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| Institution: University of Kent | | |
| Unit of Assessment: 33 Music, Drama, Dance, Performing Arts, Film and Screen Studies | | |
| Title of case study: Lesions in the Landscape: stimulating understanding and debate around amnesia and memory loss through the intersection of arts and science | | |
| Period when the underpinning research was undertaken: 2013 to 2017 | | |
| Details of staff conducting the underpinning research from the submitting unit: | | |
| Name(s): Shona Illingworth | Role(s) (e.g. job title): Reader | Period(s) employed by submitting HEI: 2012 to present |
| Period when the claimed impact occurred: 2015 to 2020 | | |
| Is this case study continued from a case study submitted in 2014? No | | |
| <p>1. Summary of the impact</p> <p>Illingworth's <i>Lesions in the Landscape</i> examined the complex individual and societal impact of amnesia, a condition in which the capacity to retrieve and form memory is eroded and the past is effectively erased. The project artworks, which included two large-scale immersive video and sound installations, a film, and a curated exhibition, raised public awareness of key issues relating to amnesia in a highly accessible, thought-provoking, and engaging way. The project reached wide and diverse audiences and contributed to the long-term development of a number of organisations in the creative arts. It supported and sustained innovation, and influenced these organisations' approaches to delivering cutting-edge programming. It informed significant scientific and clinical learning and, through its innovative interdisciplinary approach, stimulated new insights into the ways that technology can be used to improve the lives of people dealing with amnesia or early-stage dementia.</p> | | |
| <p>2. Underpinning research</p> <p><i>Lesions in the Landscape (Lesions)</i> is a multifaceted research project with outputs including two large-scale video and sound installations, <i>Lesions in the Landscape</i> (2015) [R1] and <i>Time Present</i> (2016) [R3]; the film <i>Searching</i> (2016) [R4], and the exhibition <i>The Amnesia Museum</i> (2015) [R2]. The project was a collaboration between artist-filmmaker Shona Illingworth (University of Kent), neuropsychologists Martin A. Conway (City University) and Catherine Loveday (University of Westminster); and Claire (expert by experience). <i>Lesions in the Landscape</i> was supported by several awards, including a Large Arts Award from the Wellcome Trust (2013-15) [G1]. Its creative outputs contributed to Illingworth's nomination for the 2016 Jarman Award.</p> <p><i>Lesions</i> explored the devastating effects of amnesia on Claire and its parallels in the permanent evacuation of the inhabitants of the remote Scottish archipelago, St Kilda, in 1930. Illingworth's hypothesis was that, in both individual and cultural amnesia, accessing or reconstructing the past is a difficult and isolating process, that this past is predominantly constructed by others, and that this has a significant impact on how the future can be imagined, and by whom. Illingworth explored this hypothesis collaboratively with Claire: using investigative drawing, through images taken with Sensecam – a sensory-operated wearable camera, developed by Microsoft – and by undertaking extensive fieldwork. The fieldwork included a period of filming on St Kilda, through which Illingworth established a collection of data in the form of video, film, sound recording, data sonification, photographs, sculptures, amnesia mappings, and interviews. Neuropsychologists Loveday and Conway also used EEG to record Claire's neurological activity as she viewed Sensecam images searching for visual cues to activate her memory. This research collaboration provided insight into the use of new and emerging technologies to aid memory and resulted in the development of new ways to articulate the experience of living with amnesia. It also shaped the art, science, and public engagement outcomes of the project.</p> <p>As part of the research process, Illingworth developed a series of interdisciplinary forums. Amnesia Lab was held in Australia in 2014, and the Amnesia Forums were held in London, the Outer Hebrides, and Liverpool between 2014 and 2016. These provided a space for artists,</p> | | |

scientists, geographers, anthropologists, writers and curators to explore how art practice, sound, and immersive media can advance understanding of memory, amnesia and cultural erasure. These interdisciplinary dialogues, along with the fieldwork and EEG studies, directly informed Illingworth's practice-research-based enquiries and the project outputs.

