Co-Curation and the Public History of Science and Technology

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In October 2010, the Science Museum in London held a three-day international workshop to discuss how science and technology museums use their collections and represent the history of science, technology, and medicine for today's audiences. This was the first outward manifestation of the museum's Public History of Science, Technology, Engineering, and Medicine (PHoSTEM) project, and was designed to launch discussion of its main themes. At the heart of the workshop's concerns was the kinship of two phenomena: public history and co-curation. In broad terms, 'public history' can refer to the ways in which lay people pursue historical interests – whether that be family and local history, collecting, consuming historical magazines and television programs, or museum visiting – for fun. Co-curation and similar techniques gathered together under the umbrella of 'participation' describe a range of practices in which lay people work to develop displays and programs within museums.[1] The workshop was convened to explore – via a series of sessions, plenaries, and 'provocations' – the relevance to the history of science of public history and co-curation used together. The gathered audience of international and British delegates and Science Museum staff debated different facets of these core ideas, in the context of the history of relations between science and the public; experiments with new media; and especially reports of co-curating experiments and practices at home and abroad.

The Long View

If we want to enhance the effectiveness of museums in the coming decades, we will do well to reflect on how – in a dynamic interplay of context and developing practice – museums have changed over the last generation. In the case of the Science Museum, London, it is notable how the representation of contemporary science was transformed in this period, as exemplified particularly in our Wellcome Wing. The museum's staff achieved this in large part by getting closer to audiences in two ways: by taking part in the then-new university subject of science communication studies, and by adopting the techniques of audience research.[2] Looking back over that period raises questions about how the museum will have changed in another quarter century, and what new techniques may turn into something really significant in the decades to come. At a time when virtual and digital media have increasing presence within culture, questions are begged about the comprehensibility and therefore value of museums' collections of physical objects. For science and technology museums in particular, collections may be becoming more remote from audience experience. Many visitors no longer possess the familiarity with machines that was commonplace in the nineteenth-century world that gave birth to the great technical museums. On the other hand there is the optimistic possibility that museums, liberated by the Web's capacity to make complex data available online, can seize the opportunity to do what they do best, providing

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1 Nina Simon, author *The Participatory Museum*, spoke via video link at the Workshop. We have since adopted the less specific term 'co-creation' to describe the range of activities described here.

2 T Boon, ''Parallax Error?: A Participant's Account of the Science Museum, c.1980-c.2000'', in P. Morris (ed.), *Science for the Nation: Perspectives on the History of the Science Museum* (Basingstoke: Palgrave, 2010).

experiences focusing on the display of objects in powerful settings. Getting the new generation of displays right is an opportunity, but one that requires reflection, research, and insight so that it may be achieved with flair. Only with thoughtfulness will we deliver the 'life enhancing experiences' we aim for.[3]

The Medium Term View

In the three years leading up to 2014, the Science Museum will be developing and delivering a major new gallery on the history of communications. The PHoSTEM project is designed to inform the new levels of audience effectiveness required of this gallery. Producing a gallery on this theme in the early twenty-first century is necessarily different from doing so a generation, or even a decade, ago. The world has changed, and what it means to construct effective displays has also changed. To explore the implications, this section of this essay addresses history; today's participatory culture; and how we may think of visitors.

Enabling visitors to deepen their enjoyment of collections and the histories of science and technology are core elements of the Science Museum's remit. The eloquent phrase 'adrift in the present,' coined by the American essayist Wendell Berry, describes the mind-state of those out of touch with the past, without a sense of the precedents that exist for our current experience. But there is a huge groundswell of public enthusiasm for history in general, with polls in the U.K. suggesting that more than 50 percent of adults are interested in learning more about their family history, for example. Millions of people are pursuing historical hobbies, including collecting and restoring archaic instruments and machines. While this field of 'public history' has been the subject of much analysis in recent years,[4] staff at the Science Museum have until recently not consciously and deliberately addressed that part of each visitor's experience that resonates with the past. It has become clear, however, that the majority of visitors engage in historical activities in some form, mainly by watching historical documentaries, visiting historical sites, or reading historical fiction.[5] Once we understand what proportion of our visitors would self-identify as having historical interests, an important part of the PHoSTEM project will be to conduct experiments that enable them to apply their historical understandings to what we do in ways that engage them and enhance the potential for others.

