The Public History of Science, Technology, Engineering, and Medicine (PHoSTEM)

An AHRC-funded Research Network between
The Science Museum,
The Institute for the Public Understanding of the Past,
and The University of Leeds.

"Cultural Change, Material Culture and Public History - Understanding Involvement, Participation, and Widening Public Engagement"

Workshop organised by
IPUP (Institute for the Public Understanding of the Past)
and hosted by
NRM (National Railway Museum), York

On Friday the 7th December 2012, the workshop entitled "Cultural Change, Material Culture and Public History - Understanding Involvement, Participation, and Widening Public Engagement" took place at the National Railway Museum in York. This event was organised by the Institute for the Public Understanding of the Past (IPUP) in partnership with the Science Museum and was funded by the Arts and Humanities Research Council (AHRC). As the first of three events that are exploring the engagement of the public in the history of science, this workshop brought together representatives from museums and heritage groups for a day of discussion about productive academic, volunteer and practitioner partnerships. The day sought, in particular, to examine how heritage practitioners might develop better routes to engagement with the history of science and technology by developing improved relationships with the public, especially through volunteering and community participation.

To begin the event Ed Bartholomew and Joe Savage led two short tours of the National Railway Museum's Great Hall and Station Hall. Bartholomew and Savage spoke of the challenges in interpreting science, technological and industrial collections while also reflecting the personal stories associated with travelling by rail and working for the railways. They each explained how the Great

Hall was itself a former railway building, once an engine shed, but this was difficult to convey in the space as it appeared to the public in 2012. They spoke of the multiple uses of the Great Hall and the difficulties of representing the modern railway because of the longevity of rolling stock and equipment, although this was possible with support and sponsorship from the rail industry. It was also explained how the NRM's Search Engine archive facility supported the museum's exhibitions and events, and described its use by academics and practitioners in public history.

Moving on to the Station Hall, Bartholomew highlighted the museum's new art gallery as a venue for both attracting people interested in art to a technological museum and for encouraging family audiences, who might not normally visit a gallery, to engage with art collections. He then spoke of the ongoing development of the Station Hall, due for completion in 2013, and the ways in which the NRM's Station Stories project collected and used testimony from the public in the interpretation. He mentioned the inevitable compromises museums make given the multiple functions they must perform. He also described how the exhibition would exploit both the objects and the space, and would employ theatrical devices to enrich interpretation.

After the guided tours Professor Helen Weinstein, Director of IPUP, and Dr Tim Boon, Head of Research and Public History at the Science Museum, opened the workshop by welcoming the delegates and commenting on the positive response shown by those attending. It displayed that the organisers' initial intuitions, Boon said, concerning the intrinsic value of bringing together individuals who have overlapping interests but don't often have the opportunity to meet and talk had been justified. He continued by explaining that this was the first of three planned events, each with a different focal point but sharing the same core concerns, and that this network of academics, practitioners and volunteers grew out of the sense that there were whole dimensions of the public culture of science, technology, engineering and medicine that were not receiving the discussion they deserve. One aspect of this was a belief that museums had lost confidence in the inherent interest generated by their collections and that they are growing sceptical about the engagement of audiences with science collections. He also noted that despite studies about the public attitudes towards science in general, the history of science and technology scarcely features within them. As a result, practitioners are least able to understand those aspects of the public mind that touch most closely upon their historical concerns.

Current emphasis on research impact and knowledge exchange in the funding of universities created a major opportunity for those that work in museums and universities to move beyond the model of creating authoritative, top-down, exhibitions, and in so doing to bring sophisticated and engaging research to lay people in ways that work. This will be the core concern of the second meeting that will take place in Leeds in early 2012. These discussions will lead to the final summative meeting taking place in London after Easter 2013. This will focus on the need to create more activity in science museums that reflects the kinds of critical thought that is found across the humanities as well as in science and technology studies. Boon finished by saying that there is a need here to establish the umbilical link between collections, scholarship and public engagement that seems natural for museums whose remit is outside science.

Professor Helen Weinstein then continued the introduction by reinforcing Dr Boon's sentiments and highlighting the importance of active participation, of doing and not just talking, pointing out that those present were there to make their practice and their research better and thanking them for being part of the event. She spoke about the benefits of partnering with the Science Museum and the University of Leeds for this series of workshops as a way of continuing IPUP's work in attempting to answer the big questions: what does the past mean to people in the present, how can those who work professionally in history and archaeology widen public access to their research, and what strategies can they use to better connect the public to the past in the most meaningful ways? The aim of establishing this network was to take the single thematic case study (the history of science, engineering, technology and medicine) and examine potential routes to new and different audiences, improve communication of those histories to the public and interpret strategies for greater involvement with those pasts.

Weinstein concluded the introduction by emphasising that the focus of this workshop would be on the 'participatory'. It would examine how we might institutionally interact with a group of people who were once only thought of, rather quaintly, as audiences and re-examine their roles as co-curators, stakeholders and enthusiasts who support heritage institutions with their specialist knowledge and commitment. The changing nature of this relationship is at the heart of the workshop and by placing these individuals at the centre of this discussion we can learn how to make our narratives stronger, more meaningful and make the social impact of PHoSTEM much greater.

Panel One

The first panel was chaired by Dr Adam Gutteridge, Research Fellow at IPUP. He introduced the first speaker of the day, Joe Savage, Interpretation Manager at the National Railway Museum (NRM), whose presentation focussed on the recent app that the NRM produced in collaboration with the University of York and East Coast, with funding and guidance from the AHRC. Savage's presentation centred on the collaborative aspects of producing the app, examining how the project took shape and what was learnt from the process.

