

Impact case study (REF3)

Institution: University of Nottingham		
Unit of Assessment: Communication, Cultural and Media Studies, Library and Information Management		
Title of case study: Museum Listening: Creating New Collection, Exhibition, and Audience Engagement Practices for Sound Technologies at the National Science and Media Museum		
Period when the underpinning research was undertaken: 2014-2020		
Details of staff conducting the underpinning research from the submitting unit:		
Name(s): Dr James Mansell	Role(s) (e.g. job title): Associate Professor of Cultural Studies	Period(s) employed by submitting HEI: 2010-present
Period when the claimed impact occurred: 2015-present		
Is this case study continued from a case study submitted in 2014? No		
1. Summary of the impact		
<p>Mansell's research on sound history and museum listening inspired the National Science and Media Museum's relaunch in 2017 as the first UK museum dedicated to sound technologies with a mission to explore 'the transformative impact of image and sound technologies on our lives' (www.scienceandmediamuseum.org.uk). Mansell's research:</p> <ul style="list-style-type: none"> • shaped the collecting policy of the Museum, leading to the creation of a new Sound Technologies Collection (STC) as well as a Curator of Sound Technologies post • established precedents for sound-based interactive digital exhibit design, exhibit co-production, and listening-based audience engagement which have been adopted as new ways of working across exhibition, participation and communication strategies • generated new creative and digital approaches to exhibiting sound at other museum organisations, including Nottingham City Museums and Galleries • created new public understanding of listening and sound heritage • enhanced the practices, careers and professional networks of collaborating artists and curators 		
2. Underpinning research		
<p>Mansell's impact is underpinned by published research on historical 'ways of hearing', museum sound cultures, and museum audience listening. His book <i>The Age of Noise in Britain: Hearing Modernity</i> (2017) (1) argues that expert forms of listening evolve not only in relation to valued sounds like music, but also in relation to problematic sounds such as noise. The book argues that debates about noise were central to anxieties about modernity in early twentieth-century Britain. In invited contributions to field-defining handbooks in sound studies (2018-20) (2), Mansell argues that our relationship with sound is cultural as well as physical and that it changes over time via historical 'ways of hearing'.</p> <p>In 2013, Mansell was invited to collaborate with curators at Science Museum, London who wished to draw on his "<i>thoughtful brand of cultural-historical engagement with sonic questions</i>" [A] to help them develop an exhibition placing musical objects in the context of the sounds of industrial modernity. The resulting AHRC network Music, Noise and Silence (2014-15) (i) staged three action research workshops with curators and artists investigating strategies for exhibiting musical and sound-related objects and historical cultures of listening. The network's findings— that rich possibilities exist for re-displaying sounding objects, that using sound in gallery can provide a sensorially-immersive mode of public engagement, but that practical problems remain for recovering historical sounds and making them meaningful for audiences – were published as an internal report and as a collaborative journal article (2017) (3).</p> <p>How can museum audiences access past 'ways of hearing'? Mansell's collaboration with Science Museum, extended by his appointment to a formal position as Science Museum Research Associate in 2016, prompted further research guided by this question (4). An AHRC Cultural Engagement Fellowship led by Mansell on exhibiting the Science Museum's Sound Recording and Reproduction Technologies Collection (2016) (ii) concluded that allowing visitors to hear sound technology objects had once been a key engagement</p>		

strategy in museums. However, because today's conservation practices do not allow for the operation of accessioned collection objects, this approach has been discarded. Mansell investigated methods for redeploying audio alongside silenced museum objects, for example through an exhibition of historical radio receivers and archive audio at the British Library created jointly with the British Library's Composer in Residence in 2016 (iii).

In 2017 Mansell was invited to build a research programme tailored to the new Sound Technologies Collection (STC) at the National Science and Media Museum (NSMM). From 2015, the National Media Museum, Bradford, part of the Science Museum Group (SMG) alongside the Science Museum, began to review its mission in response to declining visitor numbers. It relaunched in 2017 as NSMM with a new joint focus on sound and image technologies. To build on his previous collaboration with the Science Museum, NSMM appointed Mansell to a Visiting Impact Fellow position in 2019 supported by a full semester of secondment from the University of Nottingham. Mansell established an Audience Listening Group and Gallery Listening Sessions at NSMM in 2019 as a research laboratory for exploring audience interaction with sounding exhibitions and heritage. Mansell's AHRC fellowship project (2019) (iv) on digital sound mapping highlighted the importance of fostering listening museum visitors and the value of co-production in this process (5). Mansell was appointed NSMM Research Associate (2019-22) in acknowledgement of his formal status as a research collaborator working on the development of the STC.