Lesions in the Landscape premiered in 2015 at FACT, Liverpool. It comprises a large-scale, immersive three-screen video and sound installation, incorporating voice, engineered and ambient sounds [R1]. *Time Present*, a two-screen video and sound installation that explores Claire's experience of memory loss, was exhibited at the Wellcome Collection, London as part of their 2016 *States of Mind* exhibition [R3]. *Searching*, which focused on the project's scientific insight, was commissioned by Channel 4 and Film London, and was broadcast on Channel 4 in 2017 and exhibited at the Whitechapel Gallery, London [R4]. Illingworth's *The Amnesia Museum* (2015) toured widely alongside *Lesions in the Landscape* and drew together her films, photography, sculptures, drawings, and documents, as well as a 32-speaker sonification of an EEG of Claire's, brain activity [R2]. The project marked new territory in employing artistic practice alongside pioneering neuropsychological research to significantly enhance understandings of individual and cultural amnesia. Through its interdisciplinary approach, *Lesions in the Landscape* has developed new insights into ways of conceptualising the complex condition of amnesia and memory loss and its wide-ranging consequences.

3. References to the research

[R1] Illingworth, Shona (2015) *Lesions in the Landscape*. Three screen video and multi-channel sound installation. Duration 35 mins <https://kar.kent.ac.uk/83526/>

[R2] Illingworth Shona, (2015), *The Amnesia Museum*. An archive of forgetting bringing together an expanding collection of: artworks; artifacts; archive material; recordings and documents. <https://kar.kent.ac.uk/84664/>

[R3] Illingworth Shona, (2016), *Time Present*, two screen video and sound installation. Duration 35 Minutes <https://kar.kent.ac.uk/84640/>

[R4] Illingworth, Shona (2016), *Searching: A Random Acts* film for Channel 4 <https://kar.kent.ac.uk/84645/>

External research funding

[G1] Wellcome Trust, 2013, Large Arts Awards: £129,400 Illingworth, *Lesions in the Landscape: Claire and the Island of Hirta*

Additional project funding from the Foundation for Art and Creative Technology (FACT), Liverpool, £15,000; Taigh Chearsabhaigh Museum and Arts Centre, Western Isles, £5,000; CGP London, £5,000; UNSW Galleries, University of New South Wales, £15,000.

4. Details of the impact

Enhancing public understanding of memory loss, amnesia and neuropsychological research by engaging extensive and diverse audiences.

An independent evaluation for the Wellcome Trust confirmed that *Lesions in the Landscape* (*Lesions*) 'raised public awareness of key issues relating to amnesia in a highly accessible, thought provoking but engaging way. The concepts that it communicated were incredibly complex, yet it reached wide audiences, many of whom were significantly, emotionally affected by the work' [a]. These audiences were reached through national and international exhibitions, as well as extensive coverage across television, radio, and both popular and specialist press. *Lesions*, *Time Present*, *Searching*, and the *Amnesia Museum* [R1-R4] were seen by audiences in excess of 240,000 at FACT, Liverpool (2015), UNSW Galleries, Sydney (2016), CGP Gallery, London (2016), Taigh Chearsabhaigh, Outer Hebrides (2016), Wellcome Collection, London (2017), Sayle Gallery, Isle of Man (2017), Whitechapel Gallery, London (2017), and the Film Focus Festival, Orkney (2018). *Searching* was watched by 86,000 households when it was broadcast on Channel 4 in 2017 [a]. The research and the exhibitions were both widely discussed in the media and in a number of in-depth interviews: on television and radio (including BBC News Online, BBC Radio Scotland, ABC Australia); in the broadsheet press (including the *National*, the *Australian*, the *Scotsman*, the

Guardian); in art press (including *Hyperallergic*, *Cult Frame*, *The Museums Journal*, *Art Monthly*, *Studio International*, *Aesthetica*); and in specialist and popular science press (including the *Lancet*, the *Psychologist*, and Radio 4's *All in the Mind*) [a]. Through these avenues, Illingworth made accessible a neuropsychological understanding of the dynamic relationship between memory and imagination, and the consequences this can have for those living with amnesia and memory loss.