He started by explaining that the AHRC-funded project, entitled Commercial Cultures, was a post-doctoral research programme that allowed for 2/3 of its funding to be spent on research and 1/3 to be spent on public dissemination of that study. Savage revealed that the research produced a realisation that railway history is often about industrial, engineering, or commercial history but rarely focuses on the consumer choice that comes with travel opportunities. This led them to focus on the traveller as commodity and the ways that railways have been marketed to passengers in the past, pointing out that the Great Western Railway had at one stage spent 90% of its marketing budget on passenger promotion. The original output of the project was an

intended temporary exhibition. It aimed to utilise some of the 11,000 posters they have in the collection but the research turned out to be more about passenger and consumer experience which they felt this exhibition wouldn't necessarily communicate. The decision to create an app then followed, as the mobility of the technology mirrored the nature of the research which explored travel, geography, and the spread of railways across the country. Savage followed this by suggesting that museums consider the benefits of using apps as a way of moving beyond the museum, especially when what is being explored is hard to communicate within the confines of a museum space. The app was able to allow users to access content which would promote self-reflection about their own travel choices and duplicate the journey that passengers in the past would have made.

In creating the app the NRM were adding to a long history of railway companies providing opportunities for passengers to engage with them. The app allowed the user to browse through four different eras and utilises geo-tagging as the passenger moves through the route. This prompted consideration by the researchers concerning how people engage with the landscape when they are on a train: do they experience it as one continuous route or a series of landmark anchors? The app also offers users digitised content and material from the collections as well as a 360-degree view of carriages from each of the four eras. Savage also pointed out that interactivity was a desired part of their app as he explained those features which allow users to superimpose themselves into a poster and post it on social media sites. Savage concluded the presentation by focussing on what had been learnt from the project. He stated that rich content is everything and the rigorous research spurred them to select a developer that really valued the content and could produce an app that utilised it: if, he said, one wants to develop the ways in which ongoing research is disseminated, one must use an intuitive content management system that can keep delivering the desired material. An app must be immediately relevant both within its temporal setting and within the environment it is designed to be used. The research must be identifiably relevant to the person using it in the context that it is designed for. Savage then explained that the launch of an app is much harder than that of an exhibition as it requires more nurturing in the early stages.

The next two speakers provided the delegates with the opportunity to hear more from the volunteer voices and learn how the relationships between heritage organisations and museums are created and maintained. The second speaker of the day was Jonathan Wray, Publicity Officer and Secretary for the LNER Society and former Nature Conservation Press Officer. He began by outlining two of the projects with which the LNER Society is assisting the NRM. This includes working in the archives to catalogue drawings that had been secured from the former LNER workshops. Twice a year the LNER Society works with these drawings and they use their expertise to assign details and information about the drawings which are uploaded onto the internet. They also work to catalogue, maintain, and

assess some of the 1.7 million images in another collection held by the NRM. Wray then explained what he and the other volunteers get from their involvement; because it is the biggest centre for railway research in the country volunteering allows them to be involved with a significant collection and the prestige of working with the NRM generates a sense of pride. There is great pleasure, Wray said, that comes with being part of the team and the research that takes place at the NRM. They are treated as equals and the close working relationship they have with the NRM has resulted in the establishment of a Liaison Officer at the LNER to facilitate contact. As well as highlighting the opportunities it provides for the volunteers to learn and engage with the collections, Wray was also emphatic about how much the NRM benefit from their expertise and understanding. He concluded by clearly stating that the relationship between the NRM and the LNER was one of mutual benefit whereby assisting the NRM allows the volunteers to both apply and further their knowledge and enthusiasm.

The third speaker was Ivor Lewis, Chairman of the Historical Model Railway Society (HMRS) and member of nine volunteer societies. He drew on similarities between the HMRS and the LNER's task of cataloguing because Lewis's group worked on a collection of 800 rolls of drawings from the Great Western collection. He spoke about how a relationship was formed with the NRM. Through his links with other societies, many of which are railway-orientated, he was able to put out a request for assistance in newsletters. He then spoke about the changing relationship between volunteers and museums. The state of the relationship is no longer as it was twenty years ago, he said: professionals no longer self-identify as authoritative experts and neglect the information a volunteer can contribute. Budget restrictions have meant that hiring a workforce of experts simply is no longer a viable option and now many of the real experts are seen by the NRM to be the amateurs and the volunteers. Some of the key aspects from the volunteer perspective were that they can draw from a breadth of experiences and skills gathered in their careers and apply them to their research. This is largely due to the demographic of this group of people who are usually in their sixties and seventies. Fearing that there is a growing decline in these volunteers due to the economic climate, Lewis referred to them as the 'lucky generation', a term that would be picked up and re-used throughout the day by other speakers. This generation, he said, ended employment with a secure retirement scheme and enough income to give them the freedom to spend time on their interests. This is a demographic that museums, if they require volunteer input, should look towards. He returned to a slide that Wray had used which read "We contribute to the sum of all knowledge" and he said that many of the volunteers value this aspect of their involvement highly. He also spoke about the ways that historical narratives can be disseminated through other mediums, citing model railways as an example. The models are constructed as accurate replicas of technology that is taken from their archive materials such as drawings and plans and can also generate

revenue as model manufacturers will buy drawings to cater for the accuracy that the market desires. Lewis concluded by returning to the relationship between volunteer and professional, stating that it needs to be a mutual and trust-based relationship for it to be successful. The volunteer must acknowledge the financial and logistical complexities of managing a museum and its collection whilst the professionals must be able to trust that the volunteers can respect and handle the historical artefacts. The finishing sentiment was that it should be a team effort that is mutually beneficial.

