

HUMAN BIOLOGY

The Human Biology exhibition at the British Museum (Natural History) caused quite a stir amongst curatorial staff and public alike when it opened in 1977 under the title 'An Exhibition of Ourselves'. The exhibition was bright, stylish and popular and broke new ground in a major national museum which was, in all other respects, conventional in its use of objects and labels. Developing a new exhibition approach in a major well-established museum can prove problematic even with adequate financial resources. In the article Dr Roger Miles highlights the processes and pitfalls in setting up the exhibition.

The Human Biology exhibition is not as straightforwardly hands-on as others described in this book. It uses audio visual equipment, graphics treatments and showcase design more commonly associated with a modern interpretive museum or visitor centre, as well as hands-on interactive exhibits. The advice which can be drawn from Dr Miles' article is invaluable for anybody embarking on a major project which attempts to encourage participation by the public, and emphasises the problem of servicing and maintaining equipment from outside contractors.

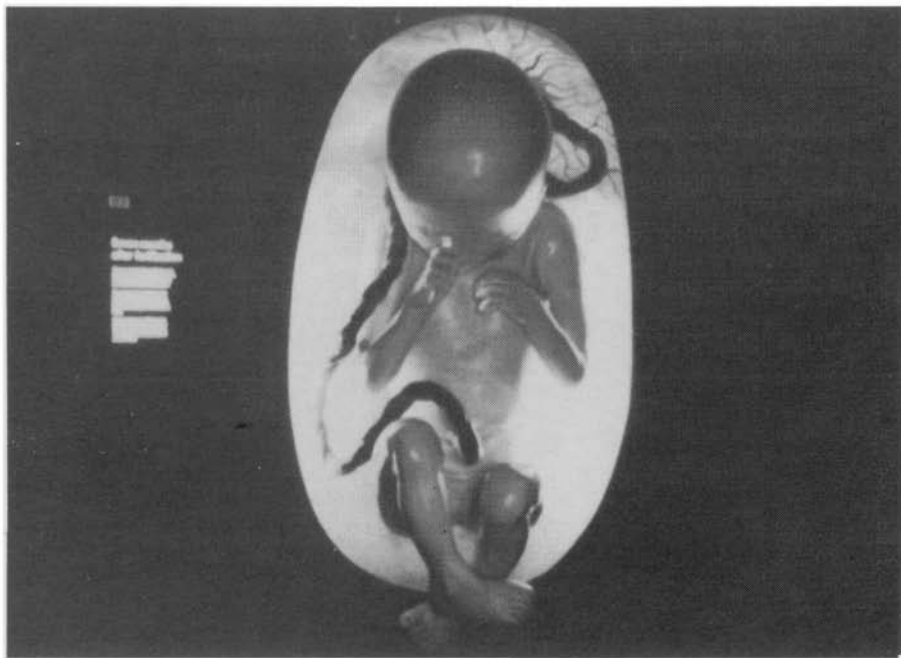
Location:	British Museum (Natural History), Cromwell Road, South Kensington, London SW7
Date opened:	May 1977
Floor area:	1100sq m
Number of exhibits:	more than 150
Number of staff:	No staff assigned just to this exhibition
Number of visitors:	1 million p.a. approx 25:75 child:adult ratio for casual visitors, or 30:70 including organised school parties
Opening times:	Mon to Sat 10-6, Sun 2.30-6 Closed 1 Jan, Good Friday, May Day Bank Holiday, 24-26 Dec
Entrance fees:	(For the whole Museum) £2 full rate, £1 half rate (children 5-15, students, OAPs, UB40s, reg. disabled, museum professionals) £5 small groups up to 6 visitors Book of 10 tickets £18 full rate, £9 half rate Free for all visits Mon-Fri 4.30-6, pre-booked school parties and children under 5 years

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Dr R S Miles



A palaeontologist by training, Roger Miles is head of the Department of Public Services at the Natural History Museum and has been responsible, over the last 11 years, for mounting a series of major new permanent exhibitions with a coordinated education programme for schools and general visitors. He is interested in informal education and museums, and is senior author of 'The design of educational exhibits' published by George Allen and Unwin, 1982.



