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The Biology Curator

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THE BCG/GEM OXFORD CONFERENCE
"Using Natural History Collections – Focus on Education."
(*Mon-Tues 11-12 April, 1994, Keble College, Oxford*)

This conference was attended by some 75 people, with a reasonably even mix of biologists and educationalists. In addition to the six papers printed below, there were a number of other activities to keep the delegates busy. On Monday morning Louise Allen and Timothy Walker took a group to the University of Oxford Botanic Gardens for an interesting demonstration of the educational use of living plants. Back at the College Steve Cross and Gina Couch (Liverpool Museum) gave a talk on the Natural History Centre at Liverpool Museum. In the afternoon everyone was driven to Cogges Manor Farm Museum, where a number of guided tours were laid on; unfortunately these filled up swiftly, so a number of us spent a pleasant sunny afternoon exploring the Farm on our own. All too soon we had to return to Keble College for the heady delights of the BCG AGM; GEM members had to make do with a visit to *Curiosity*, a permanent hands-on science gallery.

In the evening we had a satisfyingly alcoholic reception at the University Museum, where various staff offered behind-the-scenes tours. The insect collections had to be seen to be believed. A few of us were privileged to visit the large attic area of the Museum, presently under repair and refurbishment. This was where the celebrated British Association meeting took place at which Huxley and Wilberforce crossed verbal swords over Darwin's theory of evolution. We then staggered back across the road for the Conference Dinner, served in what was reputedly the largest College dining hall in Oxford. And so to bed.

Next day Kate Pontin (London Borough of Hillingdon, Local Services, UB8 1HD) gave an interesting talk on the *Evaluation of Galleries*, and Alison Thornhill (Wollaton Hall, Nottingham) one on *Resurrecting the Long Dead: the creative use of stuffed animal collections*. After lunch the group divided, with half visiting the Botanic Gardens and the rest of us going first to the Balfour Building of the Pitt Rivers Museum. Here Dr Helene la Rue gave us a very interesting talk about the gallery of musical instruments, and the music garden she is establishing, planted with examples of the trees and shrubs from which different instruments are traditionally made. A brisk walk back through misting rain took us to the main Pitt Rivers Museum, where we had an hour or so to absorb the atmosphere of a real museum, crammed floor to ceiling with wonderful ethnographic objects, and hardly any trendy interpretation to detract from them! A last afternoon tea at Keble, with time to exchange cards, say goodbye and, for me, a last chance to twist arms about papers for the *Biology Curator*. Then Home.

Charles Pettitt, Manchester Museum, University of Manchester,
M13 9PL

Keynote Talk: USING NATURAL HISTORY COLLECTIONS – Focus on Education

Dr. Elizabeth Goodhew, Keeper of Education Services, Horniman Museum, London, SE23 3PQ

My brief for the joint meeting was to take a look at learning theory, including the National Curriculum and how it affects our day to day work to touch on the enormous potential of using Natural History collections for leisure learning activities, and finally to consider how we, with our separate areas of expertise, can work together to interpret these collections for the benefit of the public.

Learning Theory

Museums have a distinctive contribution to make to the educational process. They encourage learning from real things. At their best, museums communicate across boundaries of language, culture and time. The immediacy of the real thing can be a marvellous experience -using hands, eyes, mind and sometimes ears, nose and mouth as well. The greater the number of senses involved, the more intense becomes the experience.

Very young children, reflecting on the purpose of a museum, said, "A museum is a place where you put interesting things". Another child on entering the portals of the Natural History Museum in London asked with awe, "Is this a church for animals?"

Young museum visitors faced with mounted and preserved animal specimens constantly ask, "Is it real?" and we can well understand their disbelief at our reply. They know instinctively that there is more to an animal than that. The learning that goes on in a museum is investigative whether through planned and designed displays or through direct access to material that can be handled.

How do we learn?

The constructivist theory of learning states that we construct our own notion about new information on the basis of our existing knowledge. We do not learn isolated facts, separate from the rest of our lives, we learn in relationship to what else we know, what we believe, our prejudices and our fears. Each meaning we construct makes us better able to give meaning to other sensations which fit a similar pattern. This takes time, learning is not instantaneous. We need to re-visit ideas, try them out, play with them, use them, hence the value of well-planned, hands-on displays and activities. Anything learned is the result of repeated exposure and thought. Intellectual skills are gained step by step. As we encounter each new experience, we react on the basis of our past experience, making comparisons and associations to understand it. To optimise the conditions for learning to take place, the learning environment should –

- * provide real objects to learn concrete concepts
- * demonstrate the relationships between concepts to learn principles
- * offer problem-solving activities by applying previously learned principles

Individuals vary in their preference for learning models. The Theory of Multiple Intelligences proposes at least seven different intelligences, each requiring a different approach to accommodate ways in which people learn. I like the quotation (I do not know the source) that, "The true test of intelligence is not how much we know how to do; but how we behave when we do not know what to do". Different 'horses for courses' can be selected to match the preferred learning styles of different groups of people.

Theory of multiple intelligences

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|---------------------------|--------------------------------|
| 1. Linguistic | (writers and poets) |
| 2. Logical – mathematical | (scientists) |
| 3. Musical | (musicians) |
| 4. Spatial | (pilots, architects, surgeons) |
| 5. Kinaesthetic | (dancers, athletes, mechanics) |
| 6. Interpersonal | (understanding others) |
| 7. Intrapersonal | (understanding self) |

From Davis and Gardener (1993) "Open Windows, Open Doors"
Museum News

We in museums are seeking multiple windows into learning to give access to many more learning styles. Museums are natural settings for individual-centred learning, where an individual is free to map his/her own course. But firstly, you must catch their interest; motivation is a key component in learning.

Motivation

If we can focus on something that fascinates the visitor we start off on the right foot. Sheer size can do the trick. At the Horniman Museum we have a greatly loved, over-stuffed walrus. He now sits, resplendent on an ice floe and people can compare their weight with his by standing on the scales. He has been in the museum since 1901 and I fear there would be a public outcry if parents and grandparents were not able to bring their offspring to see him; Sunderland Museum has Wallace the lion. I do not think that animals in general are a problem. Animals can present a soft and loveable public image. However, nobody – as they said when we had a teaching session at Kew – wants to cuddle a cactus. Whereas reporters flew half way round the world to record the plight of three trapped whales, there is little media coverage of the predicted destruction of a quarter of the world's flowering plants over the next forty years. I loved Kew's use of the Wow! factor. They told us that "In just six days the giant water lily is capable of growing a leaf