The fourth speaker was Mike Nevell, Head of Archaeology at the Centre for Applied Archaeology at the University of Salford. He has for over a decade been a leading figure in community archaeology with projects such as Dig Manchester and now the successor to that, Dig Greater Manchester. Nevell began his presentation with some thoughts about community involvement in heritage as a whole. The growing body of literature about involvement in heritage activities from an archaeological point of view was mentioned and figures were displayed that showed volunteer involvement had doubled in the past twenty years. He then brought up the issue of terminology and stated a dislike for the term 'amateur', suggesting that in academic circles it can be seen as pejorative whereas 'volunteer' lacked those negative associations. Returning to the figures of volunteer activity, Nevell recalled Lewis' phrase, the 'lucky generation', as he spoke about the changes that may arise as a result of changes in pension provision and the retirement age. He asked "what will that do to that demographic who have in the past been able to spend ten or twenty years volunteering and contributing to the total sum of knowledge?" The growing number of volunteers in the archaeology sector has resulted in its popularity on television and a rise in academic interest in the volunteers that work in post-industrial and contemporary archaeology. He noted that recognition has developed in the last decade that volunteers frequently know more than professionals in many instances. Returning to the issue of terminology, Nevell mentioned 'public' and 'community' archaeology as two phrases that are used frequently. Public archaeology is guided by professionals and usually delivered to reach regional and national planning and heritage guidelines whereas community archaeology is what we see as traditional volunteer activities and the set techniques, networks and strategies that were partly expressed in the previous two presentations. With the UK having over 1000 heritage societies we can identify this as a very unique and British practice. The fact that we have so many volunteer societies set up around past-times to create a network of ideas and people is something we should be proud of and appreciate more as this is often an alien concept beyond the British Isles.

Nevell then went on to discuss some of the practical-based volunteer activities that are found in industrial heritage and industrial archaeology and the overlaps between public and community archaeology. He rooted these activities and industrial archaeology in the emergence of the conservation movements in the 1950s and 1960s. Out of this movement many industrial heritage societies and private volunteer-run museums were formed and these models eventually became part of local heritage and national museum strategies. He followed this with

examples of volunteer-led museums and industrial collections that could not be maintained if not for volunteer engineers' input and management. These included: the Queen Street Mill, Burnley; Ellen Road Mill, Rochdale; Hesketh Windmill, Blackpool. They were also exemplary of the trend towards public access to industrial heritage moving away from museum-based collections and instead opening large archaeological sites to the public in a controlled way, incorporating field trips and oral histories in a professionally mediated manner. The other way of approaching this is much more community-led and the case study he used to illustrate this was the recently completed Chapel Street project in Salford. This project allowed school parties to view the site as well as incorporating volunteers, many of which were Salford residents, into the excavation process and allowing them to uncover their own past.

He moved onto the current Dig Greater Manchester project and the ways in which this programme will utilise community involvement. Most of the activity will be done by volunteers with a small professional group who will train the volunteers in archaeological techniques. So far the project has worked on four sites and has had 600 volunteers rediscovering this kind of industrial heritage through activity-led engagement. To conclude the presentation Nevell focussed on another case study from 2012, the Ashbury's Railway Iron Works in Manchester, in which a local volunteer society were brought on board to provide expert knowledge and help interpret the archaeological findings and features on the site. Because in some areas there is more experience and expertise within volunteer societies than there is with the professionals so practitioners and academics often need the courage to offer volunteers the opportunity to apply their knowledge. That approach can also be offered in more formal settings such as training days and workshops for both volunteers and practitioners to instigate and exchange ideas. There are a variety of ways in industrial archaeology in which practically applied activity based methods of learning can be used for both volunteers and professionals so that we have that interface between the two. He finished by saying that it is very easy to set these up as we have a lot of models but one concern is that we need to capture that data so that we talk about best practice in the future and prevent the same ground being covered again.

The next speaker was Peter Bone, a member of Manchester Regional Industrial Archaeology Society and winner of two Association for Industrial Archaeology Fieldwork and Recording awards. He started by giving recognition to the speakers that had preceded him: saying that what they had articulated was of great significance and he aligned himself with their assertions and sentiments. For him it all came down to mutual respect between the professional, the professional's body of knowledge and the knowledge a body of volunteers can provide. By recalling Mike Nevell's focus on Ashbury Railway Ironworks, Peter Bone used this project as an exemplary case study where desk-based research had yielded little but through close relationships between academics, professionals, archaeologists and volunteers the project began to develop and a history of ironworking on the site was revealed. The 'lucky generation' was also focussed on as a way of highlighting that this generation of volunteers are valuable to professionals because they can draw on 40 years of varied experience and knowledge in sectors that may be transferable to the research being carried out. The question, he said, is not 'is there

knowledge there?' but 'how do you tap into it and engage with it?' To conclude his presentation and the first panel of the day he reinforced what the previous speakers had expressed and added that he, unlike Mike Nevell, didn't baulk at the term 'amateur'. Reciting the Latin 'amo amas amat amamus amatis amant' he said he is proud of and loves what he does as an amateur archaeologist.

Panel Two

The speakers and delegates returned after lunch with the conversation about what does participation really mean to the people that do it and what it is that motivates them well established from the first panel. The discussion about terminology had also arisen in this and a dialogue had begun around what words like amateur, volunteer, researcher and lay communicate to the people that undertake various roles within this network. With this in mind the second panel was introduced by Helen Weinstein and she reminded the delegates of the topics that had arisen from the first part of the workshop.

