Telecommunications have become digital, multiplexed, linked by satellite, wireless, and this has opened up the world in general.

When people need to use technology to improve what they do, they have two choices. If they have a legacy of older systems, they must make a decision about what to change it to. But if they have nothing at all, for example if their country has no pre-existing computing infrastructure, they won't go down the same route that the developed world took; they will take advantage of what is currently available. If you talk to people in government institutions and hospitals in various parts of the world and ask, 'What do you want from us?'; they are not going to say, 'Can we have your old computers?' They want the state-of-the-art stuff.

Similarly, in terms of information resources such as medical libraries, they don't want a roomful of back numbers of the British Medical Journal, they want the same new material as is available to colleagues in the industrialised countries.

The problem is, how can countries with infrastructures dissimilar to our own be empowered to access this information? At international medical conferences, you hear people remarking that everyone can get onto the Internet these days, or that CD-ROMs are so cheap that there's no need for printed information. This attitude doesn't help those who don't have the technical means to access these information sources. It is unsatisfactory to assume that everyone can make use of the information systems *we* have got; what is needed is a realistic appraisal of what they really need and how they would use it.

Technology must be appropriate. It does not follow that people without advanced technology should continue to have nothing, but nor does it follow that you can throw the latest electronic gizmo into the situation and expect people to cope. Problems of implementing such systems may be fundamental – such as lack of mains electricity, still a basic obstacle to widespread use of computing and telecommunications. Trevor Bayliss managed to devise a viable clockwork-driven radios – can we imagine clockwork televisions and computers, or solar power enabling computing and telecommunications?

Brian recalled that some years ago in Zambia, the public telephone system reached a point where it crumbled almost to nothing, similar to the situation in Kiev that

Susie had described earlier. As those telephone systems crumble they are not replaced, because the oligarchy in power has the means to set up a private mobile phone system. They can make phone calls from their Mercedes, while the rest of the population has to walk ten miles to the nearest working telephone.

Ten years ago, Brian was involved in liaison work with officials from the Scientific-Industrial Centre of Genetic Ecology in Tbilisi, Georgia. They told him that since the break-up of the old Soviet Union, they were forced into

using the Internet because of the inadequacy of the ordinary phone system: it was easier for a government institution to get secure phone lines for an Internet connection. They were also forced to use email as a substitute for fax, not because of the inadequacy of the telephone system but because they couldn't get paper for their fax machines. This raises the question about what we mean by the 'appropriateness' of technology – really, it just means what makes sense at the time.

From local to global

John used the flip-chart to construct a five-layer model of how 'local' connects to 'global', taking his own situation as an example. At his base layer is the University of Kingston where he works. Above this is a layer of informal bodies, such as the Information for Development Forum, where individuals get together to achieve particular ends. Above that, John placed the institutional and professional communities such as CILIP and the BCS.

As the next higher level, John's diagram placed a range of government departments; in education, the key one is obviously the Department for Education and Skills. However, as the Globalization and Development white paper claims to articulate the British experience to the international community, many ministries and departments could be seen as being drawn in here. The British Council, largely funded by the UK Government, and the BBC, can be considered to be in this layer.

The top layer is the international one. UNESCO is part of that and the UK Commission on UNESCO is one gateway to it. Other gateways for some will be the International Federation of Library Associations, and the International Federation for Information Processing.

John thought it interesting that in the previous discussion round, telephones were mentioned only at the end. His guess is that mobile phones with SMS and text-messaging will make a big difference at the technology level. Nor had anyone mentioned the ITU, the lead body in organising WSIS. No professional societies seem to be lobbying on the telecommunications issues.

In the past John has referred to what he calls 'the argument between the boxes and the books' – the librarians and the computer-people. In 30 years of this argument we have achieved almost no synthesis of the intellectual skills of librarians and programmers. But when one has *three* factors – boxes, books and telephones – then the repertoire of actors and opinion-holders is enlarged.

In come the journalists, editors, BBC, radio, television and so on.

John's next spoke about the traditions of literacy, starting with Richard Hoggart, who wrote *Uses of Literacy*. He thought that all of us here today would support bottom-up approaches to literacy which ask whose voice, whose reality counts. We also all seem to realise that writing is an articulating and politically organising skill, in a sense more important than reading. We seem to acknowledge that there is a certain tyranny in text – it produces a form of structure in thought which is linear, and many cultures and forms of political organisation require other ways of doing things. We also seem to agree that historically it was the people with control of the printing presses who controlled the ideas, and would also seem to agree that we have an obligation to do change this.

Historically, most people could *see*, *hear* and *speak*. Then the printing press increased the need for wider skills, and it is probably true now that most people in the world can read, write and count.

If we were to add the word *draw* as well to this list of useful skills, things become richer and more complicated. And if we throw the computer, the telephone and the television together, something new emerges – and with that, a new barrier, yet another new set of required skills, and a new opportunity about which to think.

David thought that the advent of desktop publishing, and latterly the Web, *could* be said to be revolutionary. These developments have reduced barriers to getting things published, in the broadest sense of the term. The amount of information that circulates is now much greater as a result. (However, its reliability has become more problematic and uncertain.)

Bodies of knowledge, and models

John drew our attention to one of his questions, namely, 'Is there an organised body of knowledge on the subject?' – or more than one? In answer he would include LISA, the Library of Information Science Abstracts; ERIC, the Education Resource Information Centre... these would need to be explained with a paragraph, noting also their difficulties, their contentiousness and so on. John said he would not include Inspec (The Database for Physics, Electronics and Computing).

The British Computer Society does not in any meaningful sense have a library; the Library Association destroyed its library. We could also take it as a sign of weakness that the Joint Information Systems Committee of the Higher Education Funding Council was forced to produce a set of resource guides for researchers in the social sciences, to try to inform people about what resources are available – John waved them at us.

We know almost nothing about ongoing projects in Information Literacy and we have a really elementary job to do. Sheila Webber has done part of it with her Web site, and Conrad with his. We have the basis for putting something together very quickly. But, asked John – apart from LISA and ERIC and Inspec, does anybody have any other 'big containers' of knowledge?

The Information Design perspective

Conrad said he had never been clear what John meant by 'an organised body of knowledge', but he is aware of an evolving body of craft knowledge within the field of Information Design – an area of practice that has had to get to grips with a workable definition of Information as well. He asked the meeting's leave to run quickly through the last thirty years or so of this intellectual tradition.

Designers are often bad at theorising their practice, said Conrad. For many kinds of product, you don't need to be good at theorising to produce good designs, and the kind of visual thinking involved in designing a product or a poster doesn't uniquely or mainly use words as its currency. For traces of organised thinking about design, one could start with the Bauhaus before WWII. László Moholy-Nagy also had a well organised view of the inter-relationships in decision making in design projects. After the Second World War, 'modernist' typographers made new efforts to co-ordinate design form & function. Also at that time there arose a burgeoning technical communication industry – people writing and designing

instructions, manuals, interfaces, public transport maps, wayfinding and road sign systems, and other means of making information accessible. It's interesting that it was NATO who paid the bill for an early Information Design conference at Het Vennenbos, The Netherlands in 1978.

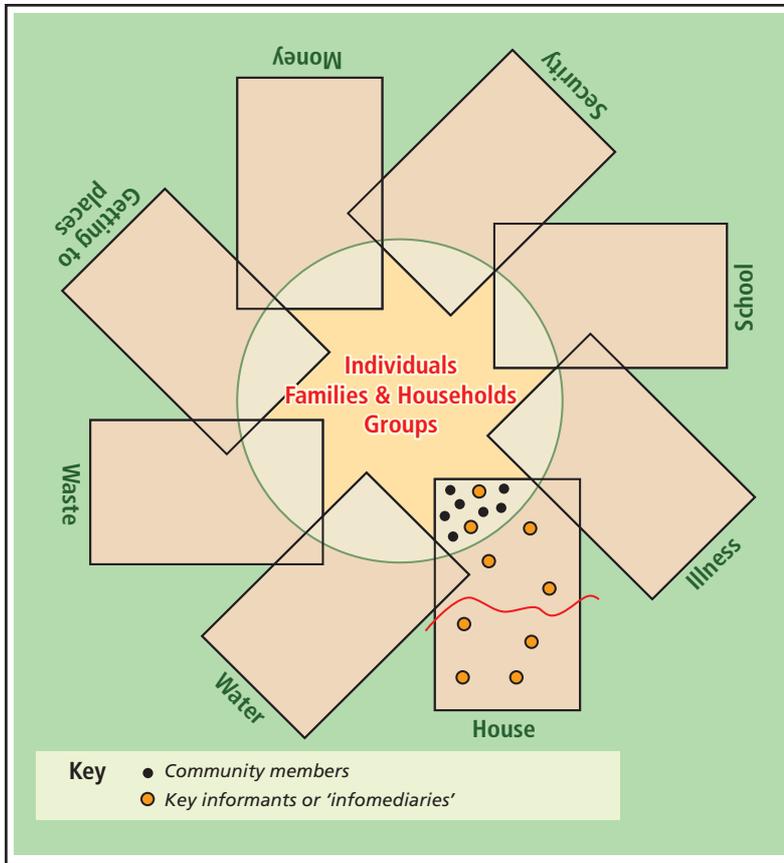
Conrad described Liz Orna's model of information viewed in the context of attempts to communicate it: one starts with *knowledge* (personal, internal, tacit) from which one creates *information* by organising its form, so transforming it into an information product which can be picked up and interpreted by somebody else. In this model, information is *designed* with an intent to communicate it. Readers take this information, interpret it and make some kind of sense of it from within their own perspective: that in turn produces knowledge. Many people in the Information Design community, Conrad thinks, would see information and its relationship to knowledge in that kind of light.