Sonic Futures: Collecting, Curating and Engaging with Sound at NSMM (2020) (v) was designed to reshape NSMM around its new STC. It extended Mansell's research on listening audiences and investigated techniques for co-production of sounding exhibits with audience listeners at NSMM. Building on connected research about using audio augmented reality in the exhibition of NSMM's collections (6), Sonic Futures produced three online digital interactive exhibits (7) launched via a social media campaign (#SonicFridays) while NSMM was closed during the COVID-19 pandemic. Each exhibit simulated a listening experience connected to STC objects: echo effect units, objects from the BBC Radiophonic Workshop, and sound postcards. Each drew on creative activities undertaken jointly with artists and audiences. The project used the unexpected circumstances of lockdown and social distancing to explore how apps and websites might augment future exhibitions, finding that listening, even at a distance from the physical museum, can connect audiences to museum collections in times of crisis.

3. References to the research

Key Outputs

- (1) Single-author monograph: **Mansell, J. G.** (2017) *The Age of Noise in Britain: Hearing Modernity*. Urbana, IL: University of Illinois Press. Studies in Sensory History series. ISBN: 0252099117.
- (2) Book Chapter: **Mansell, J. G.** (2018) 'Ways of Hearing: Sound, Culture and History'. In: Bull, M., ed., *The Routledge Companion to Sound Studies* (New York: Routledge). pp.343-352. ISBN: 9780367659745.
- (3) Journal Article: Boon, T., Jamieson, A., Kannenberg, J., Kolkowski, A., & **Mansell, J. G.** (2017) "Organising Sound": How a Research Network Might Help Structure an Exhibition,' *Science Museum Group Journal*, Vol. 8. DOI: <http://dx.doi.org/10.15180/170814>.
- (4) Journal Article: **Mansell, J. G.** (2017) "A Chamber of Noise Horrors": Sound, Technology and the Museum,' *Science Museum Group Journal*, Vol. 7. DOI: <http://dx.doi.org/10.15180/170704>.
- (5) Report for National Science and Media Museum: **Stafford, J. & Mansell, J. G.** (2019), 'Sound and Place: Digital Mapping and Community Listening Practice,' National Science and Media Museum. ISBN: 9780853583356.
- (6) Journal Article: **Cliffe, L., Mansell, J. G., Greenhalgh, C. and Hazzard, A.** 'Materialising Contexts: Virtual Soundscapes for Real-World Exploration,' *Personal and Ubiquitous Computing* (2020). DOI: <https://doi.org/10.1007/s00779-020-01405-3>.
- (7) Online exhibition: Sonic Futures. <https://www.scienceandmediamuseum.org.uk/whats-on/sonic-futures>.

Key Grants

- (i) AHRC Network Award (**Mansell** Co-I with a Science Museum PI), 'Music, Noise and Silence: Building Engagement in the Public Culture of Music and Science,' 2014-15. Award value: £2943. Grant reference: AH/M008061/1.
- (ii) AHRC Cultural Engagement Fellowship (**Mansell** PI), 'Acoustics on Display: Collecting and Curating Sound at the Science Museum,' 2016. Project partner: Science Museum. Award value: £16,728.65. Grant reference: AH/K503186/1.
- (iii) Being Human Festival Award (**Mansell** PI), 'Sound and Fury: Listening to the Second World War,' 2016. Project partner: British Library. Award Value: £1425.
- (iv) AHRC Creative Economy Engagement Fellowship (**Mansell** PI), 'Sound and Place: Digital Mapping and Community Listening Practice,' 2019. Project Partner: NSMM. Award value: £33,185. Grant reference: AH/S012168/1.
- (v) AHRC Follow-on Funding for Impact and Engagement (**Mansell** PI with a NSMM Co-I), 'Sonic Futures: Collecting, Curating and Engaging with Sound at the National Science and Media Museum,' 2020. Award value: £80,151.20. Grant reference: AH/T006269/1.

4. Details of the impact

Mansell's impact results from long-term collaboration and engagement with museum professionals, artists, and audiences, beginning with his invitation to work with the Science Museum in 2013.

Science Museum Group (SMG) impact: Mansell's research changed the collecting, exhibiting, learning and engagement policies and practices of SMG, an executive non-departmental public body sponsored by the Department for Digital, Culture, Media and Sport, UK government. SMG museums attract 5 million visitors a year. SMG websites reach a further 10 million annual visitors [A]. Although initiated through collaboration with the Science Museum, Mansell's research effected change at SMG via the National Science and Media Museum, where Music, Noise and Silence findings (3) were translated into a sound-focussed relaunch in 2017. Having previously been a museum of film, television, and photography with a focus on visual culture, NSMM now incorporates sound technologies and experiences across its activities because of research collaborations with Mansell. SMG's Head of Research testifies that "*as it has made its decisive shift to include sonic alongside visual media over the last few years,*" Mansell's work at NSMM "*has been essential*" to this process [A]. NSMM Curator of Sound Technologies confirms that Mansell's research was "*influential in shaping the creative, strategic and public engagement vision of the first UK national museum to have a collection dedicated to sound technologies. He has been a key figure for developing new partnerships, networks and appreciation of the sound collection at the NSMM*" [B].