The opening speaker of the second panel was Hazel Edwards, Manager of the Discovery Museum at Tyne and Wear Archives and Museums (TWAM). The first part of her presentation, entitled 'Discovery Museum: participative strategies & working with a post-industrial audience', was a reflection on the interpretation of science and industry at Discovery Museum over its seventy-eight year history. It is the largest museum in the federation of twelve museums and one archive that makes up TWAM. Since 2004 Discovery has consistently attracted 400,000 visitors annually whose core audience is mainly (but not exclusively) families and school-groups from the north of England. At the heart of the museum are a series of exhibitions that explore the industrial and maritime heritage of Newcastle and the north-east. Its collections hold artefacts of science, technology and maritime history which have been designated by the UK government as of national significance. Although established seventy-eight years ago as the Municipal Museum of Science and Industry, Discovery's approach to interpretation of Tyneside's science and industrial heritage over the past two decades has been predominantly people centred. Edwards outlined this and took us through three phases in the presentation of science and technology at Discovery, inviting responses from the delegates about how these resonated with their own institutions.

The first phase, which lasted sixty years, was didactic and technical. This was an area that Edwards said she knew least about and as a result of the workshop a discussion with Tim Boon had led to the preliminary discussions about a research project focussing on this part of Discovery's institutional history. Phase two was characterised by social history or to use a phrase from the Social History Curators Group's 2010 report, "the triumph of human history", and was led by the former director, David Fleming, from the 1990s to 2004. The third phase is

the participatory phase which started in 2004 and dominates the strategies that Discovery employs today. Edwards quoted Andrea Cornwall and John Gaventa's phrase to state that "users and choosers" have now become "makers and shapers". Using a term taken from Steph Mastoris, Head of the National Waterfront Museum at Swansea, Edwards described the effects of the "post-industrial" age on the Discovery Museum. Continuing the reference to Steph Mastoris' article 'Engaging with the post-industrial audience' she paraphrased that no longer are the majority of adult visitors engaged in heavy industry or manufacturing and as a result they cannot bring a deep personal experience or understanding to the artefacts on display. Overall, therefore, industrial museums must work harder to engage their audiences. They require far more explaining but this needs to be less technical and more engaged with the human experience. Over the past eight years there has been no significant capital investment in Discovery on the scale of previous years. Instead, the Discovery team focussed on a creative programme of exhibitions, events, collecting oral histories and digital stories, the creation of websites and consultations. Many of these activities are characterised by participation with Discovery users.

Edwards concluded with a case study of a recent family history project at Discovery Museum. The 'What's Your Story? Discovering Family History in Tyne and Wear' project was prompted from feedback as a result of a large public consultation in 2009 which indicated an appetite for family history but little appreciation or use of the Archives Service at Discovery. The project brought together archive material, museum objects, film and oral histories into a single touring exhibition and its starting point was personal stories. The exhibition, funded by the HLF, comprised 11 stories, each researched by a volunteer family historian, and a volunteer-run website where family historians could upload information. Edwards suggested that the project has illustrated the potential for family history to be a viable and appealing 'entry point' into complex histories of technology and industry in the region: individual biographies, researched by volunteer genealogists, could function indicatively as stories of the human interaction with science in the Northeast. She ended her paper by saying that she hoped she had demonstrated the huge and largely untapped potential of family history and the expertise of the "lucky generation" where support for museums can be found.

The next presentation was delivered by David Stockdale and John Paul from Ryedale Folk Museum. Founded in 1964, the Ryedale Folk Museum emerged as part of the conservation movements of the 1950s and 1960s that Mike Nevell had mentioned earlier in the day. David Stockdale began by introducing the museum and pointing out the remarkable mix of Yorkshire sense of place, archaeological and historical preservationism, Worker's Educational Association involvement, and Quakerism that formed the identity of the museum when volunteers first established it. The museum now has over 20 buildings, some of which volunteers moved stone by stone to the location within the museum's six-acre site. These are designed to represent the historical aspects of material culture and daily living that surrounded rural life. This is reflected in the Museum's collections which span the spectrum from textiles to tractors and focus on

rural social history. Stockdale added from a personal point of view that technology was not the be all and end all of rural social history. Technology, he stated, should be placed firmly within a wider social history context and not be depended on to tell it. From this he went on to give details about their new Harrison Collection and articulated a view that collections based exhibitions aren't in decline but feels that they are being made more engaging and that there is a return to collection-focussed curatorship. He then spoke about two volunteer-led projects in which volunteers had full control over the projects. The first was the redisplay of their agricultural machinery and the second was the acquisition of the T.G. Willey photographic collection. Volunteers decided on the research, the writing, the design and the construction of the displays. Volunteer participation at the Folk Museum includes machine maintenance, practical and industrial archaeology, demonstrating activities to visitors, construction (display fittings to constructing buildings), garden interpretation and maintenance, and management of the costume department.

Stockdale now handed over to John Paul who is a volunteer at the museum. He began by saying that he thoroughly enjoys interfacing with everyone involved at Ryedale Folk Museum. As an ex-primary school teacher he is particularly keen to make their exhibitions accessible to children and like many of the volunteers he spends at least one day a week maintaining and rearranging collections for public display. The act of maintaining the machines offers the volunteers the opportunity to understand how they operated and how they were constructed. Their main objective was to make these often strange and incomprehensible shapes come to life and have meaning for adults and children. They aim to make static objects communicate that they were once a very active and integral part of rural social and technological history. He drew our attentions to the many re-enactments that still occur in the region which reanimate these technologies and through making them operational, communicate agricultural histories. John Paul concluded his section of this presentation by stating that he saw their job at Ryedale Folk Museum as one that should express to visitors the links between the first tools to the newest and their connection to the land.