There was a time when information designers thought of improving communication of information as essentially a process of *clarifying* and *simplifying* how it is presented. Legibility research was one prong of this, feeding into Jock Kinnear's designs for the British road sign systems. At the same time there were pro-clarity campaigns for 'Plain English', and against 'gobbledegook' in official writing (e.g. Ernest Gowers, Plain English Campaign).

At about the same time, students of communication theory were seduced by the Shannon/Weaver model of communication, based on a Bell Labs study of signal propagation.⁸ Breakdowns in human communication started to be explained in terms of 'noise' or 'interference' undermining the clarity of the 'signal'. This model implies that if you have failed to communicate, it is because the message is not straightforward and clear enough, or you have presented it in an illegible or confusing fashion. That was a valuable insight, but unfortunately one which tended to regard readers as passive vessels for receiving information.

Now we have progressed beyond this to a concept of the *active* recipient of information. Studies of Human-Computer Interaction helped to increase awareness of the need for user-centred design. If we think of users/readers as active partners in communication, we become aware of how they unpack our 'information product' and interpret it, influenced by their experiences, cultural backgrounds, political viewpoints, and so on.

8. Shannon, CE and Weaver, W. (1948) A mathematical theory of communication. Bell System Technical Journal no. 27.



Two models from the KISUP study

In the **Windmill Model**, communities are beset with problems in eight identified areas, each represented here by a rectangle. Living within those communities there are **infomediaries** who communicate with other infomediaries at the national and international level, and it is on these than community members depend for access to information that will help them solve their problems.

U::G::C

In the **U::G::C Model**, the **U** stands for universities and other 'knowledge factories' who produce and manage sources of information. **G** stands for 'governance' and stands for all levels of government and administration. **C** stands for the Community.

The double colons are meant to indicate a bidirectional flow of information between the knowledge-factories and Governance, and between Governance and the community.

Within Information Design and HCI there is increasing interest in ethnographic studies and anthropological research undertaken to find out how any particular intended audience (e.g. American teenagers, Bangladeshi women, medical staff) sees the world; this insight then can guide the design of information products created for them. Often this may involve projects in cross-cultural communication, because there are practical reasons why not every message intended for a particular group can be created by a member of that group.

The emphasis on interpretation has gone to extremes at times – some 'post-modern' theorists seem to argue that you can't be sure of communicating anything to anyone. But recent studies – for example Alan MacEachran's *How Maps Work* and Colin Ware's *Information Visualization* – have drawn equally and usefully upon cognitive science and semiotics to construct a model of how signification works. Exploring what is universally human, and what is culturally constructed, a workable body of Information Design theory is emerging.

The KISUP models

John noted that Conrad's contribution had moved us in the direction of considering models of Information Literacy. He referred to a project and Pat Norrish had worked on, called 'Strengthening the Knowledge and

Information Systems of the Urban Poor' (KISUP), which had been funded by DFID. Three models were produced during this study. One was the 'Windmill' model, one was called 'No blankets, no Hallelujahs' and one which John called 'U::G::C'. Pat commented that she had written a paper on models for that same project, emerging from case studies in Peru and Sri Lanka and Zimbabwe.

Other communities of knowledge

Clifford suggested that before we moved onto models we should recognise two other relevant communities of knowledge. There is a lot of knowledge involved in the business of translation – taking knowledge embedded in one language and getting it into another. The European Union is a useful place to look for such knowledge; they have to get their communications translated into various members' languages. Extending the European Union will render this much more important, and more expensive, and it will not be possible to employ translators to translate all documents between all language pairs in an extended Union. Therefore they propose to translate everything to an intermediate form, and from there out to all the official state languages in the Union.

The second area is knowledge in the IT industry around business intelligence and data warehousing, where huge

quantities of data measured in petabytes (10^{15}) have to be managed. A business needs to be able to get into that data and find out what it contains so the executives who run it can make informed decisions. There is a sub-profession developing around this area – not just the technical aspect, but also focusing on making that information available and visible. This is a community which could have a useful input to make to our discussions.

Pat wondered about translation in relation to developing countries, and populations beyond ‘the last mile’ of connectivity to ICTs, beyond the infrastructure. (Sometimes it’s called the *first mile* to focus attention on those who don’t have access to ICTs.) There is great demand there for local information, local content, in the local language; people want to know about their local markets, their local transport systems. Translation might in those situations be rejected in favour of empowering people to create their own information, in their own language.

In considering the language issue, Pat thought there is a difference between the introduction of printing and the new information technologies. The printing press opened up access to writing in the vernacular; it enabled people to have materials in their own languages, not just Latin. With the Internet, such diversity is not so enabled; English has come to dominate it. The issue of multiple language support is therefore a very important one. People go to market, watch films and read newspapers using their language. Yet much of the support for local languages seems to be shoved aside in the desire to push global information sources.

Conrad commented that the computer and the old-style printing press both suffer from the technical problem of requiring fonts to be created before they will work multilingually. The dear old Banda duplicator and the photocopier don’t have that problem: materials can be originated for them by hand, and in any script.

David thought what Conrad had said of the computer’s limitations was not necessarily true: Christina Preston at the Institute of Education had worked with populations whose language had no written form. **Conrad** agreed one could use technology to side-step the need for literacy: audio tape has been used as a publishing medium in projects in Bolivia.

Pat said that she was also familiar with projects where the need for literacy had been bypassed using tape recorders, or cheap cameras, in response to demands from donors for reports and pictures of projects. This kind of demand from donors has also thrown up the challenge of a ‘culture of reporting’ where a report is deemed

appropriate only if it is in a certain format. Trying to get funding agencies to accept other forms of reporting has been difficult.

On issues of linguistics and translation, **John** added that the databases of the Modern Languages Association (MLA) are probably the closest thing to an organised body of knowledge in *that* area. Yet it is most likely that, just as with LISA and ERIC and Inspec, these warehouses of information are heavily oriented towards European languages, towards the interests of Western Europe and the United States, and that the way that the controlled vocabularies and taxonomies work is problematic for the ‘pro-poor’ environment. John pointed this out in 1985 in a paper for UNESCO and the British Library; and he thought that ever since then there has been no progress in dealing with the problems he then identified.

Clifford pointed out that none of those present would be here today, if they weren’t disposed to acknowledge a gap between the Western situation and that in other parts of the world. But while we are looking for ways of bridging that gap, the Western world is not stationary; the width of the divide is likely to get dramatically bigger. Digital television linked to a broadband cable will soon bring huge amounts of information to the Western audience. Clifford sees little hope that the rest of the world will catch up. **David** replied that he didn’t see it as being as simple as a straight divide between The West and The Rest. After all, there are poor communities in Europe and in Britain which are also on the wrong side of the digital divide – the issue is one of the rich and the poor, whether in this country or across the globe.

Evaluating information – and its sources

Susie agreed that access to information is important, but there are also important questions about the learner, the person who is receiving the information. At London Metropolitan University, the challenge is how to raise learners’ level of competence so that they are able to do something with the information they find. Learners need to develop the analytical and reflective skills that enable them to take advantage of the information available. The fact that her students don’t possess these competences reinforced her view that access to information on its own is not sufficient, and that the recipient must be able to use the information provided in order to complete the process of information transfer.