i) SMG Collecting: In 2016 the NSMM decided to transfer its Royal Photographic Society (RPS) Collection from Bradford to the V&A in London. This formed part of a wider strategy to align NSMM with SMG's core focus on science and technology rather than the arts. The transfer resulted in negative publicity, with detractors criticising the loss of a Northern cultural asset to London. NSMM decided to offset the loss of the RPS collection by launching a new nationally distinctive focus on sound technologies. This decision was influenced by the Curator of Sound Technologies who was appointed after having been a member of the Music, Noise and Silence network. "*Mansell's research enabled me to lobby for the importance of sound collections in all aspects of the Museum's operations and was central in establishing the museum as the first UK museum focussing on sound*" [B]. This curator was tasked with establishing the STC in 2016 drawing on the findings of the Music, Noise and Silence network. SMG collecting policy was updated and NSMM became the home for national collecting of '*technologies of sound recording, reproduction and live performance*' (SMG Collecting Policy, 2016). Mansell's research was "*instrumental in the creation of a Curator of Sound Technologies post*" to oversee this collection [B]. In 2019, Mansell was invited to shape the ongoing development of the STC. His Sound and Place (5) and Sonic Futures (7) projects engaged audiences in creating digital audio relating to the STC. This prompted NSMM to consider how it could begin to collect digital audio archives.

Mansell's research *"impacted how we think about sound objects but also sound collecting practices more widely."* *"James's research on sound has enabled the museum to develop its collection policies by pushing new and creative responses to collecting and preserving digital sound content"* (NSMM Head Curator) [C]. NSMM recruited a Digital Preservation Officer in 2020 and this was *"influenced by James bringing digital sound content to the attention of the Senior Management Team in 2019"* [C].

ii) SMG Exhibiting: Music, Noise and Silence network findings (3) were used to develop an SMG-wide temporary, touring exhibition on music, currently in development at SMG's Science and Industry Museum, Manchester. Mansell's research informed the integration of sound into the NSMM exhibition programme, not just in specialist exhibitions on sound, but as a general principle for exhibitions, e.g. the 2019 exhibition *Hello Universe* explored 'the incredible sights and sounds of space'. Mansell had direct input into the development of new permanent galleries at NSMM as an Advisory Board member ('Sound and Vision,' in development) and the planning of a specialist temporary exhibition on sound as an Advisory Board Member ('Sonic Boom', 2020, delayed by COVID to 2021). Specifically, his 2019 Gallery Listening Sessions provided curators with evidence that *"acousticians [should be] brought in to plan the spatial design"* of the 'Sonic Boom' exhibition and caused *"a real step-change in our thinking about how to plan appropriate spaces for sound installation and how to create engaging listening activities for our audiences"* [C]. 'Sonic Futures' built three digital exhibit prototypes (7) for use in or alongside 'Sonic Boom' and, because they were designed for use on personal devices, caused curators to consider for the first time how *"exhibits can be deployed simultaneously both inside and outside the Museum, to encourage engagement that extends beyond a visit to the physical museum"* as well as *"reducing the need for touch interaction in exhibitions"* [C]. These insights are helping NSMM plan for a touch-free, COVID-resilient future.

iii) SMG Learning: The 'science of sound' was incorporated as a core component of NSMM's learning programme for schools and family visitors because of Mansell's Music, Noise and Silence research (3). 'Science of Sound' demonstrations are delivered in the 'Wonder Lab' and allow children to discover *"new adventures in the science of light and sound"* (NSMM website). NSMM learning staff deliver the Bradford Science Festival which in 2020 incorporated two live online workshops with 'Sonic Futures' digital exhibits (7). 'Sonic Futures' exhibits helped NSMM's learning team adapt to the pandemic by providing activities online. The echo and BBC Radiophonic Workshop exhibits were turned into a learning package for digital delivery in schools with high levels of social deprivation to replace regular school visits to NSMM which had become impossible during lockdown [B].

