

Institution: University of Roehampton		
Unit of Assessment: 33B - Music, Drama, Dance, Performing Arts, Film and Screen Studies: Drama		
Title of case study: Augmenting Audio Drama: innovation in form and preservation of cultural memory		
Period when the underpinning research was undertaken: 2008–2020		
Details of staff conducting the underpinning research from the submitting unit:		
Name(s):	Role(s) (e.g. job title):	Period(s) employed by submitting HEI:
Graham White	Professor	September 1997 – present
Period when the claimed impact occurred: 2014–2020		
Is this case study continued from a case study submitted in 2014? N		
1. Summary of the impact (indicative maximum 100 words)		
<p>Professor Graham White's body of adapted and original audio dramas, broadcast by BBC Radio, have drawn on the performative elements of audio dramaturgy to explore the problematics of witnessing, memory and historical knowledge in a medium which engages with public, professional and non-academic audiences. This research has enriched, expanded and preserved public engagement with cultural memory, heritage, and science for the dramas' audiences of circa 20 million individual listeners. The research has also led to innovations in broadcasting practice, changing the practice of broadcasting and media professionals at the BBC.</p>		
2. Underpinning research (indicative maximum 500 words)		
<p>White's practice-research consists of a body of adapted and original audio dramas broadcast by BBC Radio. The productions used the performative elements of audio dramaturgy to explore the problematics of witnessing, memory and historical knowledge (R1-R4). The audio dramas included: <i>The Periodic Table</i> (R1), a twelve-part adaptation of Primo Levi's collection of short stories; <i>General Mladic is Waving</i> (R2), an original play which employed transcripts of Mladic's trial at The Hague; a reworked version of White's award-winning adaptation of BS Johnson's novel <i>The Unfortunates</i> (R3); and rebroadcast adaptations of JG Ballard's novels <i>The Drowned World</i> and <i>Concrete Island</i> (R4). These practice-research outputs are informed by, and complement, an associated body of published research outputs (R5-R6), which have provided timely interventions into debates on the processes and nature of justice and remembrance. More specifically, these outputs have explored these themes in relation to the legacies of the Holocaust and of the war in the former Yugoslavia, while also exploring the relationships between fiction, history and scientific truth. The adaptations employed innovative dramaturgic structures to foreground these questions through performance, and to point to ways in which representations of these issues might demand new and radical formal innovations through original adoption of technological and broadcast possibilities.</p> <p>White's practice and published research uses adapted and original audio drama to engage with the relationship of narrative to memory and to history (R5-R6). His audio drama combines fiction and documentary working with adaptations of primary texts, foregrounding adaptation as a process of profound reinvention and critically engaging with the thematic and formal content of its source materials, be these fictional texts, documentary materials or memoirs. <i>The Periodic Table</i> (R1) and <i>General Mladic is Waving</i> (R2) critically examine textual source material in relation to processes of memory, testimony and historical knowledge. They also debate the ethical processes involved in the witnessing and memory of traumatic events and in the attribution of justice in their aftermath through a variety of narrative and dramaturgical approaches to these questions – verbatim, documentary, autobiographical and fictional. For example, <i>The Periodic Table</i> (R1) presented Levi as narrator of his own experiences of the Holocaust while seeking a register which might provide a coherent representational frame for the diverse stories in the collection which explore these experiences. In doing so, it examined the shifting roles of storytelling and fiction in relation to the apparent objectivity of scientific and historiographical method (R1). <i>General Mladic is Waving</i> (R2) interwove the edited transcript of the trial of General Ratko Mladic at the International Criminal Tribunal for the Former Yugoslavia with a fictional account of the experience</p>		

of the public setting of the trial and of the ethical issues which this raised for the attribution of historical authority, truth effects, memory and justice. In particular, the drama explored the complex interrelation between the presence of witness testimony in the courtroom and its subsequent recording, redistribution and recapitulation as evidence and insight. The play was written with the outcome of the trial unknown and broadcast strategically to coincide and critically resonate with media coverage of its conclusion in November 2017 (R2). Both dramas interwove with and amplified White's research findings on the performativity of witnessing and the construction of historical narrative (R5-R6) which suggest that the interpretation of truth effects and the attribution of implied meaning to 'live' witness behaviour in courtroom settings significantly inflects and shapes the representation of justice.