David Stockdale returned to conclude their presentation with a few final points. He commented on Hazel Edwards' reference to post-industrial displays and drew a line of comparison between the idea that a large group of people who were involved in a particular history of working life die away and the knowledge and the interest toward collections are diminished as a result. Agreeing with Edwards he identified that from a rural history perspective this occurred earlier in agriculture but has prompted similar complications in presenting the past. He then described some of the further volunteer activities scheduled for 2013 which included a public research room which will be staffed by volunteers. The practical implication of the strategies that the museum employs shows that the responsible volunteer system gives practitioners a lot of flexibility and a depth of resource to produce work. As a result of this the institutional or curatorial voice at Ryedale Folk Museum is multifaceted and built upon a wide range of voices

but, Stockdale asks, is this any different to the departmental voices of any large museum or the multiple voices of a local community?

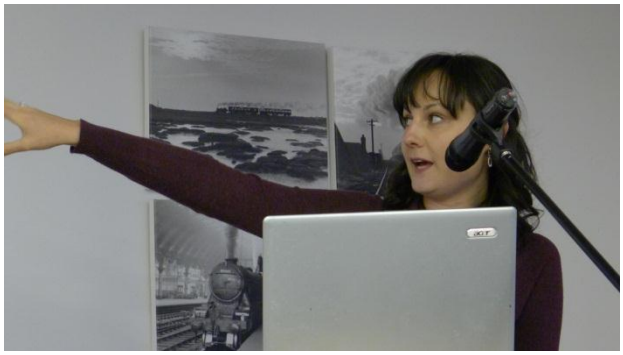
The following and final speakers of this panel were all affiliated with Beamish Museum, County Durham. Helen Barker, Head of Community Participation at Beamish, started the presentation with background information about Beamish and its early conception being focussed on capturing and presenting the social, agricultural and industrial history of the surrounding area. It sits within 340 acres of land and many of its buildings have been donated to the museum. The main source of income is dependent on entrance fees and this year Beamish is on target to reach 510,000 visitors. These consist mainly of family groups from the local area and families from the lower economic brackets. The museum is made, Barker states, by the communities that live in the Northeast. Without them the museum wouldn't exist as the collections are all donations from people that live in local communities. This is identifiable when you come into the museum as the scale and type of collections vary greatly from buildings to household objects to animals. Barker showed a slide of Pip the Pit Pony who was the last pony that worked at a local colliery before it closed and he was stabled at the museum to help interpret the Colliery Village that they have. The museum had a policy of unselective collecting and although this results in duplicate items it is able to communicate the continuous modernisation of the region. This is exemplary of the connection that the museum has with the local community as people regularly come into the museum to look for the item that they have donated. They are able to approach objects with the expertise and familiarity of an individual that understands its use and significance which is in turn explained and shared with the people accompanying them. The role of the volunteers at the museum often incorporates visitor engagement and aims to ask questions as opposed to telling authoritative narratives to them: it is about bringing out the stories of the visitors and acknowledging that their interpretations are what make the museum experience successful. This, and the use of visitor donations, help to create a tremendous sense of ownership for the audience.

It has only been, Barker said, in the past seven years that Beamish Museum has focussed on active community participation (schools, volunteers, older generations and other members of communities) and the strategies that had created a good connection with the community preceding this were done unconsciously. In order to feel comfortable referring to itself as 'The Living Museum of the North' it has to reflect the diverse range of life in the region. This would be impossible if the curators were disconnected from the people who live around the museum. The planned community participation still involves collection donations but it now incorporates new methodologies. The most common practice occurs when a community representative contacts the museum and asks for assistance with a project: the museum will then help in many ways such as providing the museum's resources and site as a way of facilitating a project that helps them communicate their histories. The museum also identifies the gaps in their visitor

demographics and tries to assess what aspects of life in the north they aren't telling in order to accurately reflect the history of a wider audience. Barker also returned to the concern expressed earlier that the generation of people who had personal links to the collections is diminishing. The way that Beamish is handling this is through a new phase of collecting that will focus on the mid-twentieth century onwards as a way of reconnecting with local people and telling a relevant history.

Barker then handed over to Michelle Ball, Active Aging Officer, and Pat Burns, Chairperson and founding member of the Silksworth Heritage Group (SHG), to discuss the Silksworth Evictions Re-enactments project. Ball outlined the origin of the project as being one that developed from a key event in the history of Silksworth and one that lots of the older generations were familiar with but hadn't been passed on to the younger generations. Beamish had located a book that told the history of the Silksworth evictions, written by a member of the SHG, and as they already had contacts with them they got in touch to begin discussions about bringing the story back to life again. It was important for Beamish that they worked with and got support from the author of the book and the SHG as they are the people with the specialist knowledge and links within the community. The museum is aware that it works best as a facilitator, helping heritage groups to do what they envision and not telling the community what and how to develop and execute a project. In regard to the Silksworth Evictions project, Beamish were able to assist SHG with strengthening inter-generational links through providing opportunities for mutual learning.