Technological change has created new forms of lay involvement in culture, via the Web: social networking, blogging, crowd-sourcing, and other kinds of user-generated content. It seems that more lay people than ever before expect to participate actively in culture generally, to create as well as to consume. But this is not just a technological phenomenon. We should recognize that our participative culture also derives from the social revolution of the 1960s. What started as the identity *politics* of class, ethnicity, and gender has now produced an identity *culture* of origins, interests, and tastes. In this, the existential sense of what makes me 'me' and you 'you' is felt by millions of people.[6] These same social changes coincided with significant developments in academic history: the Sixties gave force to the movement that visualized 'history from below.' This, in E.P. Thompson's felicitous

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3 'Defining, planning and measuring a life-enhancing experience', internal guidance document, National Museum of Science & Industry, 2009.

4 See, for example, Roy Rosenzweig and David Thelen, *The Presence of the Past: Popular Uses of History in American Life* (New York: Columbia UP, 1998); Jerome De Groot, *Consuming History: Historians and Heritage in Contemporary Popular Culture* (London: Routledge, 2009).

5 Science Museum Audience Research and Advocacy group, 'Visitors, History and the History of Science: Marketing Survey Results, February 2010 (internal document).

6 This is not to diminish the importance of addressing the politics of social, ethnic and cultural identity for achieving greater inclusion – because we certainly work to achieve that – but it is to recognise what we all have in common.

phrase, set out to rescue 'the poor stockinger, the Luddite cropper, the 'obsolete' hand-loom weaver, the 'Utopian' artisan … from the enormous condescension of posterity.' [7]

All these strands – Web media, identity culture, and the personal history of lay people – are active in public history. Most family history activity these days, for example, takes place online rather than in regional record offices. Increasingly the bud of genealogy is blooming into social history, tracing the life experience of peoples' antecedents. Ordinary people are rescuing themselves and their forebears from the condescension of posterity. Similarly, local historians continue to make sense of the world that surrounds them, a local world that can touch on science and technology collections too. A research laboratory – such as the General Post Office's Research Station at Dollis Hill, home to most of the British state's effort in electronic research and development up to the 1970s – has local meanings relating to lives lived as well as universal histories of research published and devices perfected. And subject enthusiasts and collectors find personal fulfilment in understanding the science and technology of the past.[8] An incidental conversation with a local historian revealed the kind of path that we hope many might take. Ruby Galili started her research with the history of her own house, then got interested in the land it sat on and the family who owned it. Before long, she was researching a scion of the local landowners, John Walker of Arnos Grove (1766-1824). She found his Common Place Book in the local archive and discovered notes of lectures by Humphrey Davy and Michael Faraday that he had attended. As she said 'I hadn't realized I was interested in the history of science, but now I am.'[9]

One of the tasks of the PHoSTEM project is to explore how museum displays can open up the experience of people like this, to help others to see the way they see: An object looks different if you know that it relates to your ancestor's experience. Similarly, if you've soldered-up a radio, all radios look different to you than they do to anyone who has just bought one off the shelf. If you've ever plugged an electric guitar through a waa-waa pedal and attempted a funk lick, that object, when encountered in a museum, will have special meaning to you. It's been said that dancers have a kinaesthetic appreciation when watching ballet. These are authentic ways into the material culture of the past that we can build on. But crucially we need to explore whether another person's experience of the past is infectious; whether my neighbour's enthusiasm can light a fire in me too.

This participatory culture provides enormous opportunities as well as challenges to museums. But let us be clear: museum spaces have always been participatory in the sense that our visitors have always made their own uses of our exhibitions, bringing their own life experience to bear as they make sense of what our galleries show. Generally speaking, museum staff, as Michel de Certeau says of all élites, assume 'that 'assimilating' necessarily means 'becoming similar to' what one absorbs, and not 'making something similar' to what one is, making it one's own, appropriating or reappropriating it.'[10] Visitors will always be ahead of us in following their knowledge, tastes and proclivities. And, importantly for us, this provides an opportunity for us to move our collections and storytelling closer to them. It's not as though lay expertise in the past is limited to those who undertake active historical research. Everyone's lived experience gives them access to the past and to historical change, as I

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7 E. P. Thompson, *The Making of the English Working Class* (London: Gollancz, 1980), p.12