The human embryo exhibit at 'Human Biology'.

In 1977 we opened 'An Exhibition of Ourselves' in the Hall of Human Biology. This was the Natural History Museum's pilot project for its New Exhibition Scheme. With a floor area of about 1100sq m (11,000sq ft), it was the largest exhibition mounted in the Museum since the Second World War; it was radically new, especially in its informal style, everyday language and hands-on exhibits. Moreover, it was put together by a group of novices and the creation of the exhibition team took place step by step with the creation of the exhibition. The exhibition is now known simply as 'Human Biology'.

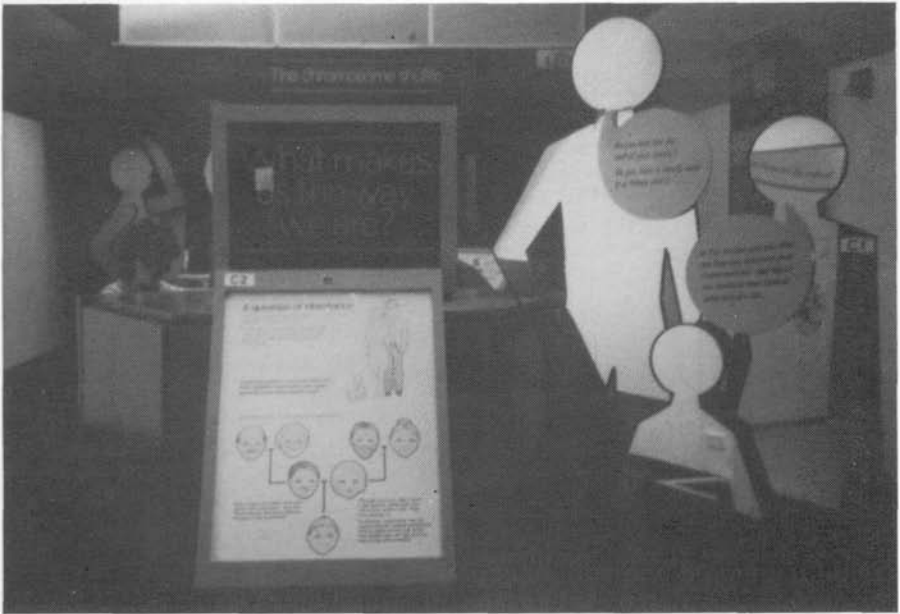
Accounts of the exhibition (1), the specific lessons we learned about designing an educational exhibition (2) and our planning procedures and team structure (3,4) have been published elsewhere. The present account looks at the difficulties we had in getting started, and I shall want to illustrate the following points.

- 1 The pre-planning stage of deciding and organising the subject matter, both for the Exhibition Scheme as a whole and for Human Biology, took up a lot of our time and energy. At the time, this seemed to be demanding work, but the emotional and intellectual effort involved in carrying through a practical project to completion was considerably greater and many problems of content could only be satisfactorily resolved at this stage.
- 2 The only way of learning some lessons was to get our hands dirty by actually designing, constructing and running exhibits.
- 3 It is unrealistic to think one can get everything (or even anything) right the first time round, with a complex project like a large innovative educational exhibition.

The New Exhibition Scheme

In May 1972 the Museum's Trustees approved a proposal for a new approach to the visiting public. It was believed that the existing exhibitions were dull, out of date and too technical for most visitors; the proposal suggested a revised and greatly enlarged series of displays ranging over the whole of modern biology (the New Exhibition Scheme). The exhibitions were to be organised around four themes: Ecology, Life Processes and Behaviour, Evolution and Diversity, and Man. The last was seen as a central theme that would link directly with visitors' everyday experiences.

These themes were worked up and then reworked in 1972 and 1973, in lengthy documents produced by different small groups drawn from the Museum's scientific staff. In all, about



The strongly-styled informal displays in the exhibition, and the use of models rather than objects from the collections, represented a significant departure from tradition for the Natural History Museum.