Audiences engaged with the research in ways that were innovative and actively inclusive: via presentations – at the Whitechapel Gallery, London; Medical Museum, Copenhagen; and the Aurora Museum, Shanghai – as well as through an extensive programme of events across all the exhibition venues [a]. *Lesions* was produced by, and first exhibited at, FACT, a Liverpool-based arts organisation at the forefront of technology, film and new media. Roger McKinley, the Head of R&I, described how, 'inspired by the wealth of Shona's work', they 'experimented with [*Lesions*] as an education programme' [a]. This programme focused on engaging under-represented audiences across Liverpool and reached 821 participants. It included training events for secondary-school Geography and Psychology teachers, as well as workshops for young people exploring Minecraft as a space for social memory and co-design [a]. In FACT's Digital Ambassador's creative and digital education programme for older adults, *Lesions* was used as a 'catapult for wider discussions' within STEAM (Science, Technology, Engineering, Arts, Maths) workshops [a]. According to an evaluation by FACT, this 'broadened [the participants'] mindsets, provided a toolkit for stimulating conversations and sparked an interest in topics they may not have approached otherwise' [d]. Also at FACT, 60 individuals with moderate dementia engaged with *Lesions* through the 'Visual Matrix' evaluative tool. Results showed that, when directly engaging with artwork content, individuals were able to discuss and express their experience of memory loss with others. This response was described in the programme evaluation as 'a revelation' [a]. At Taigh Chearsabhagh – a museum, visual arts centre, and vital community hub in North Uist in the Outer Hebrides – the public and education programme that was developed around *Lesions* brought together over 140 people with dementia, their carers, and others in the community [b]. This encouraged discussion around ageing, loss, memory, place, and community that enhanced 'dialogue and partnership with the older people on the islands', and 'certainly raised awareness for us as an organisation, and I think generally, of the profile of memory loss dementia/alzheimers as an issue in the islands' [f]. For members of FACT's Senior Art School, a critical art school for people over 60, *Lesions* also opened up discussions about memory loss. Members reported that 'with Shona's [work] it was particularly interesting, because of the amnesia content, there were people who were dealing with this – them, their friends etc. They came at it from a completely different angle and really engaged with it [...]. There was a real impact' [a].

Generating new approaches, enhancing skills and influencing programming in arts organisations

Producing and hosting *Lesions*, a complex and technically demanding exhibition, delivered long-term benefits for the two regional arts centres with which Illingworth collaborated closely, FACT Liverpool and Taigh Chearsabhagh. The Arts Curator at Taigh Chearsabhagh, Andy Mackinnon, described how the collaboration with Illingworth 'opened [them] up to a museological approach within its subsequent contemporary art programming'; 'vastly increased knowledge around multi-channel video installations'; built new skills within the team; and created the capacity and the ambition to deliver further innovative programmes [f]. This enhanced skills base led Taigh Chearsabhagh to commission new work by international moving-image artists, Mairead Maclean, Joshua Bonnetta, Amund Bentsen and Benjamin Skop, 'leading to peer recognition of our [Taigh Chearsabhagh's] work in this field' [f]. Mackinnon also cites *Lesions* as a direct inspiration for the FAODAIL|FOUND Outer Hebrides Archive Film project, which digitises and disseminates indigenous home movie footage. This film footage, shown at Taigh Chearsabhagh, has ensured a more accurate representation of island life and has also been used in care homes to help promote reminiscence sessions with residents with dementia [f]. Mackinnon reports, more generally, that the collaboration with Illingworth 'reassured our main funder, Creative Scotland, of our determination and capability in programming high quality work which is reflected in their continued and increased support of the organisation' [f].