8 See Hilary Geoghegan, 'People and Their Pasts: Public History Today', *J Hist Geography,* 36/4 (2010), 484-84.

9 Conversation with the author, 19 September 2010. See also: http://www.southgategreen.org.uk/local_history/walkerbros.php

10. Michel de Certeau, *The Practice of Everyday Life*, Berkeley, University of California Press, 1984, p.166.

suggest in my article, 'A Walk in the Museum with Michel de Certeau'.[11]

These are some of the factors that we are taking into account as we develop the new galleries. The Public History Project is generating research findings through a variety of techniques that will bring lay people into our enterprise upstream of exhibitions opening and events being staged. Since the Public History and Co-Curation Workshop, we have developed some of the nascent ideas proposed there. In one strand, we have been co-curating events and a small exhibition on the history of electronic music since the 1960s. This activity has centred on the Oramics Machine, a unique synthesizer developed in the 1960s by Daphne Oram, who founded the BBC's Radiophonic Workshop, an electronic music studio established in 1958 to provide incidental music and sound processing for radio and television programs.[12] The first outcome of this was *Oramix*, a performance on this subject by students from the National Youth Theatre. Further stages of co-curation involve working with original participants in 1960s British electronic music and present-day amateur digital and electronic musicians. In every case, in addition to producing events or displays for the general museum audience, we have been learning about how these different groups construct a historical account of electronic music, a subject which is historically recent and more often associated with the future than the past. Similarly, we are promoting our collections to family historians who want to understand the social history of their ancestors' lives, both in articles in *Family Tree* (a genealogical magazine) and in a planned exhibition.

The Workshop

At the same time as we aim to be properly generous about lay expertise, the PHoSTEM project also needs to be credible among museum practitioners and academics and to develop sound intellectual foundations. The workshop was the first step in this process, which also includes research projects and working with universities, for example in research networks. The workshop brought together people with similar interests who don't necessarily often meet: museum staff; people who promote, serve, or study the kinds of history that non-professionals do for fun; historians of the relations between science and the public in the past; and people working in participatory new media.[13]

Amongst the International examples presented, Karen Fort from the National Museum of the American Indian explained the museum's redisplay, which had aimed to move beyond traditional anthropological representations by working with multiple representative groups of American Indians. Although this closed the gap between the museum and the people it represents, it has thrown-up the difficulty of engaging the overwhelmingly non Native American audience. In her presentation, Lynda Kelly from the Australian Museum reflected on different modes of audience engagement. Whilst in traditional social science methods of audience research museums extract information from the audience, the consultation model of engagement in workshops is the beginning of a two-way conversation. In the user-generated content model – as in the Australian Museum's 'All about Evil' exhibition – content was developed online via blogs and Facebook. The most sustained model of engagement is the 'building community' model, which can persist online beyond the opening of a display. Museums of the future, she argued, will need to adapt to the challenges of new technologies that blur the lines between the museum and the online environment.

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11 'A Walk in the Museum with Michel de Certeau: A conceptual helping hand for museum practitioners from Michel de Certeau', *Curator* 54:4, October 2011.

12 Louis Niebur, *Special Sound: The Creation and Legacy of the BBC Radiophonic Workshop* (New York; Oxford: Oxford University Press, 2010).

13 A complete program for the workshop is available at http://ccphworkshop.pbworks.com/w/page/30073926/CCHPWorkshopWiki

In the British co-curation sessions, Tom Wareham from the Museum of London explained the benefits of bringing in an academic specialist for their 'Sugar and Slavery' gallery; in this case this guest curator/advisor helped the museum establish links with new audiences. Alex Woodhall, who had worked at Manchester City Galleries, reflected on how co-curating with two artists had helped the institution to bring attention to the Mary Greg Collection, an idiosyncratic and previously neglected collection. A blog was established as a way of gathering public responses, and this has created new demands for access to the objects and raised philosophical questions about the building and management of relationships with audiences.[14] Susie Ironside from the Riverside Museum Project in Glasgow explained how their project had drawn on the expertise of five advisory groups – education, communities, access, teen and junior. Elizabeth Anionwu, Advisor to the Science Museum Dana Centre, argued that appointing active community champions has helped the Dana Centre's programme of events appeal to the interests of every part of the community. Kate Pahl, from the University of Sheffield outlined how families from Rotherham were engaged in an exhibition to map the experience of the Pakistani diaspora. Staging the exhibition depended on being embedded in the community and earning trust. Wayne Modest, formerly of the Horniman Museum, described the project under which the museum recruited twenty teenage curators, avoiding obvious sub groups of class and ethnicity, to become involved in every aspect of producing an exhibition. As well as giving the curators the audio visual means to gather material they also kept notebooks in which they were encouraged to reflect on their own experiences. He argued that museums need to think through whether they want real co-curation, to think through what it is the museum and the participants want, and what the benefits are, or are intended to be.