Brian sees a parallel problem arising from the availability these days of a great deal of information on the Internet for clinicians and patients about health conditions and their treatments. On the whole this is good: patients are

empowered to educate themselves about the conditions which afflict them. But there is also the problem of knowing whether all this information is accurate and reliable. Is there a role in Information Literacy for discussions of validation of such sources? In the USA and the European Union there has been a lot of work done to develop quality control standards for information of this sort.

David pointed out that validation/approval schemes still require the user to understand the significance of the validation logo or whatever else signifies the status of the information. This is so, said **Brian**; that's why he

wonders about extending our definition of Information Literacy in this direction – to include the ability to evaluate metadata attached to information about its validity and reliability.

Pat commented that validation of information by some authority is fine in theory, but doesn't mean that users will accept that validation. In much of the work she does in agriculture, poor farmers like to hear validation which comes from other farmers, as much if not more so than that which comes from scientists. Different kinds of user will want validation from different authorities.

Pro-poor and other agendas – constituencies, taxonomies and topics

John remarked that as part of the discussion on lifelong learning and widening access to learning, the National Forum on Information Planning has tried to start a debate about the nature of the Information Society in Britain. John is trying to get Amartya Sen⁹ to speak at a public meeting about this.

The Information for Development Forum took part in preparing material for the draft of the White Paper on Globalization and Development, and commented on the consequences of the White Paper. Recently, the IDF has also been involved in the Commission on Intellectual Property Rights, which was set up by Clare Short as a result of the White Paper. The result of this Commission was a document of 191 pages¹⁰.

During our introductory round, Clifford had mentioned GATS, the General Agreement on Trade in Services, and the role of the World Trade Organization. In the arguments in the lead-up to WSIS, it seems we would be on UNESCO's side, arguing for educational, scientific and cultural co-operation, freedom of expression and access to information, as supported by the UN Declaration of Human Rights. But the other major players at the World Summit will be the ITU and the World Trade Organisation, who will promote arguments about the intellectual property rights within the rhetoric of the free market.

John said he had intended to structure this afternoon's discussions to find out if we shared a pro-poor agenda; but it had already become clear that we did. He therefore suggested that we proceed by finding out what other constituencies and agendas we recognise.

At the TFPL meeting in December 2002 it became clear to John that the business world is one constituency to consider. Information Literacy clearly has a meaning in that context. It is also obvious from the SCONUL paper that there is a Higher Education domain. There's also a health domain – the issue of health promotion and health information is a large one with interesting challenges.

Taxonomies and models of learning

John suggested a taxonomy based on age-experience. Between ages 5 and 15 there's primary and secondary education – relatively well-structured and relatively well-formulated, although Information Literacy is as weak in it now as when John did the Need to Know project thirty years ago. From 15 to 25 we have tertiary education and higher education, where the structures are pretty well in place. The government target is to include 50% of the British population in that sector, which raises the question of what is going to happen to the other 50% – and what's going to happen to the 90% of the rest of the world who aren't part of that system at all.

From 25 to 55, suggested John, we have the lifelong learning whole-life experience. **Susie** challenged this, saying that 'lifelong' can't terminate at 55... **John** replied he was thinking in terms of the relatively formal workplace experience of wage labour, the experience of 80% of the population. **Susie** questioned whether a work-oriented understanding of lifelong learning was one we were prepared to accept, or whether we should embrace a wider definition.

9. Amartya Sen is the author of *Collective Choice and Social Welfare* (1970), *On Economic Inequality* (1973, 1997), *Poverty and Famines* (1981), *Choice, Welfare and Measurement* (1982), *Resources, Values and Development* (1984), *On Ethics and Economics* (1987), *The Standard of Living* (1987), *Inequality Reexamined* (1992), and *Development as Freedom* (1999). His next book, *Rationality, Freedom and Justice* will be published by Harvard University Press as a Bellknap Book, in 2002. He is Master of Trinity College, Cambridge UK, and co-chair of the Commission on Human Security.

10. "Integrating Intellectual Property Rights and Development Policy". Report of the Commission on Intellectual Property Rights, September 2002. Available http://www.iprcommission.org/papers/pdfs/final_report/CIPRfullfinal.pdf

Pat said that this model of learning worked well for Northern countries, but in the South working populations are often largely illiterate, and not in a structured learning environment. In the South there is a whole layer of intermediaries who provide and interpret information and help others to understand it. Such is the situation for the vast majority of the world's population. **John** replied that he thinks the majority of the world's people now live in cities – urbanisation make the world a different place. **Pat** replied that while this trend and its consequences are undeniable, there is still a large rural population. Information on agriculture and environmental management – be it for urban, peri-urban or rural populations – must be part of the Information Literacy we are discussing.

John suggested that another taxonomy might be to divide the world population into the 20% who have access to huge resources; a bottom 20% living in dire circumstances; and the groups in between. So wealth becomes another axis for the discussion.

Brian returned to the age breakdown, and questioned whether this would really apply outside of the Northern societies. Is there any point in thinking in terms of this scale of age progressions from pre-school through school and college and into structured work experience, when it doesn't apply to the majority of people in the world?

David, Pat and others agreed that in societies where work might well start at age 10 and many will die before age 50, this taxonomy would not usefully apply.

John suggested that in that case we would need to find another way to organise our thinking. Every society has some device by which children take on the inheritance of their parents, then go through the process of themselves becoming parents and passing on their knowledge.

Pat commented that one issue around the generational transfer of learning, whether through structured schooling or other forms, is the impact of the AIDS epidemic,

which in many countries has destroyed a large part of the 'transferring generation'.

Problems that information can solve?

Conrad suggested that if the point of our discussions was to relate Information Literacy to a pro-poor agenda, we must look to problems which aren't literacy problems in their own right – problems of health, or access to clean water, or preventing environmental degradation, or improving crop yields. One of our tasks could be to draw up a list of key issues where providing better information to more people could make a critical difference, and concentrate our efforts on those. Examples might be the control of malaria, or improving agriculture.

David suggested we should add technology transfer to that list, in particular where application of intermediate technology could solve problems, such as water desalination or solar power. Information is necessary not only for the construction of these solutions, but also for their sustained maintenance.

John said that in the KISUP project there was a consistent identification of the main issues as being:

**health, water, sewage, housing
work, money, security, getting places**

Pat suggested we could present these goals by referring to the Millennium Development Goals of the United Nations, a list which carries great rhetorical force in international discussions these days. These goals include halving extreme poverty and hunger, achieving universal primary education, etc. In the context of building a list of problems amenable to improvement through access to information, maybe we would pick different list.

But **John** criticised the Millennium Development Goals' use of the criterion of a dollar a day as the price of labour. It implies a formal wage economy, oriented towards turning people into wage-labourers in a money economy.

Our skills, our contribution?

Are we agreed, asked **John**, that our competence as information specialists is partly about building models and taxonomies – trying to get this discussion into some sort of structure, some sort of order? **Conrad** said that might be *part* of our contribution; but if he considers his own core competences, they are not about building taxonomies and models. Rather, they are about how to transfer skills in creating better information resources.

In response to another comment by Conrad, **John** agreed that taxonomies are highly political, which is why one can spend so much energy arguing about them. It is amazing so little has been written about this, though he has discovered a book called 'Sorting Things Out'¹¹ which looked at three or four case studies, for example the way in which Blacks were catalogued and classified in apartheid South Africa. Yet the politics of classification appears to have been completely unrecognised.

11. "Sorting Things Out: Classification and Its Consequences" by Geoffrey C. Bowker and Susan Leigh Star. 1999, The MIT Press; ISBN: 0262024616

Conrad agreed, noting how ‘working class’ means one thing within Marxist discourse, in terms of a relationship to the means of production, and quite another to market researchers. **Pat** talked about the problematic category of ‘the poor’ – phrases such as ‘the poorest of the poor’ are often resorted to, but nobody quite seems to agree what they mean by ‘the poor’.

John sought to move the discussion forward. If in making this collection of taxonomies we have an entry for ‘interface design techniques’ and ‘technologies and tools’, what else can we add? **Conrad** replied that there was certainly some expertise around this table around issues of multilingual computing and translation, in relation to making information accessible. That pool of expertise could be expanded through our networks, for example through BCS-EPSSG.

Listening across the digital divide

Susie said that she had difficulty reconciling her position, based in higher education in the UK, with thinking about an information literacy model that can be implemented in different environments and in societies very different to the UK. She couldn’t see a link between the way we try to integrate Information Literacy into higher education in Britain, and how we should think about Information Literacy *outside* of an educational context in countries with different levels of economic development and different cultures.

