

Museums, Objects and Understanding

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The elements offered for consideration in this session – history, museums and science centres – have a troubled relationship, and it is not clear to what extent they really belong together. The fact that we bring them into the same discussion reflects some of the contingencies in the recent history of public institutions and some of the assumptions about public science inherited from earlier institutional histories. None of this is absolute or essential: if it was decided that it would be wise to build contingencies and assumptions that were different, that could be done.

We can start with the most straightforward dichotomy: science centres have no real concern with history. Figures from the past may appear in the displays, but the motivation for having them is not fundamentally historical. This dichotomy is a significant one, for the common mission of the science centre would be seriously compromised by the relativistic judgements required of the historian. Science centres deliver an 'understanding' of the natural world secured by reference to contemporary science: for this historical figures or episodes are not of interest in themselves, even if they might be selected and used for presentation purposes or for cultural legitimisation.

Of course there is a problem here: while scientists attribute no epistemological relevance to the history of their discipline, however entertaining it might be as a good story, historians have difficulty in seeing science's present as fundamentally less contingent than her past. Even for scientists it is intuitively obvious that present understanding will contribute in a substantive and formative way to future understanding, but at the same time, present understanding is not supposed to depend on the past for its epistemological authority. If there are armchair questions for philosophers of science entailed in the contemporary moment becoming an historical one, the continuous movement of the present is, as we shall see, a real, practical problem for so expensive, unwieldy and unresponsive an instrument of 'understanding' as a science centre.

The second dichotomy in this trio of ill-matched elements is that museums have no essential connection with science centres. The fundamental characteristic of a museum might be taken to be the care and display of a collection of objects. Science centres do not have collections – they display things, it is true, but it is not clear that these are 'objects' in the museological sense – that is, that they have a secured future beyond the display. However, some science centre galleries have grown up within more traditional science museums, and even when they have not, there does seem to

be a blurring of the distinction in the public perception. But science centres might have been more legitimately classified as types of schools than as types of museums; they might have been as legitimately classified as types of playgrounds or as types of amusement arcades as types of museums.

Clearly science centres prefer to present themselves within the genus 'museum' than within the others I have mentioned, even though their relationship with museums has been ambivalent. To some extent their alternative approach to exhibition building was advanced at the expense of the traditional museum values of collections care and display. There was, and sometimes there still is, pejorative talk of lifeless displays, silent objects, closed showcases, confined visitors, artefact fetishism, and so on. Interactives and 'hands-on' exhibits were lively, engaging, even democratising; more traditional displays were dry, austere and alienating. The science centre movement attacked museums for not foregrounding the 'understanding of science' and in the process of intruding new styles of display, objects, with all their inconveniences and distractions, were banished to the stores.

You may or may not have come along with me so far, but I am sure you are thinking that my neat structure of unpicking in turn each of the three relationships formed by this trio of elements will founder when I get to the pairing of history and museums. Surely there I have to admit an essential connection? Well, not really, even though the contingent connection is a powerful one.

Many museums, including the one I work for, choose to take history as their principal concern; many others, to varying degrees, are obliged to engage with historical work because they have charge of large and important collections of historical evidence. But their exhibitions need not be motivated by historical ambitions and sensibilities: their principal interests could be aesthetic, technical, political, commercial, or whatever, or could be 'public understanding' in the narrow sense usually adopted in science centres. Old objects can be marshalled in support of any number of agenda; in many cases the history may be bad, but it was never intended to be good.

The move to intrude science centres into science museums, for example, is a move to displace history by a more narrowly construed, more carefully controlled 'understanding'. There is nothing inherently illogical or morally reprehensible about that – though a wholesale displacement of collections might be considered an abrogation of a museum's obligation to public access – rather, it is a choice in which we can take either alternative or settle somewhere between them. Where public institutions are concerned, we can decide what kind of public culture of science we want to foster, and the contribution of history must be argued on its own merits: it is not simply entailed in the fact that we have such things as public science museums. But if the argument is convincing, science museums will have a very significant role in implementing the conclusion.

If the reasons why these three elements have been brought together and presented to our session are not essential, there are powerful contingencies that have thrown them together. Most science museums, for example, have not been founded with history as their main purpose, but instead for science education: in fact many of these educational institutions have become museums in the modern sense as they have aged and acquired responsibilities for historical collections with the passage of time. If the historical interests of many science museums are contingent on their institutional pasts, by the same token the science educational ethos of the science centre can be said to have a contingent legitimacy in the science museum. This not to say that the narrow agenda of the modern science centre is desirable or that its antipathy to history and to objects (again in the museological sense) is beneficial. As with history the 'understanding' programme as exemplified in science centres has to demonstrate the value of its contribution to the public culture of science.