White's practice-research work has frequently created interventions in standardized radio dramaturgy, scheduling and broadcasting. These innovations emerge from the process of reinvention and critical engagement at the heart of his practice of adaptation. In the cases of both *The Periodic Table* (R1) and *The Unfortunates* (R3), the opportunity to engage interactively with multi-part narratives was one of the key inventions which enabled a performative realisation of the implied multiplicity of truths and histories at their core. In both adaptations, the non-linear aspects of their narrative form were enacted in the new listener-responsive open scheduling through which they were made available to audiences. In this way, White's formal innovation led to the abandoning of the occasional or serial mode of broadcast typical in radio drama, in favour of non-linear open access and intensified daily seriality. Thus, *The Periodic Table* (R1) was produced in a twelve-part body of interlocking and thematically linked episodes which initiated an innovation in BBC broadcasting practice, the series being released online in a digital form in tandem with the radio broadcast of episodes across a week.

3. References to the research (indicative maximum of six references)

- R1** *The Periodic Table* (2016) BBC Radio 4. Broadcast: 18 – 24 July 2016, online for 12 months, rebroadcast 21 June – 5 July 2020 (available as audio file). Listed in REF2.
- R2** *General Mladic is Waving* (2017) BBC Radio 4. Broadcast: November 2017 (available as audio file).
- R3** *The Unfortunates* (2018) BBC Radio 3. Broadcast: December 2018, and Alexa online (with BBC Research and Development). (Available as audio file). Submitted to REF2014. Listed in REF2.
- R4** *Concrete Island* and *The Drowned World* (2013) BBC Radio 4. Originally broadcast: June 2013, rebroadcast: BBC Radio 4 Extra 2014 (available as audio file).
- R5** White, G. (2011) Witnesses, Histories and the Search for Slippage in the Public Record, *Law, Text, Culture*, 14, pp.338-56. Available at: <https://ro.uow.edu.au/ltc/vol14/iss1/19>.
- R6** White G. (2008) Witnessing Proceedings; The Hague War Crimes Tribunal, Narrative Indeterminacy and the Public Audience, *The Drama Review*, 52(1), pp.75-87 (Listed in REF2, 2014). <https://doi.org/10.1162/dram.2008.52.1.75>.

4. Details of the impact (indicative maximum 750 words)

i. Enriching, expanding and preserving of public understandings of cultural memory and heritage and of science for the audio dramas' audiences.

White's adapted radio dramas (R1-R4) have enriched and expanded public understandings of cultural memory, most vividly demonstrated by the response of press and public to White's adaptation of Primo Levi's *The Periodic Table* (R1), which employed a range of dramaturgical strategies to engage with questions of storytelling, truth and representation, and to foreground the original text's examination of the ethics of memory. Embodying White's own research engagement with witness testimony and the animation of the self through performance (R5, R6), this dramatisation presented Levi as narrator of his own experiences of the Holocaust while seeking a register which might provide a coherent representational frame for the diverse stories in the collection, which explore the shifting roles of storytelling and fiction in relation to the apparent objectivity of scientific – and historiographical – method.

The resulting audio drama (R1) was released in July 2016 and BBC Audio Drama Producers confirmed the reach of the drama, with '*Each episode of radio drama broadcast on BBC Radio 4*

reaches an average of 800,000 – 1 million listeners' (IMP1). The drama reached #3 on the British iTunes podcasts charts and remained on the chart for 32 weeks (<http://www.itunescharts.net/uk/artists/podcast/bbc-radio-4/podcasts/primo-levis-the-periodic-table/>), #1 on the Arts iTunes chart (19th July to 5th August 2016) and also entered the Italian iTunes podcast chart (<http://www.itunescharts.net/ita/artists/podcast/bbc-radio-4/podcasts/primo-levis-the-periodic-table/>). *The Periodic Table* (R1) was selected by BBC Radio 4 for rebroadcast during the COVID-19 lockdown in June 2020 (IMP1).

Crucially, the broadcast has enhanced public understanding of cultural heritage, and the work of Primo Levi in particular. Testimony from a BBC Producer who worked on the series states that, '*Feedback from listeners... suggests that our dramatization of The Periodic Table has been widely welcomed and admired, introducing many people to Levi's work and enhancing their understanding of the relationship between scientific fact, fiction and narrative form*' (IMP1). The press response to *The Periodic Table* (R1) demonstrates the significance the radio drama had for the listeners who listened to its episodes. The drama was lauded as a 'masterly adaptation' by *The Daily Telegraph's* Gillian Reynolds (20th July 2016) and was previewed and reviewed across a range of publications including *The Telegraph*, *The Spectator*, *The Sunday Times*, *The Yorkshire Post* and *The Irish Independent* and was twice chosen as Pick of the Day by *The Sunday Times*. The key episode '*Vanadium*', dealing with Levi's post-war encounter with one of his Auschwitz overseers, was selected by John Waite for BBC Radio 4's *Pick of the Week* (24th July 2016) (IMP2). The production's impact on its audience and their understanding of the relationship between science, truth and memory, was provided through the new medium for listeners to (re-) experience the expansive scientific vision of Levi's work. As one listener tweeted of the episodes, '*Carbon is perhaps the most universalist, illustrating the expansive vision of connectedness that science can afford*' (IMP3). The adaptation was further described as '*a perfect entry point to Primo Levi's work as well as a way in to explore this rich and endlessly rewarding genre of creative non-fiction*', on the *British Medical Journal Blog on Medical Humanities*. (IMP4).

