New developments in ICT (Information and Communication Technology) help us to address a number of persistent problems in museums: their fragmented idiosyncrasy, their incompleteness, their lack of context, the need to mentally and visually supply so much that is missing, and to relate what is in front of you to what is either lost, or a thousand miles away, or in a book you don’t have. Familiarity with new media has made many visitors more critical and openly frustrated at the communicative incompetence of the museum, and, so often, of the modern art gallery (cf. Samis 1995: 29).

Museums like the BM have too many visitors (6 million at present) to be able to provide live education services for even a majority of them. The emphasis is increasingly therefore on how to provide quality experiences for large quantities of visitors, on-site and off. Educators spend more time now on planning galleries and exhibitions to help make them more effective, and in generating self help materials (e.g. gallery guides, sound guides, children’s trails). They try to address the different learning styles and intelligences of diverse audiences with different styles of materials, including IT, and with different entry points to education and events programmes, whether an informal tour with a trained volunteer, or an evening class over six weeks with a curator. The assumptions of the school curriculum about mixed ability age-groups and the spiral curriculum (where topics are revisited over a longer time span), are increasingly being introduced to adult education in museums. Multimedia can enormously enhance this process: adults can be beginners, quickly sampling a website or a CD-ROM in a way they probably wouldn’t with a book, an event or an exhibition.

Hitherto outreach in museum education has meant sending out travelling exhibitions, going out to community groups and (hopefully) bringing them in to the Museum. A recent, remarkable example of this is the Shamiana Project at the Victoria and Albert Museum, London, in which South Asian women’s groups in Britain and South Asia collaborated in making a Mughal-style tent reflecting on its panels their own lives and aspirations. Now, with the www, and increasingly sophisticated multimedia, outreach
has even wider connotations. Reluctant museum users may use the museum by remote access via the www—it may then inspire a visit. The housebound, the disabled or infirm, the remote rural user in the Highlands of Scotland—they can also potentially access the formerly inaccessible. The museum user may maintain a relationship with a museum once visited, through regular contact on the web both with the museum and other users—e.g. chat lines, message boards, real time events.

The Museum may benefit from this kind of regular feedback in learning more precisely what its audience may want or potentially support. The static, often unhelpful, language of the fixed museum display may now be mediated by a variety of voices and languages, visual and textual. Teachers, artists, students, children can all share ideas and expertise. The debate between museums and native peoples in America or Australasia, or with claimants of cultural property, could now be a more fluid and fruitful one (cf. Bearman 1995: 9, 15).

Britain has had a National Curriculum in its schools for 10 years—an agenda for what should happen to children from 5-16. This has partly become an agenda for museums to follow—and to subvert. Museum Curriculum is different from schools—it is visual, experience-based, about learning from objects and from the juxtaposition of cultures in an environment where there is no teacher in control. Museums are questioning, unsettling—as much about reassessment as about reinforcement of understanding and preconception. Museums therefore can help support the curriculum, but can also suggest the wider world of knowledge and experience from which the curriculum has (often erratically) been culled (Reeve 1996).

The British Museum’s pioneering Anglo Saxons multimedia, developed by Rowena Loverance, was a response to the needs of the History Curriculum and the Museum. It provides a flexible resource for teachers and pupils, with judiciously selected raw data (sources) but also journeys and connections through the material on offer. (Loverance, 1993). Most multimedia fail to do this because of their concern for exciting effects or for providing comprehensive databases. Anglo Saxons met some of the teachers’ worries (reassurance on an unfamiliar topic, suddenly compulsory in the curriculum; building confidence that they could make sense of it for their classes). It provided sufficient structure, without dictating a single narrative route—as exhibitions and multimedia, especially in science museums, often do, in attempting programmed learning.

Parallel with this source-based, questioning approach to history teaching (pioneered by the Schools Council History Project) came a new approach to art teaching. Critical Studies adds understanding—an appreciation of other arts (past European and non-European as well as contemporary), to making—the creation of art by the child in the studio. Creating art had hitherto dominated child-centred, art education in Britain and North America (Reeve in Prentice 1995). Accessing art in all its forms has
therefore become a crucial issue for curriculum builders, art galleries and museums. The National Gallery, London led the way in this, as in so much else, with its Micro Gallery and the resulting CD-ROMs. Here was a resource useful for scholar and schoolchild alike. This example encouraged other museums and galleries to follow suit, including the National Gallery, Washington D.C., and also the British Museum. COMPASS is a selective, interactive database for 4,000 of the BM's 8 million objects (the National Gallery has 2,000 paintings). It makes connections: between the visitor and the Museum, between one part of the collection and another, between past and present, and between present question and future study. It is based on the key assumption of Lifelong Learning, that most learning doesn't cease when formal education ends; and relates to the assertion by de-schoolers (John Holt, Ivan Illich, etc.) that much learning is not the result of schooling, or more radically that much schooling doesn't result in learning!.