Conrad thought that we might learn by listening to other voices from far away; he cited the website of WOUGNET, the Women of Uganda Network, involved in issues of ICTs in society in Africa; and the African caucus within the Association for Progressive Communication (APC).

But **Susie** asked: are we talking about ICT here, or about Information Literacy? **Brian** agreed that we should not allow a definition of Information which would make it synonymous with ICT. **Conrad** replied that he agreed with that distinction in principle; but surely we are aiming to set specific targets in relation to the World Summit on the Information Society? It was his understanding that the topic of Information Literacy was being

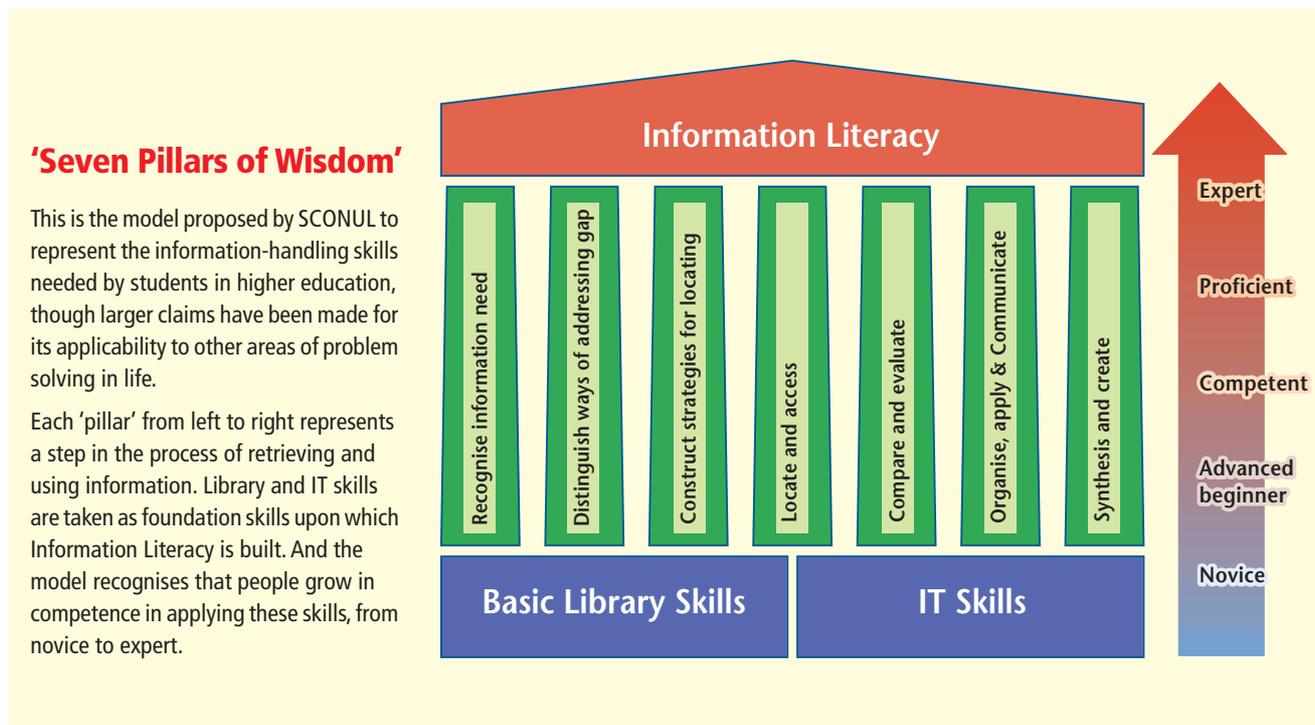
discussed today *in relation to the WSIS agenda*. If we are to orient ourselves towards the WSIS process, then we should note what sort of topics are being raised by the civil society organizations in Africa, WOUGNET for example, and some of the concerns they are expressing is indeed about the ‘digital divide’.

John thought we were in danger of going over ground that had been dug over many times before. ‘What Information Literacy is’ as a wider topic is a big discussion. At present, we have a useful moment in time because of the World Summit. What we want to do is to make sure that the views that we value are not brushed out of existence by the rhetorical power of the free market/ITU/telecomms service providers. Our goal is therefore to provide the British Government and UNESCO with the best arguments we can provide them with. The only reason that there is any debate at all about information in society at this moment in time is because of the new technology.

Taxonomies have been around since we wrote on clay tablets, said John. A land registry related land parcels to land owners, to a list of outputs of the land parcels, to the amount of tax that had to be paid – all done with 10,000 clay tablets rather than noughts and ones in an electronic box. Those farmers clearly understood the relationship between owning a land-parcel, growing a crop and paying a tax; and those simple things haven’t changed at all.

But if we consider issues of health, housing, taxes, water, security – people living in cities around the world know that their life experience has now reached a certain level of complexity at which they can no longer manage. That produces a new problem, said John, in which people have new information needs.

In this situation, those of us with professional obligations to design information systems for people are ‘shoving tanks into people’s gardens’, as John put it. We may think of our ‘tanks’ as a beneficial form of interference (water-tanks, perhaps?) but we have an obligation to think of the damage that our interventions may cause.



A closer examination of the SCONUL model

Discussion then turned to the SCONUL model diagram about information handling skills, as represented by the diagram above which was presented on an overhead transparency. This was important to do for tactical and strategic reasons, said **John**, because we need to engage with Higher Education in Britain. It is one of the biggest players in the game, he said, and if we are not going to be completely marginalised as a tiny group of people without leverage, we must become to be involved in the debate in Higher Education in Britain.

John thinks the SCONUL model is missing a foundation – some basic core competences necessary before you can engage with Information Literacy skills. A weakness in the SCONUL model is that it lacks any discussion of what happens to people *before* they arrive at university. What do they know already? How do they structure their knowledge? (Would they understand the concept of a logical AND, for example?)

Once we have a grasp of how Information Literacy relates to higher education experience in Britain, then we could identify the features of this model that would not be appropriate in other situations; and each situation may need a different approach. The situation of the Chinese villagers whose valley is being flooded by the dam across the Yangze Kiang would provides a different context from that of women in rural Nigeria, and so on.

Articulating requirements for information

According to John, the pro-poor approach demands that people be able to articulate their own models, in order to define their information requirements. And these needs must be fully acknowledged by the 'infomediaries', the people who design and build information systems. That is what the U::G::C model was about in the KISUP study.

Conrad picked up on the idea of people articulating their own requirements, and referred to a method of which he knew Pat would be aware, namely the Action/ REFLECT methodology for creating shared visualisation of problem-spaces, an application of the principles of Participatory Rural Appraisal (PRA) in which groups of people use materials to hand (bare soil, stones, shells) to make easy-to-amend, mutually constructed diagrams through which agreement can be reached on an adequate definition of a shared problem. He wondered how this sort of debate or shared visualisation could be facilitated technically in a geographically dispersed network. Can we imagine a 'digital sandpit' for such discussions?

Pat said there are some 'small voices', perhaps not being very well heard, and a couple of case studies where people have done just that. According to one organisation which was trying to introduce ICTs locally, 'We started building a system, and discovered that what *we thought* people wanted, they didn't actually want.' So the organisation

went out to find out what was really needed, in terms of the information, and the skills to use the information. A lot of Participatory Rural Assessment work with such visualisations is being used to find out what local needs are, and she is aware of this happening in Zimbabwe and Peru. 'These are tools and techniques for getting people who aren't literate to visualise problems and work through processes to arrive at definitions of their needs.'

David asked if basic literacy is a requirement for the Information Literacy model of SCONUL; surely library skills must take basic literacy for granted. Looking at a wider approach to handling information, it is still true that one must be able to understand and use the language to engage with library skills.

John said that this opens up again the whole argument of what we mean by information; in particular, as a consequence of what is called STM – Scientific, Technical and Medical publishing. **David** said that the STM world may have its problems, but he does not see them related to Information Literacy at the levels at which we had been talking. **John** replied he thought they must be, because the scientist often comes along and says, 'I know that what your community needs is...' That's a top-down approach that afflicts many British Government aid policies in health promotion, transport etc., none of which works. **David** modified his point, saying that in the STM world he doesn't think there are Information Literacy problems *internally*, but they would certainly arise in terms of external access to that information.

Pat said that a lot of the rejection you see within development programmes of externally-devised solutions, and in agriculture particularly, is because of that lack of a link between the scientist and the farmer's peer-group.