Two plenary sessions addressed broad aspects of museum participation. Andrew Pekarik from the Smithsonian Institution argued that Museum visitors can be divided into those are attracted by ideas, objects or people. Armed with this insight, museums can balance their exhibition staff with 'people' people as well as 'ideas' and 'objects' people. Exhibitions can aim to attract each of these three kinds of visitor then, by display craft, 'flip' them to see one of the other preferences. In this way, displays may not only meet the needs of every category of visitor but also challenge their preferences.[15] Nina Simon, author of *The Participatory Museum*, argued via video link that visitor participation in museum events is usually more weighted towards 'contribution', and that even full co-curation projects tend to demand large amounts of resources to be focused on small groups of people. To extend the benefits of this collaboration with the public, museums need to clearly state what they need and then assign participants a distinct role which treats them, and the contribution they make, seriously rather than just as consumers. Successful co-curation needs the museum to be clear on both its goals and the ways in which the museum would be improved by working more directly with the public.[16]

Exemplifying how organisations other than museums are responding to the desire for more participation, Lizzie Amis of the National Institute for Health and Clinical Excellence (NICE) explained how their Patient and Public Involvement Programme attempts to balance the needs of patients against the priorities of health professionals and pharmaceutical companies. They place emphasis on how patients use and experience treatments as well as the efficiency and cost effectiveness of that treatment. One consequence of clearly presenting public opinion to the health industry has been to create further demand for it.

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14 http://www.marymaryquitecontrary.org.uk/

15 See: Andrew J. Pekarik and Barbara Mogel, 'Ideas, Objects, or People? A Smithsonian Exhibition Team Views Visitors Anew', *Curator: The Museum Journal* 53/4 (October 2010), 465-82.

16 Nina Simon, *The Participatory Museum* (Santa Cruz, California: Museum 2.0, 2010).

In a section on new media, Stephen Abbot, from *Guardian News and Media* argued that long-established editorial processes have given readers very little opportunity to contribute until after publication. He gave examples of how new web technologies give greater opportunities for collaboration, enabling participation 'upstream' of publication. These tools enable *The Guardian* to move closer to the concerns and demands of its audience. For this new active type of reader, publication is not the end point but part of a continuing conversation. Hugh Garry from BBC Radio 1 Interactive showed how audiences can be encouraged to contribute interesting content using mobile phones to take films and photographs. The point was to stress the idiosyncrasies of user generated content, rather than to edit it into 'professional' forms. Jo Seddon from Wikimedia UK outlined the project in which The British Museum had a Wikipedian in (unpaid) residence for five weeks to help utilise the knowledge of the curators – developing Wikipedia stubs into high quality articles so as to improve the quality of entries and also promote the museum collections to a wider audience.[17]

Four contributors showed how the history of relations between science and the public can illuminate current dilemmas. Iwan Rhys Morus from Aberystwyth University explained that popular Victorian understanding of science rested on its performance – from street science to events at the Royal Polytechnic Institution, edification and entertainment were intertwined.[18] Vicky Carroll, then at the Science Museum, argued that by inserting eccentric figures into standard 'great white men' histories of science we can connect science to wider human stories, emphasise that important scientific contributions can be made from the periphery, and raise awareness of the boundaries of scientific knowledge. Eccentric displays had a popular appeal because they resisted didacticism, made use of memorable objects and told engaging stories.[19] Peter Bowler, of Queen's University, Belfast, drew on his recent study of early 20thc popular science to reveal how in those publications science came to be represented in two main ways. In one, it was recommended as an intellectually and morally worthwhile pursuit which stressed the philosophical consequences of the New Physics, for instance. Alternatively, there was a kind of self-help science culture – understanding new technology such as radios, aviation, motor cars might help you better understand the modern world and prosper within it.[20] Jim Secord from Cambridge University, in his plenary lecture argued against reducing public science to the communication of an idea. Instead, placing greater emphasis on understanding the dynamic relationship between the idea and the material culture that produced it can encourage a more active understanding of science. Science and communication are not separate; they should be seen as two sides of the same coin.[21] The 'Invisible Forms' (Darwin) exhibition at the Fitzwilliam Museum, with which he had been involved, provided one illustration of how the display of a range of objects can bring to life (and demystify) scientific ideas and the world in which those ideas developed. The juxtaposition of objects in a museum, and the sensory way in which they are experienced, can prompt audiences to make unique connections across forms, types and contexts of knowledge.