George Hein has spelt out the implications of constructivist learning theory for museums (Hein, 1998). Visitors may make their own sense of museums from a combination of what they already know, or think they know, plus what they deduce from the museum’s own interpretive devices, mediated through an unpredictable chemistry of physical reactions, learning gambits and social skills. Howard Gardner in particular has highlighted these different kinds of intelligences — the cerebral, word— based kind that traditional educators have valued most is just one of the eight he describes (Gardner 1985). Dance or calligraphy is as much a museum education activity as completing another worksheet.

So a museum database or website can help the visitor to prepare, to critically window-shop in advance: not only whether a museum can help, but which museum and in what way. It can also help to slow down the “fast food” customer. Teenagers decide within seconds whether the screen or museum object on offer is any use — it potentially merits the same attention span as an advert in a magazine. Most people still spend less than 20 seconds in front of a painting. The challenge for the museum educator is therefore: how to bring the most relevant, arresting data, questions, even commands, to bear on the business of looking at a painting, a sculpture, a coin, a Zen garden. The Museum physically frames that business of looking; the screen doesn’t, although it may eliminate the distractions. Surfing is no substitute for standing in or walking through the museum space. As Carol Duncan has shown, the museum building can dictate the behaviour of its users (Duncan 1995). Many multimedia creators appear to aspire to similar kinds of control. In creating the museum without walls, through multimedia, we have to provide the frame, the structure, without imposing the inhibiting single voice of The Institution. We need to fish liberally but selectively from the sea of information, without offering a limited diet of one or two types of fish, cooked to suit us not the customer. Libraries have a different relation from museums both to text and to users and have already moved a long way in this direction (Carpenter, Shaw and Prescott 1998). Symbolically a new kind of library, including the COMPASS database as well
as books, now occupies the famous Round Reading Room, formerly at the centre of
the British Museum/British Library's attempt at global cultural coverage. (On libraries

Museum information comes in many formats: multimedia enables us to quickly and
flexibly manipulate them. For the Mexico Gallery at the BM (the initial focus of the
GDM Project) there is a spectrum of information: text panels and labels (arranged by
cultures), an introductory gallery guide (organized by themes and media), a
highly-illustrated popular publication (McEwan, 1994) and two educational resource
packs. These latter promote an optional topic in the Primary History Curriculum (The
Aztecs) as well as the Museum Curriculum (Mexico Gallery). The curriculum now has
been downsized, and so such materials take on a marketing as well as a purely
informative role. The GDM's Mexico Gallery website could do this especially well:
the teacher could surf the curriculum options, then the venues, then the resources, then
the virtual gallery. The adult student likewise: museum tourism is often related to other
kinds of tourism (visiting displays related to where you have been, may go, may want
to go but probably never will). Such "virtual tourism" is infinitely easier via the www:
it might be an archaeological site in Egypt (Kent Weeks, the American Egyptologist,
has a website updated regularly), an ecological project in Ecuador, or the exploration
of a shipwreck in the Pacific, (relayed to schoolchildren in the Liverpool Museum, as
part of Robert Ballard's Jason Project) — or journeys through the Roman Empire. This
latter is the latest of the BM's multimedia collaborations — with the independent t.v.
company Channel 4, and the multimedia designers Illuminations. Sam Moorhead of
the Education Department brings his extensive knowledge of Roman history and
archaeology to bear on 4 journeys — featuring a Syrian silk merchant (who also
appears in the related schools tv series), a Christian woman, and so on. A sharp
personal and geographical structure — but with plenty of scope for individual detours.
The same model might apply to the Silk Route, to voyages of discovery, or the spread
of Buddhism. The World of Money CD-ROM from the BM (1998) also explores
across cultures, time and space, with the HSBC Money Gallery as its starting point.

What next?

The main challenges ahead for the multimedia museum are therefore how to balance
authority with autonomy (deferential learning styles as commonly exacted by
museums v. the self-directed learner's personal journey); structure with flexibility; and
quantity of data with accessibility and sensitivity. Museums may seem comprehensive;
they may claim to be encyclopaedic — but they aren't and cannot be. Neither can
multimedia. As a museum IT specialist has observed: The Information Superhighway
and other aspects of what has been called the Information Revolution seem to
engender one of three responses in museum staff: excitement, fear or boredom.
(Stewart 1995). Clearly developments in ICT should not be seen as an external threat,
out of our control. Prof. Brian Winston has recently restated the case against the concept of technological determinism, arguing instead that social, political, economic and cultural factors are the prime determinants of technological change (Winston, 1998). Multimedia and museums may act together to constitute a cultural factor of their own, breaking through the barriers of scholarly —exclusive use of languages and display and the Museum’s decisions about what may be seen by the public. Multimedia may help to break down barriers of age, mobility, class, education and income to provide a valued and lively museum circuit on the National Grid for Learning. In Britain, however, this is beginning suspiciously to look like another underfunded, over-hyped use of IT to plaster over the cracks in an ageing infrastructure of educational and cultural institutions. It won’t be the fault of multimedia if the institutions fail to deliver. GDM, on the other hand, has shown how universities, museums and multinational IT specialists can work together to search for solutions and to share diverse types of expertise.

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