Lesions was described by FACT as 'probably [...] the most successful exhibition put on' [a]. This successful collaboration with Illingworth significantly influenced the development of FACT: it

enabled the organisation to 'become truly interdisciplinary' by integrating its research and public programmes; it helped [FACT] transition to a much clearer vision and targets; it influenced the establishment and development of the Research and Innovation Department; and it led to the adoption of new approaches to programming and evaluation [a, e]. Illingworth's use of creative methods to translate complex subjects and multiple perspectives (via Amnesia Forums) informed the development of FACTLab, an interactive, creative workshop space for collaboration between learning development work, the creative industries, and HEI partners. 'Directly inspired by Shona's Amnesia Forums', FACTLAB ran a series of 12 reading groups with artist and technologists that fed into the 2017 New Observatory exhibition and related publications (part of a collaboration with the Open Data Institute) [e]. Illingworth also worked with FACT to deploy a novel evaluation technique, the 'Visual Matrix' (developed by Professor Lynn Froggett at UCLAN). The Head of R&I reported that this work 'has been a strong contributor to how [FACT] now evaluate and measure the impact of the artworks we commission and the affect it has on our audiences'. He attributes this to 'Shona's support for using the new techniques in an art gallery', which 'enabled the 'Visual Matrix' to be tested in vivo with a "live" audience.' [e]. In the production of the sound component of *Lesions*, Illingworth also worked closely with Kinicho, an innovative spatial audio start-up, whose work on a new 3D audio tool was developed as part of the final artwork and installation. After *Lesions*, FACT continued to work directly with Kinicho and the collaboration with Illingworth was cited directly in a successful £5 million ERDF bid to support a creative industry cluster in the Liverpool City Region. The cluster ran for two years from 2016 and brought £120,000 of new funds directly into FACT [e]. *Lesions* also offered Kinicho a proof-of-concept case study, which they have used to showcase their systems and their pioneering approach to prospective clients [a].

Informing scientific and clinical understanding of the lived experience of amnesia and providing insight into the use of sensory operated cameras as a memory aid

Jill Bennett, Director of the Australian National Institute for Experimental Arts and of Sydney's Big Anxiety Festival, writes that: '*Lesions in the Landscape* has been an immensely influential project. It is one of the most far-reaching arts-science collaborations to date with multiple outcomes in both arts and science outlets' [g]. *Lesions* has informed clinical pedagogy and practice; stimulated debate among scientists and clinicians; challenged and developed pre-existing knowledge; and initiated new international research studies and networks [a, g, i]. Martin Conway, Professor of Cognitive Neuropsychology and specialist in autobiographical memory, attributes his improved understanding of the lived experience of amnesia to his collaboration with Illingworth on *Lesions* [i]. He communicated this enhanced understanding to over 600 researchers and clinicians 'to massive impact' when he showed and discussed Illingworth's *Searching* at the 2016 International Conference on Memory [i]. Catherine Loveday, also a Professor of Neuropsychology, said 'she had learned more about amnesia during her involvement with Illingworth's work than she had in 20 years of clinical and scientific work' [c]. She noted that Illingworth's artistic approach to working with Claire 'changed the way I work with Claire clinically' [c]. She further recognises the impact this has had on her wider practice: 'there is no question that Shona's work has influenced my interaction with patients. At a very basic level I simply have a better understanding of the lived experience, which makes me a better clinician and a more discerning academic. At a more practical level, I now avoid asking patients to put memories in a traditional timeline, recognising that this is not always helpful. I also work with patients to find tasks that engage them in the present moment, freeing them from the potential unease that is created when they are left to mind-wander with a system that is not capable of doing so' [h]. This improved understanding has directly influenced clinical pedagogy and student thinking. Loveday teaches on both undergraduate and postgraduate programmes in Cognitive Neuroscience and Cognitive Rehabilitation. Through this 'there are now at least 4 cohorts of students who will go out into the clinical world with a greater understanding of the lived experience of amnesia, both as a result of my direct teaching and from interacting with Shona's work' [h].