Shared history was crucial as a means by which they could start participation between groups. This was successful and ten community groups and eight schools became involved in the project with varying levels of involvement. Ball also pointed out that schools become a very good way of getting messages across the community through inter-generational and familial links. The SHG also devised walking trails which incorporated resources and archive materials from the museum so that members of the public could engage with the significant locations in this history. Drama-based work was also performed in the museum by school groups but not all participatory focus was placed on schools. A large part of their focus was directed at trying to engage with people that weren't in a formal community group so an exhibition was created by the SHG and based at the local library. It offered visitors an opportunity to see what was happening and offer an invitation to be involved also. The culmination of the project was held at Beamish Museum and lasted nine days. Beamish was able to use their museum as a stage for the heritage groups to present their history in a museum space that welcomes large numbers of visitors. Volunteer input was still at the heart of the project and they were able to add accuracy to the re-enactment and hopefully provide visitors from outside the region with a narrative that might prompt them to think about how this fits into a larger historical narrative. We were then shown a video clip of the Silksworth Eviction Re-Enactment which can be viewed here http://www.youtube.com/watch?v=Ccr4w8l6O2E.



Pat Burns started her presentation by speaking about some aspects of the legacy of the project which include the current development of a website and a video recording. Talking about her

local history interests Burns located these in Silksworth due to her familial links to the area. During her first census study she found information that revealed her Great-Grandfather and family had been some of those evicted in the Silksworth Evictions. She spoke about the origins of the SHG and how twenty-five years ago, prompted by a lack of information for a youth project, they set out aims to establish a heritage group to document Silksworth's history. A quarter of a century on, and despite having started with no funding, they have achieved all of their aims except securing a centre for the group. The SHG has produced four booklets, Silksworth memorabilia, day trips, census studies that aimed to assist local history research, and are members of the Sunderland Heritage Forum. Burns then reiterated some of the points that were raised in the first panel when she spoke about the essence of partnership work being sharing skills and knowledge in order to advance mutually for public outputs like the exhibitions she has been involved with. The pleasure of sharing her history with those at Beamish and seeing the communal and inter-generational enjoyment that came from the various outputs, specifically the re-enactment, was remarkable. Advocating the benefits of life-long learning she said that the growth of confidence enabled her to complete a University Diploma in Humanities, resulting in her book 'Silksworth Community – Change and Challenge of Fifty Years'. She concluded by saying that the project succeeded in all its aims of reinforcing a local community's identity and history through participatory involvement. It was a brilliant example of exploring the past, bringing history to life, spreading knowledge, sharing skills and successful partnership working.

Panel Three

Dr Tim Boon chaired and introduced the final panel. The first speaker was Professor Ludmilla Jordanova, Professor of Modern History at King's College, London, and Trustee of the Science Museum Group. Stating that she was trained and has worked in a variety of disciplines (natural sciences, history of science, history of art, museum studies and the practice of public history) that don't necessarily fit seamlessly together at an event like this, Jordanova admitted to what she identified as an 'identity crisis'. The 'crisis' arises, she said, around identifying how one wears all these caps at the same time as creating a critically creative discourse about public history. The purpose of these workshops is perhaps to examine the ways that we manage this issue and unfurl concepts that develop as a result of this process. We might say that it is the job of people like Jordanova who teach and are involved in the debates about public history to identify and tease apart those concepts. She made the point that this teasing out of concepts is in no way demeaning to the case studies that had been spoken about throughout the day. But these case studies are primary sources and need to be treated as such, avoiding that would mean that academics are not doing their jobs.

Jordanova then identified some of the concepts that had come up throughout the day which she felt required the kind of critical unfurling she had mentioned. She started with 'commodification' and stated that all forms of history are commodified but in different ways. The second concept was centred on 'labour and skill' and the fact that certain museums cannot

function without volunteer workers: she cited Locomotion in Durham as an example, but it could be relevant to many of the cases spoken about during the workshop. These institutions are dependent on the skills of their volunteers and the emotional investment that comes with them, but this also applies to practitioners and academics. There is a labour that is involved with history and a central part of public history is making manifest what those forms of labour are. This means that if we are serious about participatory history we have to discuss the process which any kind of history involves.

The notion of 'science' was another key concept and even though little had been said about science specifically during this workshop, the challenges of representing bringing science to wide publics must be recognised. There is no mileage, Jordanova said, in pretending this is an easy thing to do. The challenge is how to communicate the relationship between something that is largely abstract and what you can display which is something material. The last of these concepts was 'public history' and we should continually interrogate the concept of public history. She suggested we need to keep asking the question 'what is public history?'. We should ask what the term means and how it is being used. The presentation then moved onto the challenges of understanding the materiality of the past and it was suggested that these challenges remain no matter what the audience. The problem lies with 'translation'. What this should prompt is a discussion about how we pay attention to material objects and how we generate descriptions when we think about the translation problems. This needs to be addressed as there is no material object where its link to the past is self-evident; it always requires various kinds of effort, especially with science.

Jordanova then used the problems of scale as an example of the issues around translating information to audiences as it is a fundamental concern when thinking about science. She suggested that the workshop had brilliantly demonstrated the fact that people want to work with objects directly. It does not have the same satisfaction for a user to see something in a digital format and what digital formats don't really speak to are questions of scale. One of the things that she said she would take away from the workshop was the joy that people get from working with the materials and collections. The presentation was concluded with assertions about the political currency of history. It was mentioned that history should not be co-opted for careless political usage. So it seems that creating critical discourse around the research in science, medicine, technology and engineering is crucial at a time when there are concerted efforts for the government to put more money into these areas. There is also scope for studies that focus on the prevalence of heroisation in these fields and revisiting the concept of nostalgia and memory studies.