Speakers in a session on public history included Helen Weinstein, of York

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17 See, for example, http://en.wikipedia.org/wiki/Rosetta_Stone

18 See Iwan Rhys Morus, *Frankenstein's Children: Electricity, Exhibition, and Experiment in Early-Nineteenth-Century London* (Princeton, NJ: Princeton University Press, 1998).

19 See Victoria Carroll, *Science and Eccentricity: Collecting, Writing and Performing Science for Early Nineteenth-Century Audiences* (London: Pickering and Chatto, 2008).

20 Peter J. Bowler, *Science for All: The Popularization of Science in Early Twentieth-Century Britain* (Chicago, Ill.: University of Chicago Press2009).

21 James A. Secord, 'Knowledge in Transit', *Isis,* 95/4 (2004), 654-72.

University's Institute for the Public Understanding of the Past. She argued that the boom in television history has seen programmes develop along four lines: the presenter-led narrative (which tends to appeals to older men), the drama recreation (which skews the demographics towards women), the reality show (which can bring in families) and the emotional beat, which combines elements of all three. Programmes such as the BBC's *Who Do You Think You Are?* use a celebrity's 'journey' to attract mass audiences. Often the narrative structures derive from the teachings of Hollywood storytelling 'guru' Robert McKee. Roger Lewry from the Federation of Family History Societies gave vivid insights into the excitement of making discoveries in family history. While birth and death certification, census records, parish records, wills, newspapers and record offices are crucial, museums can add an extra dimension by rooting family stories in local history or by locating past experiences in the tools and trades of the period. Museums can vividly bring to life the challenges and experiences faced by our ancestors. John Wood, Head of Training and Skills Development at the UK's National Archives (TNA) showed how his organisation responded to the fact that 60% of their visitors are family historians. The finding aids of the Archives had previously followed the heterogeneous filing systems of the government departments from which their records originate. This produced difficulties for the amateur historians whose interests were in finding records of particular individuals. TNA therefore remodelled their advice services, online and onsite, so as to respond to users' methods and expectations.

The small selection of essays that follows [in the print issue of *Curator*[22]] emphasises those aspects of the conversation that can be expected particularly to interest *Curator*'s readership. Three of the essays present different directions for participation. Emma Bryant describes how a group of school children curated *Shhh…It's a Secret*, an exhibition from the holdings of the Wallace Collection of French eighteenth-century painting, furniture and porcelain, Old Master paintings and armour. Jaime Kopke outlines her project for a community museum in Denver, an enterprise that in many ways might be considered as a kind of art practice, but which also throws down a challenge to more conventional museums. Differently, Alexandra Kim's contribution explains how Britain's Historic Royal Palaces have taken advantage of a building project to curate Kensington Palace as a theatrical experience, involving visitors in new ways. The last paper opens up a different aspect of sensitivity to, and opportunities for, lay collaborators. Andrew Chitty describes *London Recut*, a competition that made archive films available for people to re-edit online to tell their preferred stories. Together, these four short contributions indicate the liveliness in participation activities in recent years. The collection of papers is concluded by a reflective piece, conceived within the context of London's Science Museum, in which I apply Michel de Certeau's ideas about cultural consumption to promote reflection on how museum visitors interact with displays, and how museum professionals may respond if they accept de Certeau's proposition that cultural consumption is, in fact, a 'kind of production' . . . that shows itself not in its own products . . . but in an art of using those imposed on it.'[23]

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22 http://www.curatorjournal.org/issues/544-october-2011-3

23 De Certeau, M. 1984. *The Practice of Everyday Life*. Berkeley: University of California Press, 31. See note ll.