40 people were involved. In parallel, the decision was taken in 1973 to mount a pilot exhibition. This was an attempt to carry out the programme beyond the paper planning stage, so as to gauge the public's response to a new style of exhibits. It was quickly decided that the pilot exhibition should deal with a subject new to the public galleries and of immediate interest to visitors. After briefly considering and rejecting molecular biology and marine ecology as possible subjects, it was decided to mount an exhibition on some aspect of Man.

Looking back, it is clear that this stage of planning was a totally academic exercise. No effort was made to obtain input from potential visitors because it was assumed the Museum knew what was best for them without asking. Nowadays we always try to do some market research before setting out to design a new permanent exhibition.

Planning the exhibition

A ten-page outline proposal for the pilot exhibition, written by four of the Museum's scientific staff, was completed in July 1984. This suggested an exhibition on the life history of the individual. The next stage was to work this outline up into a brief from which the exhibition could be designed, a task that was undertaken with the help of two consultants from the Institute of Education.

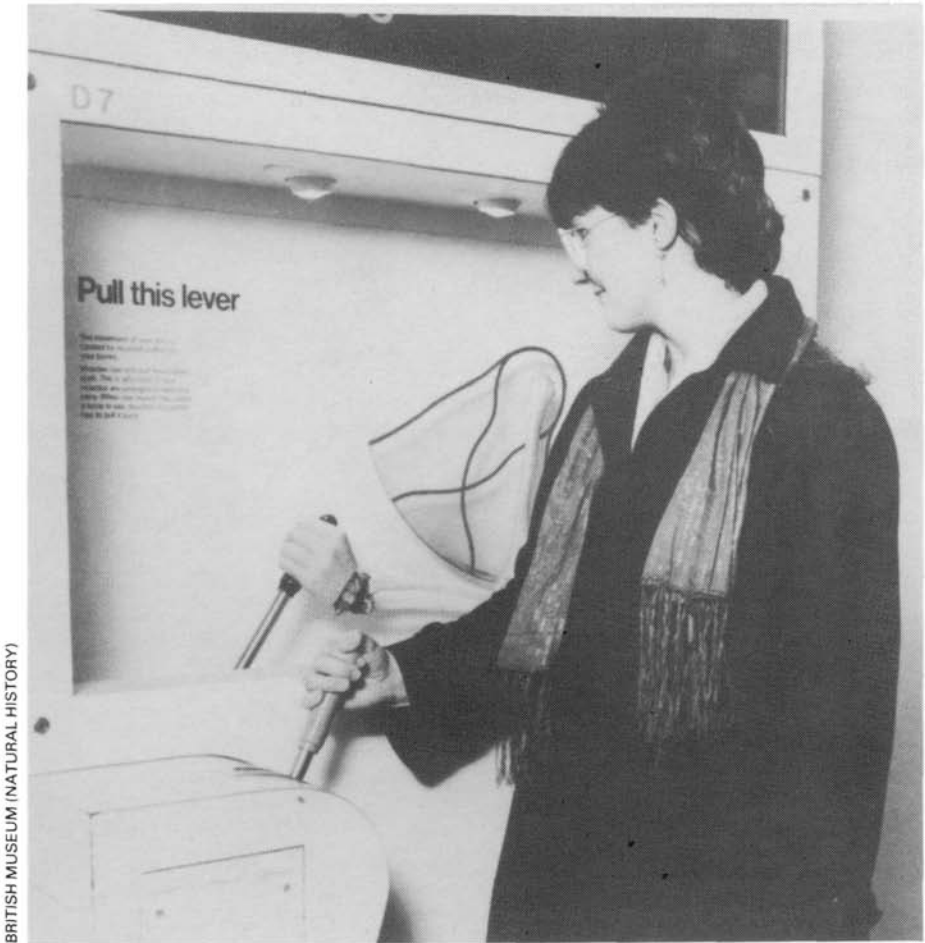
The resulting 104-page document was finished in December 1974. It dealt with the subject matter in some detail and proposed an exhibition with five major divisions, sub-divided into sections and units. The divisions were allocated a percentage of the total floor space to show their relative importance, and an overall rating of one, two or three stars was given to each unit to show its importance within the division. About 200 individual exhibits were listed with proposals for their content and treatment.