The next speaker was Annika Joy, Acting Head of Audience Research and Advocacy at The Science Museum. Joy's presentation focussed on how the Science Museum is trying to develop the curatorial voice through collaboration with audience groups. This could come under the title of co-creation, co-curation or participation and is about adding to the curatorial voice rather than replacing it. The Science Museum Group consists of five museums; the collection that contains the story of science, technology, medicine, engineering and media. The Science Group

has the only permanent audience research team in the UK which works with exhibition managers, curators, learning colleagues, registrars, interpretation workers, heads of public history and new media specialists to address the barriers that they know prevent the visitors from engaging with them. The work is always iterative and often bespoke but there are some universals: visitors need two things, authoritative factual information and strong narratives they can relate to.

Like many institutions the museum has been involved in community partnership projects, learning programmes and socially inclusive practice, developing temporary exhibits and events for groups that the museum traditionally finds hard to engage. The audience research team have been integral to the museum's attempts to diversify and enlarge their visitor base, evaluating this work. The museum began engaging in an audience-led approach to programming in 2004 and worked with African-Caribbean groups to develop new ways of finding topics and reaching the audience. The museum invited and facilitated audience-led content into the public programme via online sites and small interventions into permanent exhibitions. The outcomes of these were positive for the participants and the museum. The participation brought about new perspectives, previously untapped knowledge and the museum learnt that this model might be the best way to elicit increasingly relevant stories about the collections. Audience input was clearly aiding museum output. But this focus was on contemporary science and the activity wasn't engaging with the permanent collection.

The museum is now developing an information communication gallery which is 2,500 square metres, will hold over 1,000 historic objects and has the input of audiences to inform, shape and aid the museum in its delivery. This decision to co-create a permanent gallery is significant, linking participation with the historic collection at the heart of the museum. Joy then listed three elements to the research strategy of this project which included impact on participants, impact on broader target audiences and impact on the organisational and institutional attitudes to co-creation. Acknowledging that applying participation within a large gallery is challenging, Joy spoke about the risks of co-creation on this scale. With a large number of public participants the exhibition voices can become mixed which could lead to a confusing experience for visitors. One of the key focuses for the audience research team is to advocate for the audience and make sure that the exhibitions work for the everyday visitor in a way that enhances the collections. This programme of work at the Science Museum is distinct from previous projects as it aims to impact on the organisation not just the participants. One hope would be that in the longer term, people from the museum won't have to be talking to people in this context about the exclusive and excluding interpretation of the history of science.

Joy ended by stating that she didn't feel niche participation projects are wrong but that to meet the needs of both the participants and the visitors to a national museum there has to be a more ambitious way to do this. Ensuring that participants have the tools to meet the needs of visitor comes through collaboration with curators and the audience research team at The Science Museum.

The next speaker was Kalliopi Fouseki, Lecturer for Sustainable Heritage at University College, London. Like Ludmilla Jordanova and Annika Joy, Fouseki's presentation focussed on some of the challenges that she had encountered within the context of representing science and history to BAME (Black, Asian, Minority and Ethnic) audiences. The presentation began with a question: What is science? Concluding that there is no single answer and that it can be interpreted by different groups in different ways, Fouseki suggested that we need to think about this response and how the audiences we hope to engage with perceive science. Our attention was then drawn to the Science Museum's 'Brought to Life: Exploring the history of Medicine' website which attempts to communicate how definitions and opinions have changed over time. There was an echoing here of the need to interrogate the definitions and perceptions of terminology that mirrored Jordanova's concerns about general comfort with 'public history' as a phrase. Fouseki continued this interest in language by pointing out that it is a sensitive subject and therefore important that museums and practitioners engage with communities about the impact of terminology and its usage within the museum context.

The challenges of engaging BAME audiences are centred on identification and if they don't identify with content they will not engage. Although this is particularly significant in relation to groups that have been excluded socially in the past it also transfers beyond the BAME audience, any visitor will struggle to engage if they cannot identify with the content. The way to manage this is through participation, consultation and negotiating with audiences to create a constructive dialogue. Fouseki then directed her presentation towards the needs of the BAME audiences in relation to science and listed four core concepts that recur. The first of these pertains to ethical and controversial issues that occur when science is represented. By dealing with controversy you create a dialogue and allow the audience to find a voice and access a topic through their own opinions. Museums must also contextualise science within historical frameworks and often that can deal with sensitive narratives that require the sort of aforementioned dialogue. The processes of 'engaging' BAME audiences with science are equally challenging as are the processes of engaging audiences with other subjects such as history. It is the process that is important and for the process of 'engagement' to succeed more time is needed that will allow constructive dialogue, debate and negotiation to occur. The second concern deals with the problems that arise from the accuracy and objectivity expected in science exhibitions. Again, this can be controversial and works with a historical framework that requires a balance which doesn't compromise objectivity but does justice to contemporary feelings towards terminologies and narratives. The third challenge was one that asked how if we want to create exhibitions for a wide range of audiences do we manage multivocality and diversity to make it relevant to everyone. This can be particularly difficult as the BAME are not homogenous groups; they have their own ideas and beliefs which complicates the process. The final challenge that Fouseki listed continued a thread that had been apparent through most of the workshop's presentations. It suggested that in order to create cross-cultural perspectives, despite the

complexity of individual beliefs, it was necessary to engage with volunteers as they have access to a wealth of knowledge and expertise.