Adapting the SCONUL model

Susie suggested that the 'information intermediaries' could have a vital role in providing the benefits of Information Literacy to users who don't have direct access to a library or other information sources. Thus there may be a distinction between the North and the developing world; in the former, the user's direct access to sources of information has increased quite dramatically, and the role of the intermediary is now not as essential.

Secondly, she noted how America and Australia seem to be the other two places where the concept of Information Literacy has taken hold, with a considerable overlap in how IL skills in higher education are defined.

If we accept the SCONUL model, we have an agreement about how Information Literacy enables one to identify

information needs and the means to satisfy them by engaging with information systems *however* they happen to be localized. In the UK, that could mean using a subscription database; in Uganda it could be going to see a health worker or some other information intermediary who knows how to find the information from source.

Clifford said that he had experience, in another context, of the development of generic models. Could SCONUL's model be made more generic? Then one might apply the more generic version to different scenarios; for example to health education in rich countries versus health education in a developing country... We could see in each instance if the model fits, then make iterative improvements to the model. Maybe some parts of the community of information professionals would not immediately accept a generic model – but if they saw it illustrated by examples in a number of different domains, they could be persuaded to adopt it.

David returned to Pat's comments about scientists. The STM world might have problems relating information to the developing world, but they must be aware that in our own society too there is distrust of scientists; On occasion this is justified, though often generated by Press paranoia. One's perception of genetically modified food crops, for example, will be influenced by personal perspectives as well as by what the press is writing about GM foods. This raises the question of how the citizen can evaluate what the press is saying – or to put it more broadly, how *any* of our information sources can be categorised in terms of reliability, to the satisfaction of ordinary people.

Conrad returned to a critique of the SCONUL diagram, saying that if he were to re-write the heading for it as 'strategies for acquiring information and turning it into knowledge', he would omit columns 6 and 7 as pertaining to things that you do with the knowledge after you have acquired it. Even then, looking at columns 1 to 5, he doubts whether this model is believable or useful. For a start, it begs the question: how do you recognise that you have an information need in the first place?

Also, it seems glib to Conrad to suggest that in most life contexts we can 'identify ways of addressing the information gap' when we don't even know what information resources are available; and one wouldn't know that until one has gone through the process of looking for answers to one's questions. In most situations in life there is no systematic process to solving these problems – it's all *bricolage*. You gain awareness of resources, and a facility with how to use them, in the process of using them. So the model looks like an *ex post facto* systematization of a process that is not experienced like that in reality.

The role of the infomediaries

Conrad also thought that in the process of discovering information, it helps to have the support of an 'information intermediary' – someone who has already explored the paths of the resource network, and can help the user to find where resources are and how they are organised.

The SCONUL model was devised for the industrialised world, where the information intermediary has tended to disappear over time. One reason is that people in rich nations are expensive to hire and train – so, instead of having a 24-hour office where you can ask a human being when the next bus leaves for Chichester, you have to log onto the Web site and figure it out for yourself.

In contrast, Yateendra Joshi of Tata Industries Research Centre in Delhi once pointed out, during a discussion of how to provide timetable information to the largely illiterate Indian population using several languages, that the most cost-effective option would be to hire a multi-lingual information worker with a mobile phone link to the bus company's HQ. That person could stand by the bigger bus-stops and answer peoples' queries.

Pat also had something to say about 'infomediaries' (not her own term but one used in the KISUP project).

At the rural level in developing countries, infomediaries are often NGOs. Each has its own agenda which could be political, social, linked to religion *etc.* The information they generate and provide will be informed by those agendas, or those of the donor agencies funding them. People need to know how to evaluate such information.

Infomediaries are often described as 'gatekeepers', meaning that they hold information and give it out to people; but gatekeepers they may also be in a negative sense, shutting people off from sources of information and power. Information may be provided only to people involved in their projects, for example.

Susie said that it is interesting to hear how in the developing world information intermediaries are playing the role they used to play in the North, before the Internet unlocked direct access to information. If they are playing that kind of gateway role, they should be the targets of any Information Literacy policy. There is no point in going to users and saying 'I will equip you with information skills' if they can't gain access to the information, so one should target the people who *will* provide access in order to widen *their* horizon and *their* agendas.

The changing role of the library

John wanted to remind us that in Britain for a hundred years we have had a public library system, and in Britain today access to the Internet still means going to a public library for many people. Libraries in Britain today are busy places. Some books have been moved out of the way – to the distress of the more neurotically traditional librarians – and in almost every urban branch library will be ten or twenty workstations, fully occupied. Skilled, qualified librarians are now playing a real role in helping ordinary people access information via the Internet.

John had made the point to DFID that we should not go steaming into a developing country and start to build information access structures from nothing; we should reinforce and rebuild the public library structure instead, which people have been battling to keep going for a hundred years. Re-tooling, re-skilling and re-kitting the basic public library infrastructure is how to build these links at the urban level.

And the public library and the school library could work in better collaboration; perhaps the best place to put your public library is inside a school (irrespective of what professional jealousies that might kindle!)

Schoolteachers and public librarians still have to be trained somehow or other, said John, to give them an overview of the information infrastructure and how to query it. This is another reason to engage with the higher education system that imparts these skills.

John also recommended a model put forward by Ron Stamper, who described how people move through cognitive steps to clarify the way they are thinking, to more and more abstract levels. At each step, one realises 'I have a question'. A *question* emerges out of a *context*; the *question* defines the *search-space*. And John followed the process through: 'If search-space satisfies question – tick, that's good; if search-space fails to satisfy question – now I've got a research project. That can be as small a question as, "Where are my keys?" or as big as "Where's the next bottle of water going to come from?"' A model of this sort never has more than a small number of steps, but is iterative – and that seems to John to be the kind of model we should be arguing for.

What the SCONUL report is missing, said John, is the role of professionals as designers and builders of these information systems that other people are then 'messed

around by' – which is why John had shown us the JISC resource guide for the social sciences earlier on. 'We have constructed an absolute shambles,' he said. 'If we did our jobs better, other people's lives would be made easier.'

Susie compared the role of information professionals in Information Literacy in this country with those of Australia, the USA, or the Nordic countries. In those countries, librarians are taking the initiative and are driving Information Literacy policy at the institutional and national levels. In Finland they are developing a national policy on Information Literacy, based on the SCONUL model and the American model, and other good practice from different corners of the world. In her

view this is the best way to move forward – what she calls the 'plug and play' approach.

John mentioned that the President of the International Federation of Library Associations this year is Ms Kay Raseroka, Chief Librarian of the University Library of Botswana. At IFLA's Glasgow conference in September 2002 she organised an open session for half of the day. About 150 people turned up to this brainstorming session, working in fifteen groups of about ten people around tables. John had raised the issue of Information Literacy there, and she seems to have picked up on this, which we can build on.

Can the IT business become pro-poor?

But, getting the library profession organised is relatively simple, said John; indeed the library community is taking something of a lead here. There's more of a problem with the people who run Information Technology; they are not user-oriented, and they are not pro-poor-oriented. They seem to be fixated by their boxes, concerned with making their toys work – perhaps it's a male thing, a 'Boys With Toys' thing?

But also, said **David**, let's remember that these IT people are often working towards the business market, where the money is; there are hundreds of content management systems directed at business, for example.

John agreed, but he argued that if 'the rhetoricians of the Microsoft world' are going to create – as they claim – a world market of five thousand million people, they have got to get the other four thousand million other people into a position where there is some use in their lives for the tools that are being produced. Surely it should be in the interest of those businesses to grow the market... if only they can be got to understand that.

Conrad thought it more likely that computer companies would want to grow the market only to the point where their returns on investment diminish; beyond that they would not go, just as we've seen pharmaceutical firms behave in respect of solving the world health problems of malaria and sleeping sickness.

Brian agreed that it is likely that business would cut off development and investment at the point of diminishing returns. But what they would do then is to re-invent the market by changing the product – like in the automotive industry where they build in obsolescence, and depend for profitability on a relatively fast 'churn' which makes people buy new models, plus a parallel business

of add-ons, replacement parts and so on. However, in the computing industry, the hardware can often keep working for years and years. The driving force in the IT market is, by and large, the way software outgrows the capacity of old hardware, and it is this that forces you to buy new hardware. Changing the basis of licensing arrangements for software is another way the IT business is trying to turn the market over. And as for the really big money, this is no longer in the use of IT in business, but its use in entertainment – games, video and so on.

Conrad said that he saw no contradiction between Brian's point and his own opinion as just expressed: the computer business will turn its back on the user in the developing world in favour of inventing fancy technologies to sell as upgrades to existing rich users. There will be more profit in developing the next video game for Western and Japanese kids than in developing affordable ways of helping the world's poor to create and access information.