Has it done so? That seems debatable. Over the period when science centres have expanded spectacularly, public confidence in science and respect for scientists as disinterested experts have plummeted. There may be no connection, but at the very least we can say that science centres are not delivering their anticipated benefits and we should give some thought to why not. They surely were intended to help restore the public's faith in scientific progress, and to make science a more attractive option to students and graduates, and these objects, for whatever reason, have not been achieved.

Two diagnoses were originally offered as an explanation of public disenchantment that left science and its epistemological authority intact - the scientist's failure to 'communicate' and the public's failure to 'understand'. The adoption of so consensual a banner as 'the public understanding of science' was shrewd, for public understanding could scarcely be other than good. The problem came rather with the nature of the understanding on offer. The move was to close down the range and scope of worthwhile 'understanding', to restrict it to a grasp of contemporary scientific theory – reduced, of necessity, to a dubious offering of playful exhibits in fun-filled science centres.

This might be thought a dismal response to the urgent need for a public culture of science. By offering a science that seems irredeemably juvenile, presented through playful interactives peddling a commensurate clarity and simplicity of vision, it has associated itself with the lost certainties of childhood, and nothing suggests that the public are inclined to relate these experiences to the real, complex, social and ethical problems faced by science as it is encountered in the grown-up world.

We are beginning to read expressions of public dissatisfaction with museum presentations that are weak on content, even if they entertain, as visitors suggest that museums that have moved in this direction may be selling them short. A recent commentator in the Guardian, for example, writes with reference to the Science Museum and the Natural History Museum in London, that museums have transformed

themselves 'into wonderful pleasure palaces for the under-12s and their parents' leaving other visitors to question 'what so much child friendliness can be for - to prepare children for when they grow up and can go to museums and see things fit for children?' An editorial in the magazine 'Prospect' observes that the most disappointing thing about the Millennium Dome is that 'the science and technology looks smart, but doesn't really tell you anything. That sounds familiar. If you go to the Science Museum in South Kensington hoping to come away knowing how the telephone or television actually works, you will also be disappointed. It is a design museum full of techno-hype.' If I seem to be relying on the predictable grumpiness of an out-of-touch intelligentsia, I can cite Malcolm McLaren, interviewed in New Heritage magazine, assuring museum professionals that 'people are looking for real things, are searching for the authentic', and this his particular passion is for 'historic scientific machines'.

Now I am not saying that that is fair on the Science Museum – it isn't – but we should at least listen to such unsolicited advice that we may be missing the plot. The family relationship between science centres and such spin-off ventures as the discredited Millennium Dome has made matters worse. Well-founded fears are now being voiced that the many more science centres initiated by the Millennium Commission will flop, as we begin to hear the kind of pleas from the promoters of such centres that we have heard already from the Millennium Dome: if you sell a sponsor a bad idea, it is the sponsor's duty to bale you out.

It is not difficult to see why the scientific culture of science centres seems thin and unconvincing, quite apart from the technical dilution complained of by the writer in 'Prospect'. History, practice, technology, industry, have all been excised from the public understanding programme. Intellectual product is offered without the process of its formation. If process – historical, material, social, institutional, and so on – is to be reintroduced, which it must be if the understanding on offer is to have any credibility, all the accompanying historical and social contingency will oblige science to compromise on epistemological absolutes, but that will be for the good – it will be more realistic and credible – it will restore human agency and impact to the story – and it will be good for science.

None of this is really new: something approaching a crisis seems already to be recognised in the science centre community and the diagnosis from within (at least in certain quarters) coincides with that from outside. One problem is the practical one I have already indicated: it seems all but impossible to renew the displays continually unless a constant supply of novelty and sensation can secure continuous public attendance and admission receipts. Science centres grow old just as museums do, but like every institution they believe they have the right to survive forever, which is not so easy when so much is vested in being forever young.