When this brief was completed it was clear that there was too much material for the available space, and that the subject matter had been worked up in too much detail. More importantly, we came to believe that the brief was too subject matter oriented and that more attention needed to be given to the potential visitors. We therefore set about rewriting the brief, this time assisted by an educational technologist on secondment from the Open University.

The second brief was completed in August 1975 and this was a 195-page document with the material reorganised into eight 'topic groups'. For each of these topics there was a diagram to show the interrelations of the topics within the group; a list of overall objectives to be kept in mind while

designing individual exhibits; and a design specification of exhibits which, among other things, briefly set out the information to be communicated and listed behavioural objectives specifying what the visitor was expected to get out of the exhibits. The resulting brief listed 45 overall and 573 specific objectives and, although some preliminary design work was done, this approach proved to be unworkable.

This early experience demonstrated the hopelessness of using behavioural objectives as the main basis for designing exhibits. They do not lead automatically to effective exhibits.

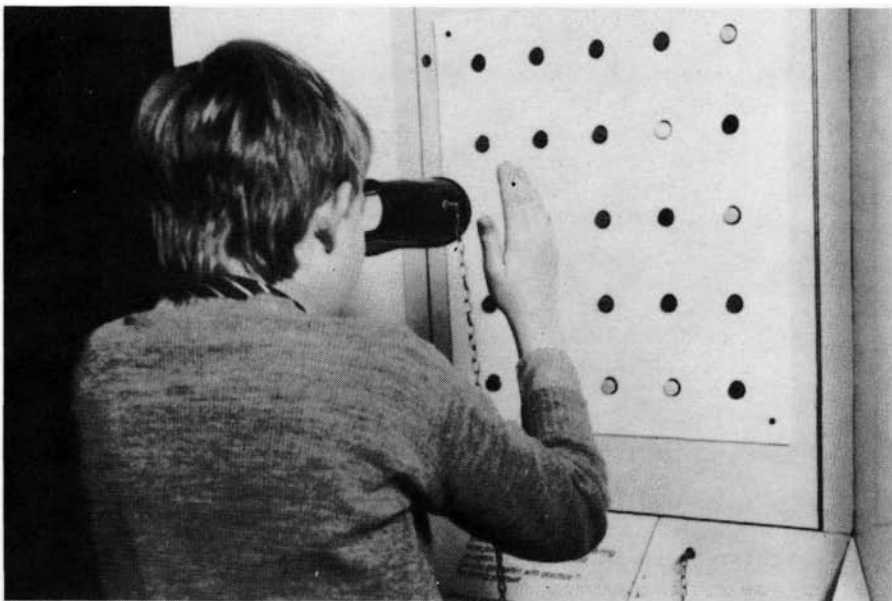


BRITISH MUSEUM (NATURAL HISTORY)

A lever operated by the visitor is mechanically linked to the exhibit in the case to show the action of the arm.



A computer-based display on reasoning (left) and a display on learning where the visitor gradually learns to compensate for displacement of a visual image (below). Computer-based exhibits feature strongly in this exhibition but such exhibits can prove costly to program.



BRITISH MUSEUM (NATURAL HISTORY)

Designing exhibits is a creative task, and listing objectives at such length merely stultified our efforts and focused the design team's thoughts on too narrow a front. This is not, however, to argue against the need for a well-thought-out statement of purpose. This early experience also showed that we did not yet have the organisation or management structure to carry the project through. Fortunately Michael Macdonald-Ross of the Open University's Institute of Educational Technology wrote to the Director of the Museum with a crucial piece of advice: 'Your staff are faced with a management problem more demanding and more complex than any they have handled hitherto. Therefore, I recommend that a project control system be set up. To do this you will need the services of a consultant experienced in these matters; I recommend: Mr A F Tout . . .'

Alan Tout started work on the project in November 1974 and over the next six months he wrote a series of 'Working Papers' setting out a complete system for the design and production of the exhibition. The first Working Paper cleared the ground for setting up the project network. The central feature of the project, was seen as the development of a detailed description of the exhibition, which would take place in three phases: (a) planning, (b) organisation and site preparation, and (c) specification. These would then be followed by production and installation.