Multiple scientific outcomes have emerged from *Lesions in the Landscape*. An Australian Research Council-funded Discovery Project (*Mnemoscape*) drew on *Lesions* in the formative development of *Edge of the Present*, an immersive VR environment that was exhibited at the 2019 Big Anxiety Festival in Sydney. Since May 2020, *Edge of the Present* has formed a key part of a suicide prevention project funded by Suicide Prevention Australia. Bennett links this 'directly back to [Illingworth's] *Amnesia Lab* and the subsequent work around *Lesions* in Australia' [g]. The

knowledge accrued through *Lesions* has also informed scientific understanding and opened up new avenues for neuroscientific discourse about the lived experience of amnesia and how wearable sensory-operated cameras (such as Sensecam) can improve memory in amnesic patients. The week-long filming of *Lesions* on St Kilda provided Loveday with a unique opportunity to observe Claire using Sensecam. This directly informed the experimental protocol for the EEG study, conducted by Loveday and Conway, which recorded and analysed Claire's neurological activity while she viewed the photographs that she had taken using the camera [a]. Specifically, it gave them new insights into the role of the imagination in memory loss, 'in ways that would have been unlikely with a traditional scientific approach' [a]. *Lesions* also provided 'a large amount of pilot data and insight' for the study, saving 'two years of standard developmental pilot tests in the lab' [a]. The collaborative research and the EEG study together demonstrated an important difference between the memory loss experienced by Claire (due to amnesia) and that of a patient experiencing memory loss due to early-onset Alzheimer's [h]. By contributing to the clinical understanding of memory-making and continuity, *Lesions* also provided 'extraordinary insight' into how technology, and in particular Sensecam, can be utilised to aid people with early-stage dementia [a]. Conway noted that '*Lesions in the Landscape* was at the forefront of making people aware' of Sensecam's therapeutic effects and benefits [i]. Bennett describes how these new insights informed the development and evaluation of an immersive 3D browser for Sensecam, commenting that this development 'emerged directly from our work with Claire, the main collaborator in *Lesions* [...] and is evidence of how the field of memory loss/impairment has opened up as a result of this ground-breaking art-science collaboration' [g].

5. Sources to corroborate the impact (indicative maximum of 10 references)

[a] *Lesions in the Landscape: End of Grant and Project Evaluation Report* (June 2018). Project evaluation undertaken by an independent consultancy for the Wellcome Trust. The consultancy team interviewed 20 stakeholders from both the creative and scientific communities and the cultural partners, and analysed secondary data, including press, media, and audience feedback. (See pp. 2, 3, 8, 12, 20, 21, 27, 30, 41, 50, 63, 65, 66, 67, 70 & 72.)

[b] Artistic and Creative Review Framework Reports. Evaluation of *Lesions in the Landscape* exhibition (Taigh Chearsabhagh). Commissioned by Creative Scotland. Evaluations undertaken by two independent reviewers and the Arts Manager, Taigh Chearsabhagh.

[c] *The Psychologist*, July 2015: *Lesions in the Landscape*, Ella Rhodes on a new art / science collaboration. This article corroborates the influence of *Lesions* on Loveday's understanding and practice.

[d] FACT Digital Ambassadors programme. The blog describes the impact of the programme on the participants.

[e] Letter from the former Head of R&I at FACT Liverpool, detailing the ways in which *Lesions* influenced approaches to programming, evaluation and learning.

[f] Letter from the Arts Curator at Taigh Chearsabhagh, Outer Hebrides, corroborating the extent to which collaboration with Illingworth helped build the skills and capacity that have led to further innovative programming.

[g] Testimony from the Director of the Australian National Institute for Experimental Arts and Sydney's Big Anxiety Festival, detailing the extent to which *Lesions* informed the development of international arts and science projects and a 3D browser for Sensecam.

[h] Testimony from a Professor of Neuropsychology corroborating the impact of *Lesions* on her academic and clinical practice.

[i] Testimony from a Professor of Neuropsychology detailing the role of *Lesions* in highlighting the benefits of Sensecam to aid memory loss.