John thought there was a further issue to consider. In the United States, it is now possible to patent a business model. What will happen as this process of 'intellectual enclosure' continues? If a patent exists in one country, the patent offices of other countries will generally not allow a patent to exist in that domain locally. This process is leading to an extraterritoriality – extending the reach of intellectual property rights to things previously not recognised as intellectual property.

These considerations of intellectual property rights and how they affect the use of technology by the poor could lead us to arguments in favour of the wider use of Open Source software.

Economic models

One argument that **John** had not so far heard in our discussion, he said, was the issue of electronic commerce. John had chaired the Cabinet Office's 'Foresight Panel' on electronic commerce on behalf of the BCS, and their report summarises quite a lot of the issues. The views in that report are based on Jim Norton's report on electronic commerce, which in turn had led to the setting up within the Cabinet Office of the Office of the e-Envoy. Because the government's White Paper on Globalisation and Development offers the idea that Britain ought to provide a 'template' that developing countries can pick up, these UK initiatives are germane to our discussion.

Justin Smith [at Plymouth University] had said that he thought that – even as a generic model – the SCONUL model is too library-oriented in its understanding of information. As John had said in the report he wrote for the BCS, electronic commerce seems to raise a challenge, because of the way in which buying and selling is going to change. These changes will bring both opportunities and threats – and not just in developing countries, but also for the 50% or more of the population of Britain who are not going to get higher education.

John says that he still favours a discussion structured around a taxonomy of 'primary education – secondary education – tertiary education', because it does provide a sort of generic structure, even if most people are outside of it in some way or other. So now he asks for instance: What is it at the primary school level that you need to know about buying things? People do have some understanding of buying and selling, and it seems like a core competence that doesn't quite fit the mould of 'literacy' or 'numeracy' or 'visualisation'.

Increasingly, electronic commerce will become part of the way the world market works, and something quite profound is going to happen. The price of labour in the world market will change. People with core competences

will be able to sell their labour power at a certain price, as a consequence of which the cost of all commodities will fall. However, the buying-power of people who don't have those skills will fall, and they won't be able to get the money to buy those commodities. This is the theory of 'the contradiction between the organic composition of capital and the tendency of the rate of profit to fall.'

David thought that maybe the SCONUL model might apply to electronic commerce after all. If you recognise that you have an information need, you know you want something; and you look for where you can get it from. That's rather like walking down the High Street and looking in half a dozen shops – or maybe these days looking at half a dozen Web sites. So part of the SCONUL model does apply to electronic commerce, though the last two steps, 'synthesise and create', do not apply.

Alternatively, a transaction model might be relevant – everything is 'someone doing something with stuff, to somebody else or for somebody else'. In all these cases there are two people at each end and they in a process of exchange – whether it is information or books or goods or whatever. The transaction model could be placed beside the SCONUL model.

Pat said you must remember that as well as people who want to buy, there are people who want to sell. In some places such as rural India, that is being done largely through intermediaries.

Clifford, referring to the SCONUL model's relevance to economics, suggested we could think of inputs as a previous iteration. The person who is selling has gone through all those steps in order to create their cattle, or whatever it is they are trying to sell.

This, said **John**, is what we call a 'value chain'. You might be able to introduce the idea of a value chain to people at certain levels of education, and the idea of adding value.

Classification schemes; and, what is information?

John then recalled how thirty years ago, basic library skills involved learning how the Dewey classification scheme works, and making sure all the public libraries used Dewey. But then one notices that in the Dewey '200' sequence for religion, fifty components of the table are given to Christianity, one to Islam, one to Judaism, and one to all the rest of the world's religions. Unless people come to recognise the politics of how these things are structured, they have not learned much. John thought

if he was a Muslim and he believed his religion was true, he might fly an aeroplane into a tall building if someone built a classification scheme that gave fifty components to an alien and false faith, and only one to his true faith.

David said that another problem with Dewey, indeed with any classification scheme, is if the librarian doesn't understand what a book is about and gives it the wrong classification. **John** gave as an example of this the book

‘The Arms of Krupp’ (on the German munitions firm) which got placed in Dewey 929 (heraldry). If you search a library catalogue for a Scottish town called ‘Dumfries’ you will find none; but if you search under ‘Dumfry’ you will find several, because some idiot built a rule that a word ending ‘-ies’ is a plural or a word ending ‘-y’ and should be classified with the latter...

Go to a bookshop and look for the subject ‘Information Design,’ suggested **Conrad**. Some of the key books in this cross-disciplinary subject will be found in psychology, some in writing, some in computing, geography, typography. At least if you go to a library, said **Brian**, there is a chance that you’ll encounter an intelligent life-form who can help you or at least understand what you are looking for. The same can’t be said of some bookshops.

John thought that from libraries to bookshops to supermarkets he could see a trajectory of disintegration of information skills and taxonomies; and confessed a complete inability to understand how a supermarket is organised...

After we had wandered off in a discussion of how supermarkets are organised, **Conrad** wondered where we had got to on the agenda.

John suggested that we were between looking at taxonomies and metadata, and what other skills we might have to offer, and looking at whether there is the possibility of an institutional framework for our discussions. If so, said **Conrad**, he would repeat his view that within this room there were competencies also in knowing how to *present and design* information, and how to make it as accessible as possible.

David returned to the SCONUL model of Information Skills, asking if we had come to a settled view about whether it could be applied across the board with modifications, or whether we need a more generic model. Or, said **John**, whether there really can’t be a generic model, and that generics will always disintegrate into locuity, and that there always needs to be a here–there/now–then/this–that...

At this point in the discussion, **Conrad** had walked up to the flipchart to write up a list of ‘our competences’ and started the list with ‘Making information accessible (and teaching people how to do that)’. **Pat** suggested adding ‘making information usable’ there too.

John said he was arguing that Information has a different meaning – and that what Conrad and Pat were talking about is ‘Stuff’. **Conrad** said no; he would stick with the idea that Information is created in the context of wanting

to communicate knowledge. **John** said that is not so: he believes that *Information* only happens where he comes along with a gap in his knowledge; and when that gap in his world meets the object in that world, the communication is set up and information occurs.

Conrad said, perhaps John comes from the point of view of researching and finding out information; whereas he [Conrad] is seeing things from the point of view of someone with information to impart. No, said **John**. He isn’t coming along ‘looking for’ information; he *needs* information. Conrad as a ‘pusher’ will never know whether Information ever ‘happens’.

David said he was happier with Conrad’s definition of Information, and use the word ‘knowledge’ to describe what John was calling Information. No, said **John**; this is why we need the social structure. Because when we look at the concept of knowledge – and here we are really going back to Aristotle – we find that there is a social process that gets a thing into a book; and knowledge is that social architecture, which is the product of society.

So, we still seemed not to have an agreed definition around the table of what Information is...

Susie made an observation – Conrad seemed to identify with SCONUL skill number six, John with skill number one... The SCONUL model might not fill our needs, but it does seem to capture us all!

Well, said **John**, the SCONUL model certainly kept us going for long enough. ‘But what is missing is from it is *our* role as professionals; we are the people, in some sense, who build those edifices. The model does not recognise that we have a professional responsibility towards what we are building. We make these damned things, and we make them harder to use than they should be.’

Justine suggested that the SCONUL model really only looks at information from the point of view of the enquirer, the seeker-after... it doesn’t seek to deal with the obligations of the producer, the organiser of information. It was even worse than that, said **John** – the model was built from the point of view of a bunch of university librarians, who were failing to query their professional practice.

Justine also thought that the model doesn’t offer a place for any kind of help or support for the searcher. To be fair again, said **Susie**, the SCONUL model does conceptualise Information Literacy as a tool for the job of being a learner; that cuts out from the model the role of any external intervention from an information provider.

Toolkits for Information Literacy?

This led **John** back to his earlier question, ‘What kind of taxonomies and toolkits should we try to have?’ If you think of primitive carpentry, he said, if the only tool you have is a hammer, all problems are nail-shaped. If you are trying to join two bits of wood together, you ask whether the forces between the pieces of wood are ones that shear along their face – in which case you can use a nail – or tend to pull the faces apart – in which case you should really use a screw. But if you have no screwdriver, you treat all the problems as nail-shaped even when that is not appropriate.