The next speaker, Professor Mike Wilson, Dean of Research at University College, Falmouth, made reference to Ludmilla Jordanova's 'identity crisis', pointing out he too shared that sense of disparate identities as his background was in theatre scholarship. It was his interest in storytelling and how we use digital technologies and web 2.0 to communicate narratives that led to discussions with heritage institutions. The first case study he referenced was an ongoing project entitled 'Taking the Field' which helped Lord's Cricket Club engage with the surrounding grass roots cricket communities to collect photographs, ephemera and oral histories. Struck by what Jonathan Wray mentioned earlier in the day, Wilson noted that many of the community volunteers felt very privileged to have the prestigious Lord's Cricket Club asking them for assistance and valuing their input. The next part of the presentation focussed on the ways in which digital stories (short videos, approximately 3 minutes in length, that consist of storyteller-owned photographs and the single voice of the same storyteller) can be utilised to

engage audiences in a way that objective facts find difficult. Stories are slippery and shape-shifting, he stated, they are truths riddled with fiction because of the fallibility of memory. Pointing out that it seems incongruent to connect storytelling with the ways we expect science to be displayed and communicated he then showed us an example of a digital story. The digital story showed a Welsh woman talking about how a small piece of an asteroid that was kept by her grandfather instilled a lifelong fascination with space. Wilson explained that this is exemplary of what digital stories can do for museums and the dissemination of science to a wider audience. What digital stories can do is work to humanise science by adding a relevant and inclusive real-life narrative. The format also allows for a wide range of inclusivity and user-developed content. There is no special software and no special skills that are required to make these digital stories. The self-curatorial nature of this part oral history, part anecdote, part video format is one that connects to a collective experience. Because the internet allows us to publish and curate our stories freely to a much wider audience than was previously available, the scope for engagement is much larger. We are now able, Wilson suggested, to connect with a global audience via social media, blogs and websites with relative ease.

The next case study that was presented to the delegates was a project in partnership with the Government Department of Energy and Climate Change's project entitled ASPECT. This project sought to identify and apply new communication tools that could help widen public engagement with important but often inaccessible issues such as global warming. Wilson then spoke about the successful ways in which they were able to communicate the significance of the data within the framework of a collection of digital stories. These stories didn't talk directly about global warming but were comprised of personal stories that had some link to climate change. After showing a second example of digital story from this project, which can be viewed here http://www.youtube.com/watch?v=RsLZTQ66m8c&feature=youtu.be, Wilson spoke about the reasons why delivery of scientific content in this model was successful. He said that by using a

speaker whose physical voice and experiences are not normally present in dialogues about global warming they were able to speak to the collective experience. They found that this speaker carried much more authority than the scientists. Using a quote from Jerome Bruner, Wilson said that personal storytelling is "the conversion of private trouble into public plight that makes well-wrought narrative so powerful, so comforting, so dangerous, so culturally essential." What the digital story is able to do is move away from lab-led data and allow people to connect with the everyday experiences of science.

The final speaker of the day was Nick Winterbotham, former Director of Thinktank: Birmingham Science Museum, and Chair for Group for Education in Museums (GEM). He began his presentation with a quote from Einstein: "It is a miracle that curiosity survives formal education." We have, he said, for many years understood the astonishing impact that museum learning can have on students of all ages but in the current political and economic climate we have a tendency to get caught up on facts. This tendency leads to arid governmental initiatives around fact-based curricula and sententious tinkering with school exams. Using Eric Hoffer's assertion that "In times of change learners inherit the earth; while the learned find themselves beautifully equipped to deal with a world that no longer exists', Winterbotham articulated a feeling that museums often deal with the world that no longer exists. Without professional interventions and the critical discourse exemplified throughout the day's workshop it can be easy to envision the past with its achievements, narratives and atrocities as fanciful or even quaint. Informal learning therefore offers a key opportunity and if the professionals don't actively engage with the needs of their audiences the museum becomes the equivalent of a warehouse containing irrelevant materials. Returning to the subject of the 'lucky generation' he mentioned that there are more numbers of retired and workless members of society that museums can utilise to reach a much wider audience through creative and mutual learning. He then spoke about threats to this type of participatory practice including government cuts and changes to school-based learning. Speaking about GEM, he identified the group as being at the vanguard of initiatives that would respond to some of those challenges. Perhaps a new mantra for museums, he proposed, should be 'it's not what you have, it's what you do with it' and that has been made evident during today's workshop. It is essential to understand your audience no matter what the discipline and it seems that we all learn best in the affective domain.

Winterbotham then moved onto the subject of widening participation and popularising the history of science. Popularising depends on audience focus and what was learnt at Thinktank was that this is good for business. Bigger audiences result in more opportunities to be creative. It also depends on appealing to your audience in a range of visual, auditory, kinaesthetic, olfactory and gustatory ways. He also felt that the audience focus has to be the ultimate justification for museums and their collections. In relation to popularising science, Winterbotham said that he felt it wasn't a problem as 80 million hours are spent in UK science museums annually. The remarkable aspect of this is that it is voluntary, often charged for and is

considered social learning for the family. Broadcasting is also very effective in popularising science for a mass audience. Although science isn't in a worrying state, the history of science is more of a problem but he suggested that, exemplified in the Silksworth Eviction Re-enactment, a narrative hook can be a successful model. The utilisation of an authoritative figure to present stories and facts is another good method, as is cross-disciplinary support from art and literature. Winterbotham concluded the panel by reiterating that heritage works best in the affective domain and through it we can circumvent the barriers that have in the best made it difficult for audiences to engage. Those at GEM hope that the empathetic democrats of the future will thus be rich in social learning skills, negotiation skills, thinking strategies, object and image literacy, imagination, healthy scepticism, creativity, problem solving, being at ease with cultural diversity and curiosity.

The second and third workshops in this research network will take place at The Brotherton Library, University of Leeds, on January 18th 2013, and The Dana Centre, The Science Museum, London, on April 12th 2013.

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