At a more profound level, there is internal debate about the ethos of the science centre and how it should evolve. An anthology of essays by practitioners within the field

published in 1998 under the title *La révolution de la muséologie des sciences* shows a widespread recognition of the need to move to a new 'generation' (the common metaphor) of science centres – characterised as the 'third generation' after science museums and 'traditional' science centres – as if there had not been many generations before these. James Bradburne, for example, from 'newMetropolis' in Amsterdam, enumerates the inadequacies of dealing with principles in science and neglecting process, and with the bogus impression of exploration and discovery, since the agenda of the exhibition in any fundamental sense is not negotiable. Bradburne speaks of a 'crisis' in science centres, one precipitated by falling visitor numbers. But the vision of the third generation that he and other writers try to sketch scarcely reaches beyond vague and pious aspirations. Even more recently Bradburne, seems to have moved to the position where he sees no future at all for the science centre – its imminent extinction making it a metaphorical dinosaur.

If so, we have probably dwelt too long on science centres and we should now return to museums, to objects and to history. The reason why objects and historical sensibilities had no place in the 'traditional science' centre is that they seem to compromise its core mission. At first sight there may seem to be a contradiction here, for the kind of presentations that were advocated as replacements for museum displays were hands-on, interactive exhibits that seem to promise a greater physical and material engagement. But the aim was not a manual or mechanical dexterity – the aim was 'understanding' – and removing the traditional objects offered not only the possibility of physical contact, but also the possibility of greater control, as the qualities of objects seen as irrelevant, confusing and distracting could be stripped away.

Instead of withdrawing to a programme that can be fully controlled, we should embrace and celebrate the fact that there are many ways of engaging with and entering into scientific culture. In fact, there is no point in withdrawing from something that everyone knows. The scientific relics in museum collections and displays raise many different kinds of questions about science alongside those concerned with how scientists codify and express their beliefs about the causal structures of the natural world. For a single-minded mission to explain 'the science', objects are problematic because of their ambiguity and the richness of their associations for the viewer: their meaning and significance are not fixed, and visitors' reactions to them are difficult to control.

The restricted notion of understanding implies that the exhibition agenda has to be carefully supervised. Exhibitions in every field adopt positions and postures, but outside science there is much more tolerance of visitors' own agendas and greater equanimity about visitors leaving unconvinced by or even hostile to the curatorial account of what they have seen. The disenchanted or unconvinced visitor in a science centre, and perhaps more often in a science museum, as any curator will tell you, is more likely to apologise that they have not 'understood'. 'Do not touch' labels may not be fashionable in museums nowadays, though we still find we need a few, but what I would really like to do is to introduce 'Do not apologise' labels.

Permitting apologising is more an admission of curatorial failure than forbidding touching. Scientific culture is rich and diverse, access is possible through many different interests and sensibilities, exhibitions can reflect this diversity, and their themes should not be closed down to the restricted agenda of the traditional science centre. Collections are correspondingly rich and diverse, and objects invite and value visitor response because they are ambiguous and have not been designed to illicit a single, correct response. With such resources, the discipline of curatorship, understood not in terms of the gratuitous caricature of the dusty scholar, but in the real, professional and creative sense that is well established in museum and exhibition work outside science, can give shape and substance to the vague ambitions for the future public culture of science. Visitors need to be encouraged to value their own responses, a notion with which they are perfectly comfortable in other types of museum.

There are many dimensions to the understanding of science, and many vectors of appreciation. The notion that the ubiquitous and multifaceted manifestations of science in modern society can or should be subsumed in an 'understanding' of the conceptual apparatus employed by scientists, even if such a thing can be identified, seems almost ridiculous. We must multiply the permitted modes of engagement with scientific culture – conceptual, of course, but also historical, material, aesthetic, commercial, social, ethical, geographical, institutional, political, etc.

Curatorship involves commentary, but at the same time it also entails a recognition that its medium, the museum exhibition, cannot really coerce. Visitors make choices, not only about how they move through the exhibition, but also about how they relate to the ambiguous objects and how they see their juxtapositions. The curator seeks to influence these, but they cannot be entirely under control. There is room for other agendas, and the best exhibitions stimulate and accept these alternatives. Insisting on 'understanding', narrowly construed and delivered through machines designed for that single purpose, involves condescension on one side and apology on the other. We condescend even if the visitor masters the machine and gets the right answer, since we decide on the criteria of success – we give the answer its mark. Creative exhibition curatorship enhances access through alternative appreciations, and the very ambiguity of objects, the unpredictability of visitors' engagements with them, becomes in this account of the science museum's future a virtue and a benefit, where formerly it provoked anxiety and banishment.

Our task in museums is not to force our visitors along particular paths, to treat them like schoolchildren of whatever age, to condescend when they progress only so far, to make them feel apologetic that they have not 'understood'. The great virtue of (museological) objects is that, because they are not fully under our control, they restore value to the responses of every visitor.

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