What tools should a toolkit for Information Literacy contain? In building his own list of tools, John would put Netscape Composer in the centre: it’s free and widely available, gives a basic starting-point for text-processing and editing, getting some text and pictures together and producing a basic website. It gives a means of expressing yourself, with no financial outlay. With that as the starting point, John would add other tools. Microsoft Office he would include simply because it is so pervasive, even though it is a nightmare to use, and too expensive for developing countries (unless you accept piracy as a distribution method).

ECDL

Under the category of ICT skills, we have the European Computer Driving Licence (ECDL), a course of study already at the level of an NVQ-2. It takes about 80 hours of people’s time, and it is not often that you get 80 hours to devote to learning how to use a computer. **David** said that you don’t have to study the ECDL curriculum all in one go, and he also questioned whether everything in the curriculum would be appropriate for someone learning how to use a computer in a developing country. Would you bother with the ten hours on spreadsheets?

Brian mentioned that an ECDL Foundation Course is also being developed; maybe that would address the issue by defining an more elementary set of IT skills?

Clifford reported that in the National Health Service they have decided they cannot accept the full ECDL seven-part curriculum; they have produced a modified version with only four modules. That, said **Brian**, is a cut-down version of the existing curriculum; whereas he was talking about a simpler introductory version of ECDL. (Might it be called the European Computer Moped Licence, we wondered?)

David wondered how some of the ECDL curriculum could be made much simpler than it is. However, he notes there are some things in the word-processing module of the course which David would never himself use, for all his years of experience; in order to write the tutorial for the course, David had to learn them for the first time. Meanwhile there are word-processing tasks David does all the time which are *not* in the syllabus.

The difficulty, said **John**, is that there’s no information skills or information literacy equivalent of the ECDL. Many opportunities to create this have been passed up (John once wrote an ‘Information Hitchhiker’s Guide’). While information objects are missing entirely from the ECDL worldview, at least in devising ECDL someone made an attempt at giving some structure, however wrong in so many ways that structure may be. **David** noted that the ECDL course does include quite a large emphasis on mailmerge – that has the potential for being used as the basis for discussing information.

Susie said that whatever comes out as the output from this meeting, she would like it recognised that Information Literacy does not equal Information Technology. That view was accepted by the group, and it too got added to the flipchart.

Classifications and links

John showed a text from Hussey’s book *The Picturesque*, as a case study in classifications of types of knowledge...

So at that moment, the relation of all the arts to one another, through the pictorial appreciation of nature, was so close that poetry, painting, gardening, architecture and the art of travel may be said to have fused. The combination might be called the picturesque.

A discussion then followed in which John compared Hussey’s efforts to link several disciplines together with the tendency of classic librarianship to split things apart into classification schemes.

David suggested that the newer concept of metadata has the advantage over divisive classifications such as Dewey, because one can apply multiple metadata attributes or properties to a single informational entity, solving the problem of which ‘box’ the item belongs in. **John** then wrote up the U::G::C label on the flipchart, saying that when this idea arose within the KISUP project, the intention was to use the double-colon as a device to join the other components together. Metadata architecture, said John, allows one to build that structure.

If we were to use the U::G::C approach rather than Dewey, we would have much better inheritance, and would be able to build components together more competently. This is called 'fully faceted analysis'.

John said that the advantage of the taxonomy of the Periodic Table was that it enabled somebody to predict that a set of chemical components which were unknown at that time actually did exist, had to exist, and would be found. In contrast, the Linnéan biological taxonomy is a poor one because it cannot predict that some phenomenon of which you are currently unaware will come into being.

Students looking at taxonomies talk about 'natural relations'. This may be a relevant concept in objective physical systems, but it doesn't work in social systems. There are no natural relations in social systems – they are made by people. As we build classification schemes, we are building social constructions; and as people learn about those social constructions, they will quite rightly reject them if they do not fit into their scheme.

So, what happens next?

Conrad at this juncture raised a 'point of order' – he sensed that people were getting tired, and not sure where the discussion was going. He felt we should determine what sort of discussion end-point we should try to reach. Perhaps it was time for us to go around the table again?

John said that the last item of the agenda he had devised for the meeting was that we should try to determine the possibility of an institutional framework for pushing forward on these issues. He suggested that we should go round the table again, declaring what we would want to happen and what we would want to do in the lead-up to the World Summit of the Information Society.

Brian said that this meeting should result in something tangible, based on the discussions we had had today plus the material on the Web site that Conrad had built. Ideally we should create a document to push forward into the WSIS process. We would also need to determine how this is delivered, and agree a position we can take forward. But the next question is – what would go in it?

Conrad said he had recorded this meeting to MiniDisc. On those recordings there could be found something of a 'body of knowledge' on the subject, which could be written up. As for other possible outcomes, the BCS Electronic Publishing Specialist Group was in the process of planning its series of one-day conferences for 2003. One of these, in June 2003, would be on the practice of

Learners or users?

Susie commented that the perspective of a learner, or a user, has to be taken into account in order to devise an information literacy policy that will address their needs.

Brian suggested that the word 'learner' might be too definite a word. The word 'user' as a more generic term might be useful, because we're talking about people who don't see themselves as learners in a formal sense.

If we take access to information resources as the first requirement, and teach those who need access how to achieve it, the other side of the coin is the day-to-day kind of information literacy which the John and Jane Does of the world need. Whether for business or entertainment, for education, health, doing a job, going on holiday or travelling around, there are chunks of information that ordinary people need to be able to get at.

electronic publishing in the work of NGOs and bodies with a pro-poor agenda. It was possible that some of the WSIS themes and concerns could be introduced into the content of that conference, perhaps with help from those present. So, BCS-EPSSG could offer one mechanism for carrying the discussion forward.

David then described how Nic Holt of Fujitsu UK has made it possible to make lectures available over the Web as a streaming audio presentation with synchronised still images. The annual Turing Lecture of the BCS and IEEE, (Institute of Electrical and Electronic Engineers) has been disseminated in this way, and the BCS Knowledge Services Board has said it is willing to put money towards investigating the potential of this method of delivery. So, if we were to hold such a conference or host a lecture on these topics, it might be possible with BCS support to put it up on the Web.

Sue Hughes offered three thoughts. Firstly, she supports separating the concept of Information Literacy from that of computer literacy. She thought that this was a special element of the perception of this group, and hoped that viewpoint would be incorporated in anything coming out of this meeting.

Secondly, she reminded us that the British Council is lucky to have an office in Geneva. Through that, the Council can be 'plugged in' to various organisations

and people in Geneva who will be involved in the WSIS summit. She was aiming to go to Geneva in February to find out how the British Council will be able to gain access to the Summit, and the best way to make an input into that. She would report back to this group about the best mechanism for putting our ideas before the people in the WSIS process.

Thirdly, Sue mentioned there would be a conference on Information and IT Literacy in Glasgow¹² sponsored by the Glasgow universities – a call for papers had gone out, and it would be worth aiming to make a contribution to that event.

Penny endorsed the view that this group should link up with others in the UK thinking about Information Literacy, and suggested we should not focus too much on the details of what sort of input we would want to make to take to the world summit until that networking has been done. Nor did she think it was important that we emerge from this meeting with a defined model. At least this meeting had raised useful questions that she thought had not yet been raised with bodies like UNESCO.

Susie thought we might draw up a list of ‘pointers’ or principles, rather than a definitive model, and ‘IL does not equal IT’ could be one of those principles. Making information accessible could be a second. Another could be to make technology appropriate to the environment of use. We agreed this sort of list would be a useful thing to inject into the WSIS process.

Conrad also thought that in preparing such a list of principles, it would be worth reading similar lists drawn up by other meetings, and especially those coming from the developing world itself – such as the list compiled by participants at the Addis Ababa conference of the Association for Progressive Communication.¹³

Susie suggested that we emphasise the link between Information Literacy and lifelong/independent learning. While this link could be seen as a narrow concern of Higher Education, it could also be constructed with reference to John’s idea of Information Literacy across the educational spectrum, and with much greater ambition – not just as a toolkit for finding information, but as a challenge to the whole education sector, so the education system helps people develop the skills to be lifelong independent learners.

Justine also supported Susie’s desire for a list of key themes. She expressed concern that we should be clear

what we meant by Information. The group seemed to be working primarily with a definition of information as ‘external representations of knowledge’ – language and signs. But when knowledge representation is considered, she said, you have to consider conceptual structures, models of the world, people’s forms of understanding. More is involved in that, than in a simple view of information.

Some of the difficulty we were having, thought Justine, was in trying to reach quick conclusions about such a complex topic. Our talk of ‘Information Literacy’ makes it sound as if it should be easy to define what skills and tools were appropriate. Yet, in an academic context, we were importing quite high-level methodologies. Justine still felt our boundaries were not clear, and also wondered whether the ideas of Information we were working with would match those that would be the currency of the WSIS discussions.