iv) SMG Engagement: Bradford is among the most diverse boroughs in the UK and *"one of the youngest cities in Europe (29% of its population under 20 and nearly a quarter under 16)"* (Bradford 2025 UK City of Culture Bid). Mansell's research helped NSMM connect to its city and engage younger audiences through musical activities. His Gallery Listening Sessions informed the first music-themed 'Late' evening opening for adults in September 2019 [C]. NSMM's Head Curator attests that *"The co-production approach to developing exhibits pioneered by 'Sonic Futures' has helped the Museum to think about how audiences can be engaged through the lifecycle of exhibition planning, and has been invaluable in helping us to plan audience engagement for our 'Sound and Vision' galleries in particular"*. A new Participation Manager was appointed at NSMM *"thanks in part to the work that James has done to help us plan engagement with our audiences"* [C]. In the context of COVID-19 and the closure of NSMM, the 'Sonic Futures' online exhibition allowed NSMM to keep in contact with its audiences in 2020. Sonic Futures prompted the NSMM digital engagement campaign #SonicFridays, a series of Twitter and Instagram exhibitions featuring Sonic Futures exhibits. *"Because 'Sonic Futures' had to pivot to creating digital rather than physical exhibits, it has offered us an invaluable opportunity to think about how we create digital content and engage with audiences online. While the Museum was closed during 2020, 'Sonic Futures' allowed us to keep in touch with visitors in innovative ways that we would not otherwise have been able to do"* [C], e.g. via the Museum's first audience Instagram takeover. NSMM's Communications Team were impacted by collaborating with

Sonic Futures researchers established a new collaboration model for producing digital content as a result [C]. The public availability of Sonic Futures exhibits online raised the profile of the STC, with 87.5% of survey respondents saying that engaging with them had made them want/more likely to visit NSMM [D]. Gallery Listening Sessions and Sonic Futures' public workshops improved public understanding of the new STC. A public participant confirms that participating in Mansell's research workshops resulted in *"improving my understanding of sound collections and sound history more broadly"* and *"improved my understanding of how the museum has changed its identity"* after the RPS collection transfer [E]. Adding sound collections and activities has *"made the museum more of a productive working space for its visitors rather than a warehouse for photographs"* [E].

Impact on Nottingham museums: In 2017 Mansell was asked by **Nottingham City Museums and Galleries** (NCMG) to work with an artist to trial the use of a sound installation in the caves adjoining Brewhouse Yard Museum of Nottingham Life, aiming to bring new audiences into the space. The project has formed a model for subsequent alternative uses of heritage spaces at NCMG, e.g. at the National Justice Museum, where former prison cells were used to host a sound installation based on Mansell's work. Mansell's research has had *"a lasting and ongoing positive impact on the cultural offering of museums and galleries in Nottingham"* according to a NCMG curator [F]. Mansell's work has also become a model for how to use cave spaces in Nottingham, with the City Archaeologist confirming that *"Innovative uses such as those created by Dr Mansell brought new audiences to the cave, particularly younger people,"* and that *"Following Dr Mansell's lead, I have sought out new ideas to try and encourage those who are not interested in history to visit and experience these important and unique spaces, including art installations"* [G].

Impact on artistic practice and professional development of artists: Mansell has collaborated directly with eight artists through his research and engagement since 2014, creating *"new thinking in the field of sound art"* [H]. They have created *"new art works and cultural artefacts"* [H] and engaged with new partners because of learning about Mansell's historical research on sound, adopting methodologies created by Mansell (e.g. gallery listening sessions and audience listening group co-production). The former Sound Artist in Residence at Science Museum/Composer in Residence at British Library comments that Mansell *"inspired my artistic practice by providing new theoretical frameworks and resources"* and that his collaboration with Mansell was *"pivotal in shaping my thinking around public engagement and helping me develop new strategies that have increased audience engagement with my works"* [H]. 'Sonic Futures' artists gained new perspectives, e.g. co-producing an exhibit with children made one artist *"more aware of the ability of 7-11 year olds to delve into complex ideas"*, *"and the opportunities presented by online workshops for children"* [I]. Building digital exhibits for future use in exhibitions gave another artist *"new insights into how to best use tech to extend exhibitions beyond the walls of the gallery and address barriers to access such as visiting in person and health issues"* during COVID [I]. A further artist confirms that working with Mansell *"furthered my career and exposure by resulting in new commissions and collaborations"* [J].

5. Sources to corroborate the impact

[A] Testimonial from the **SMG Head of Research and Public History**

[B] Testimonial from the **NSMM Curator of Sound Technologies**

[C] Testimonial from the **NSMM Head Curator**

[D] Sonic Futures online exhibition visitor surveys

[E] Testimonial from a Gallery Listening Sessions and Sonic Futures public participant

[F] Testimonial from the **Curator at Nottingham City Museums and Galleries**

[G] Testimonial from **City Archaeologist at Nottingham City Council**

[H] Testimonial from the former **Sound Artist in Residence at Science Museum and Composer in Residence at British Library**

[I] Transcript of interviews with participating artists on the Sonic Futures project

[J] Testimonial from an artist based at **Primary**, Nottingham