Five of the episodes of *The Periodic Table* (R1) – *Vanadium*, *Argon*, *Sulphur*, *Titanium* and *Lead* – were broadcast in the 10.45 am drama slot on Radio 4, which averages audiences of 1.99 million, with two, *Iron* and *Arsenic and Silver* in the Saturday and Sunday slots which average 590,000 listeners. Other episodes, *Gold*, *Cerium*, *Mercury* and *Carbon* were broadcast in slots across the weekend in 'schedule-busting' reorganization of the Radio 4 output. The total combined audience for this series was around 14,500,000. The reach of *The Periodic Table* was widened by being made available via BBC's iPlayer online. The 2020 rebroadcast was subject to a different scheduling regime, stripped across 5 weeks of the Sunday slots, reaching an audience of circa 3,000,000 listeners.

Public understanding of the politics of cultural memory was also shaped by White's *General Mladic is Waving* (R2), which was broadcast in the weekday afternoon audio drama slot on BBC Radio 4, which averages an audience of 2.16 million. The drama was selected for Radio 4's *Pick of the Week*. Social media commentary highlighted the play's topicality and how it '*foregrounded the issue of propaganda in the interpretation of current events*' (IMP3). The BBC Radio Producer who worked on the play affirms that, '*Graham's sophisticated ideas about the interpretation of fact and the vagaries of justice made this a well-received and compelling piece of radio*' (IMP5).

In addition, White's adaptations (R1-R4) increased awareness of the work of individual authors through their broadcasts, enhancing the interpretation of their cultural legacies for public audiences, readers and publishers. For example, *The Periodic Table* (R1) promoted awareness of Levi's work and of its contribution to memorialisation of the Holocaust and to the public understanding of science, with over 200 organisations, groups and individuals concerned with cultural, historical and scientific matters promoting and commenting on the work to their followers, including: the Centro Internazionale De Studi Primo Levi; the Holocaust Educational Trust; Penguin Classics; the Royal Institution; the Royal Society of Chemistry; the Institute of Materials, Minerals and Mining; the British Carbon Group, and a variety of schools, colleges and other organisations (IMP3).

White's adaptations have also re-interpreted works in new relationships to their historical, social and critical contexts (R1). White's BBC Radio Drama Producer states that the dramas have brought to public and critical attention neglected or cult fiction (IMP5). Indeed, since the release of the Alexa 'skill' (Amazon's term for an app), sales of *The Unfortunates* showed a 114% increase between 2017 and 2019 (the year after the release of the Alexa skill and the rebroadcast of the Radio 3 production), according to Nielsen's Bookscan (<https://nielsenbook.co.uk/>). Similarly, White's dramas have increased awareness of particular authors and works; following White's adaptations Google searches for 'Primo Levi' and '*The Periodic Table*' increased by 26%. Searches for Johnson's '*The Unfortunates*' yielded 97,200 results before 2018 and 283,000 results after, an increase of 290%.

ii. Innovating in broadcasting practice, changing the practice of broadcasting and media professionals at the BBC

By foregrounding a range of formal strategies to embody each drama's thematic engagement with the nature of storytelling, testimony and historical truth, White's research (R1-R4) innovated in dramaturgical practice, leading to new interactive broadcasting practices in radio production. For example, *The Periodic Table* was released as a twelve-part online podcast of the production which listeners could engage with in any order. As the drama's Commissioning Editor wrote in a BBC blog at the time of broadcast, '*You can create your own order, your own Periodic Table. It is, I believe, the first time anyone has done such a thing with a collection of short stories*' (IMP6). The simultaneous, interactive release of elements of a production was an innovation in BBC practice which has since become an established mode of delivery. According to a BBC Producer this raised, '*significant questions about approach and methodology*' (IMP1). The production was highlighted as part of BBC Radio's output in the **BBC Annual Report to Parliament 2016**, and during the COVID-19 lockdown in 2020, the BBC rebroadcast *The Periodic Table* (R1) to considerable audience acclaim (IMP1, IMP3). The decision was taken by Radio 4 '*as it was felt that the drama's themes of endurance and hope in the face of suffering, together with its celebration of the discipline of science, would be a timely offering to the radio audience. We were also alive to the fact that, since its original broadcast, the drama's depiction of the rise of the far-right and the scapegoating of minorities have taken on new significance*' (IMP1).