Pat expressed a further concern – if we focus only on organised structures e.g. in education, what happens to all those people at the other end of the scale, who cannot participate in those structures? She elaborated that she was thinking about people in the circumstances in which she typically works – small towns or villages in remote parts of developing countries. A model which could not encompass their needs as well would bother Pat greatly.

Conrad did not want us to focus on formal education only; indeed, if he thought that our discussions were going to be limited to that, he would have no further interest in the project.

David thought we might want to express an opinion that ‘information doesn’t equal words’ – that there are other ways to convey information.

Susie wondered about the many ways that have been invented of stretching the use of the word ‘literacy’ – there’s information literacy, media literacy, tool literacy ... and **Pat** said that there had been a series of seminars or conferences in 2002 that had looked at expanded notions of literacy. (The people from Action Aid who had worked on the REFLECT project had made a substantial input into those discussions.)

Conrad thought we might miss the point if we insisted on clustering everything around an expanded concept of literacy. This was the reason why the Web site he had created to facilitate this meeting, had been called the ‘WSIS focus’ site, not ‘Information Literacy focus’.

12. The conference is “eLit2003” and refers on its home page to “electronic literacies” rather than IL. It will be held at Glasgow Caledonian University, 11–13 June 2003. See <http://www.iteu.gla.ac.uk/ELIT/ELIT2003/>

13. See Africa ICT Policy Monitor – http://africa.rights.apc.org/workshop_dec_eng.shtml

Clifford observed that our collective thinking style was that of what might be called 'logical thinkers'. Out in the world, though, there's a lot of more *intuitive* thinking. Perhaps we hadn't broadened our thinking about information enough; it would be premature to focus our thinking now. Perhaps we should meet again, and we should continue the discussion through the Internet. But how much commitment and stamina would people commit to pursuing this? Could those in charge of the group (BCS-DCSG) take a poll to assess people's availability for this?

Civil Society and world summits

John said we'd failed to explore the idea of Civil Society, and its place in the lead-up to the World Summit on the Information Society.

He suspected the only reason any discussion is taking place at the international level is because of the anti-globalisation protests at Seattle and Genoa – or maybe one could even trace the thread back to Rio 1992 (*World Summit on Sustainable Development*). These events had highlighted a democratic deficit, and had showed that people are turning their backs on the formal political structures. After all, historically, World Summits were for Prime Ministers and Presidents and the like – the heads of government, partaking of champagne, and taking decisions among themselves.

The argument around the Johannesburg follow-up summit on Sustainable Development, and the planned WSIS events, have been about what the role of Civil Society will be – in producing agendas, and determining the issues that would be debated. But Civil Society participation, however welcome, is problematic. Once you get to 60,000 or 100,000 people at a conference, individual voices are lost in the process. (Consider, the European Social Forum in January 2003 had 20,000 people at it!)

Clearly part of the process of constructing this idea of Civil Society involves the political parties, trades unions, voluntary organisations, NGOs and so on. As for us, we could offer our views through the professional societies, such as BCS and CILIP. To avoid our voice being lost, we should concentrate on being as brief and as clear as we can to our own professional societies, about what we consider our professional obligations to be, and the type of intervention we would expect from these professional bodies.

Things to be getting on with

We can leave open for a while what should come out of today. Whatever the outcome, this should include a

letter to the President of the BCS, and a letter to the President of CILIP. John thought from our discussions that we would have several 'considered opinions' that could be expressed in such letters, and wondered if there were other professional societies to whom we would write in the same way.

The only area where John thinks there is still doubt, is whether we think there is a set of key skills that are somehow transferrable across all societies and all cultures; or whether these skills and toolkits are specific to cultures and societies.

As for the June [eLit2003] conference in Glasgow, we do want to try to engage with the people who are organising it to argue for a pro-poor point of view, committed to international development. We could offer to organise a fringe meeting, if that's the only way to ensure our views get discussed.

Because WSIS follows on from the World Summit on Sustainable Development, WSIS will have to take the Sustainable Development agenda on board too. But a Sustainable Development perspective throws the whole of the SCONUL model up into the air, said John. If you were trying to do practical research to promote sustainable development in your village, that SCONUL model would look pretty irrelevant. Perhaps Sustainable Development is a good perspective from which to start, if you want to show how weak the formal structures actually are.

The European Union's 'Framework 6' call for proposals for funding came out in December 2002, and we are now in the first round of a huge amount of money being made available for projects. Considering the partnerships we have built up across Europe, might we have the basis for putting a proposal into Framework 6? (In 1994, the Information for Development Forum had put together a project proposal. It didn't get funded, but the exercise did mean that they got a partnership together and the people met to consider the arguments.)

So there are some practical projects which we can move forward with – the June conference, writing to the presidents of professional societies, perhaps a Framework 6 proposal – while we also try to ensure that professional societies play a role in the Civil Society caucus, and that the pro-poor arguments carry on.

John thanked Conrad for constructing the Web site. It made a real difference, he said, to have something to come from our meeting that was in that sense tangibly constructed.

Summing up, mapping the terrain

John wondered how we would want to structure the ideas we had discussed today – what concepts were central, and what would surround that. He offered us a diagram, based on a square made up of nine smaller squares, that might sum things up.

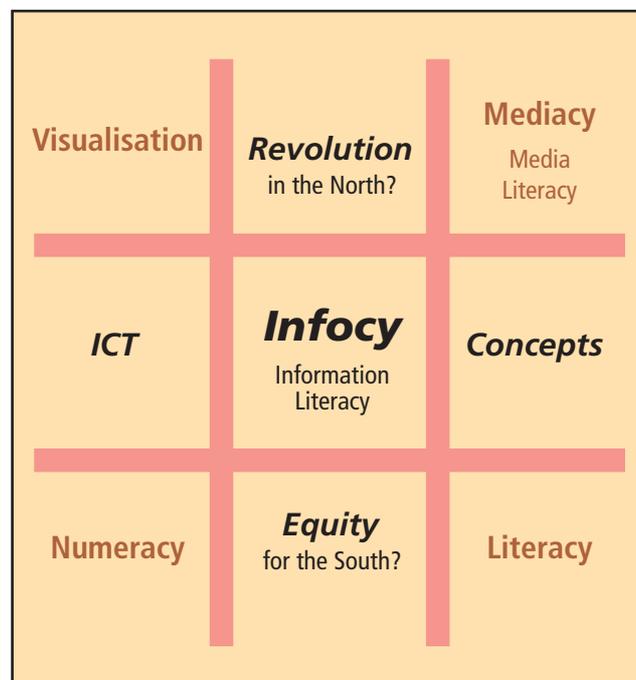
He suggested placing Information Literacy ('infoc'y?) in the central square. Referring to the UNESCO phrase about the Information Society as a revolution, he put that at the top, because 'the North needs the revolution'. We could explore the issues related to that, such as, in what sense is the UNESCO statement useful, true; what are the arguments, what are the readings, how would you move forward in that sort of topic?

And the South needs the 'equity' – that also comes from the UNESCO statement. He placed that in the 'South' square. So what are the equity-based issues? And so on.

Now John admitted his geospatial metaphor begins to stretch a bit. Perhaps ICT is predominantly a West-oriented thing; but it is evident from the UNESCO statement that ICT is seen as an important enabler, and we need to put in there what the knowledge-base is.

On the Eastern axis John placed 'Concepts', which will include social inclusion, sustainable development, and he could add about half a dozen more of those.

Around the four corners of the diagram, John puts *Numeracy* bottom-left; *Literacy* bottom-right. As for visualisation (the ability to work with visual information?) John wanted to invent a word, something like 'visualcy'. (Conrad pointed out that some people refer to 'visual literacy' – e.g. the International Visual Literacy Association – but John objected on the basis that metaphorical use of the word 'literacy' privileges the status of text.) For now, John proposed the word '*visualisation*'.



At the top right-hand corner, John placed '*mediacy*', which stands for an understanding of and ability to deal with the mass media.

If we take this as a basis and expand it, we have to add to this the meanings of Information, the organisations, the papers, the resources, the departments and so on. John asked if we could ponder on this, as it is the sort of thing that is difficult to explore in email exchanges.

So far, this is how John has been looking at structuring our 'stuff'. If people have alternative structures, he concluded, then let us have further rounds of discussion about that.

At this point the meeting drew to a close. Bottles of wine were opened and food was produced. The discussions will continue via email and the Web site.