Work started immediately on planning and resulted in March 1975 in the definitive brief for an exhibition on 'Aspects of Human Development'. This took the form of a 30-page document listing the main sections of the exhibition (17 at this stage) and their main concepts, accompanied by a diagram (which formed the basis of planning) linking each concept in the exhibition to its pre-requisites – those concepts which must be understood before the main idea can be grasped.

The brief was soon followed by an initial floor plan and first schedule plus project control system. Phase 2 was largely concerned with the organisation of the team – defining its tasks, responsibilities and composition. In phase 3 this team set out to specify the exhibits in fine detail after having considered the teaching points and made decisions about media, materials and so on. A further task relating to phase 2 was the preparation of a Design Guide to provide a theoretical foundation for the work (2).

Mention must now be made of the formation of the Museum's Department of Public Services in January 1975. The then Director of the Museum, Dr G F Claringbull, had

earlier removed the public galleries from the control of the curatorial departments and responsibility for them became vested in Public Services, which was given the principal task of mounting the New Exhibition Scheme. The organisation of the exhibition team, including the setting up of 'development partnerships' of scientists and designers to provide the creative core, and the problems associated with seconding scientists from curatorial departments to work on exhibitions, are described in (4).

The first nine months

The exhibition opened to the public in May 1977 and, as we had always seen the exhibition as an experiment, a place in which to try out new ideas and techniques, we were prepared for some maintenance problems and for some of the exhibits not to work, either in terms of mechanical efficiency or educational effect. We were, however, surprised by the range of problems that we faced. As such matters are rarely



Strange and fantastic devices illustrate how bewildering the world must appear to a new born child. There are handles to wind and lids to lift, all with a surprise in store.

discussed in accounts of exhibitions, it is worth looking at them in some detail.

We had contracted out the manufacture of mechanical and electromechanical devices and audiovisual control units, but had no experience of the companies, often of small size, that carried out such work, and no test of their quality; nor did we have any experience of specifying standards of reliability and performance for such an exhibition.

In the event we had difficulty in getting some exhibits built so that they continued to work after the contractor had left the site and in getting faulty machinery repaired after it had been installed. Many of the dynamic displays were fitted with electric motors having a rated life of 1000 hours before overhaul, i.e. about three months after the exhibition opened. Similar problems were thought likely to arise with cartridge transport mechanisms in some of the audiovisual equipment and, to make matters worse, these units were obsolete, their manufacture having ceased about two years earlier. The cam timers used in some of the electromechanical devices quickly proved to be unreliable, and as these had apparently been purchased on the surplus market there was not much we could do about it.

All of these difficulties were caused by using outside contractors; and they gave rise to very considerable maintenance problems that were only solved by rebuilding the exhibits in our own workshops to much more exacting standards. Some problems were only 'solved' by scrapping the exhibits completely. On the other hand, many corrections and improvements involved straightforward matters such as relocating text in a better position, improving the instruction for participatory devices, introducing new safety and security measures, making minor electrical and mechanical adjustments, and shortening reset and response times in audiovisuals. These were more easily accomplished.

Subsequent developments

The time scale of the project ruled out the prototyping and developmental testing of exhibits. We have come to value these activities in our later work, but at the time it was felt that we should concentrate on getting the exhibition open so that it could then be evaluated and improved. By 1985 a considerable amount of evaluation and more widely conceived visitor research had been carried out and a large part of the exhibition had been revised. This had generally involved rebuilding whole sections of the exhibition, either to improve their functional or educational performance, or to bring the

science up to date (usually, in fact, a mixture of all three). Thus from 1978 to 1984 we were running a major programme of works (new exhibitions) and a parallel minor programme (revisions to Human Biology), with competition for the Department's increasingly limited resources.

Developmental testing (or formative evaluation) can greatly improve the quality of exhibits, but in our experience it does not solve all of the problems; indeed it leaves some of them untouched (4). However, the main lesson seems to be that if exhibition designers want to get things 'right' first go and without problems, they must stick to the traditional activity of putting objects in cases. If they have more ambitious educational aims, there are going to be difficulties. On the whole these arise because we still lack a strong theoretical foundation for the work that would help in the avoidance of critical errors. The development of such a theoretical foundation remains for me a major preoccupation.

References

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