Additionally, in 2018, BBC Research and Development (R&D) collaborated with White to revisit his 2011 adaptation of BS Johnson's *The Unfortunates* to create a new digital version as an interactive app – or 'skill' – for Amazon's Alexa smartspeakers. White's original version had a three-month life on the BBC website alongside the broadcast in a 'shufflable' online version, allowing listeners to randomize the order by clicking on images related to each 'chapter'; the skill allowed its audience to create a voice-operated randomized order for the drama, extending the agency of listeners and the adaptive possibilities of audio production and reception. This new version, in an entirely novel voice-activated shufflable form, provided an interactive, infinitely randomisable narrative structure for the broadcast, a technical and formal reinvention of the 2011 online interactive presence originated by White. BBC R&D made this production as part of a body of experimental work developing new models for audience interaction and as '*responsive radio*' (its inclusion in the ongoing development work at the BBC R&D blog, IMP7) as well as part of its ongoing 'Talking With Machines' BBC R&D project into audience interfaces (IMP8). The R&D experiment sought to engage with the radical structure of White's adaptation to explore the level of interaction enabled for audiences by new technology (IMP9).

A BBC Radio Drama Producer confirms the opportunities afforded by White's practice-research to explore and drive technological innovation: '*the BBC's R&D team seized on his audio version of B.S. Johnson's The Unfortunates, exploiting technology which had now caught up with his desire to make the audio version fully interactive and randomised, something which was not yet possible at the time of the first broadcast*' (IMP5). A producer for BBC R&D wrote that development of *The Unfortunates* (R3) as an Alexa skill extended the innovation from the original broadcast beyond the technological possibilities available at the time: '*Radio being a linear medium*' the '*broadcast version was now "frozen" in one order - the randomness had been lost.*' (IMP8). The skill provided 1.3 trillion possible narrative combinations. The Executive Producer of the R&D team glossed the production for Alexa customers; '*The Unfortunates has been created so that you are*

able to choose what you hear, but once that is done and the sequence of the story has been established, you can enjoy it just like any traditional radio programme'. In summarizing the result of the experiment they added that 'The BBC are continuing to explore voice-led content... looking at how you can use voice to take part in experiences that might work across multiple devices, or via screens and speakers' (IMP10).

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

IMP1 Testimonial from BBC Audio Drama Producer of *The Periodic Table* (R1), dated 12 February 2021, illustrating the drama's critical and popular success.

IMP2 Press pack of reviews and previews of *The Periodic Table* (R1) and *The Unfortunates* (R2) from national online media outlets, as well as press previews and write-ups from national online media outlets on tech innovation and Alexa skill presentation of *The Unfortunates*. See in particular reviews in *The Daily Telegraph* (20 July 2016), *The Observer* (9 December 2018) and *The Times* (8 December 2018).

IMP3 Pack of harvested social media commentary around broadcasts of *The Periodic Table* (R1) and *General Mladic is Waving* (R2), showing broad public engagement with the broadcasts.

IMP4 Holmes, E. (2016) Reclaiming Reflection: Creative Writing and the Medical Humanities (2). *British Medical Journal Blog on Medical Humanities*. 15 September 2016. Available at: <https://blogs.bmj.com/medical-humanities/2016/09/15/reclaiming-reflection-creative-writing-and-the-medical-humanities-2/> (Accessed 2 March 2020).

IMP5 Testimonial from BBC Audio Drama Producer of *General Mladic is Waving* (R2) and *The Unfortunates* (R3) dated January 2021, showing how White's innovations were adapted and further developed by BBC Research & Development

IMP6 Howe, J. (2016) Warning: This Book May Change Your Life! Primo Levi's *The Periodic Table*, 2016. Available at <https://www.bbc.co.uk/programmes/articles/5GSRnB8FZWIMbsscRzNYdLf/warning-this-book-may-change-your-life> (Accessed 2 March 2020).

IMP7 Young, E. (2019) What if Our Machines Had Emotions? *BBC Research & Development Blog*. 4 February 2019. Available at <https://www.bbc.co.uk/rd/blog/2019-01-voice-interface-emotion> (Accessed 15 February 2021).

IMP8 Talking with Machines. *BBC Research & Development Projects*. 2016- present. Available at <https://www.bbc.co.uk/rd/projects/talking-with-machines> (Accessed 15 February 2021).

IMP9 Cooke, H. (2018) *The Unfortunates*: Interacting with an Audio Story for Smart Speakers. *BBC Research & Development Blog*. 26 November 2018. Available at <https://www.bbc.co.uk/rd/blog/2018-11-unfortunates-skill-alexa-story-drama-johnson> (Accessed 2 March 2020).

IMP10 *The Unfortunates*. BBC Taster. Available at <https://www.bbc.co.uk/taster/pilots/unfortunates> (Accessed 8 March 2021).