

Institution: University of Edinburgh		
Unit of Assessment: 32 (Art and Design: History, Practice and Theory)		
Title of case study: Engaging through sound: perceptions of the sonic in contemporary art		
Period when the underpinning research was undertaken: 2014 – 2018		
Details of staff conducting the underpinning research from the submitting unit:		
Name: Florian Hecker	Role: Reader in Contemporary Art Practice	Period employed by submitting HEI: September 2014 – ongoing
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		
<p>Hecker's research through contemporary art practice, exhibition and broadcast, into human listening processes has generated impact by:</p> <ol style="list-style-type: none"> 1. Catalysing new approaches to sound art and its curation within major contemporary art institutions, including Museum für Moderne Kunst (MMK), Frankfurt am Main and the Kunsthalle Wien, Vienna. These institutions have been prompted to rethink their exhibition strategies, programming infrastructure and staff development and Hecker's exhibitions have also enhanced institutional profiles. 2. Shaping public awareness and understanding of sound art and expanding audiences, resulting in increased and diversified engagement with a niche topic. 		
2. Underpinning research		
<p>Sound has been an established aspect of contemporary art practice for decades. However, practice-based research that engages with the mechanics of sound are rare. Hecker's research has combined an investigation into listening processes with a use of new technologies to transform the way sound is experienced. It involves two components: first, the technical investigation of sound; second, practice-based research into the exhibition and installation of sound.</p>		
1. Technical investigation of sound		
<p>Hecker foregrounds processes of generating of new sounds from sonic elements. This departs from the traditional focus of computer-generated sound on analysis, that is, the breakdown of sonic inputs into fragmented sounds. By interrogating the range of what is sonically possible, Hecker shows how art can expand the parameters of human perception and engage a fundamental elaboration of what sound is. His work has been described by former Director of MMK, Susanne Gaensheimer, as 'breaking established boundaries and opening up new forms of expression and means of perception' [3.1].</p>		
2. Practice-based research into the exhibition and presentation of sound		
<p>This has taken place through a series of major international exhibitions, radio broadcasts and recordings:</p>		

- i. In 2015, Hecker was commissioned by the Stedelijk Museum, Amsterdam to produce *A Script for Machine Synthesis* [3.2]. The work grew from his collaboration with researchers studying clinical speech recovery at the University of Edinburgh. It featured a computer-generated voice based on the voice of actress Charlotte Rampling, a commissioned libretto and theatrical props.
- ii. *A Script for Machine Synthesis* was presented again in October 2015 at the Maison de la Radio in Paris, an important venue for electronic and electroacoustic music. It was released as an accompanying CD album in 2017 [3.2]. By resynthesizing the original multichannel performance, the album prompted new ways of thinking about the experience of sound.
- iii. For his 2016 exhibition *Formulations* [3.1], commissioned by MMK, Hecker produced fifteen computer-generated sound pieces in collaboration with computational linguists, neurologists and engineers. These used tropes from conceptual and performance art to create multi-sensory environments that resist genre classification. They were played in different sequences and locations, producing a dynamic display that drew attention to the experience of listening.
- iv. Also in 2016, Hecker was commissioned by Alte Oper Frankfurt to produce *FAVN* [3.3], a performative installation involving a computer-generated voice and references to nineteenth-century psychophysics and music. *FAVN* was subsequently presented in a different iteration at V-A-C Foundation, Moscow (2017), a refurbished power plant. Adapting *FAVN* for this venue enabled Hecker to develop new insights into the relation between sound and the spaces where it is heard. Further iterations of the piece were exhibited at Hecker's solo exhibitions - *Synopsis* at Tramway, Glasgow (2017) [3.4], and *Halluzination, Perspektive, Synthese* at Kunsthalle Wien, Vienna (2017-2018) [3.5].
- v. For BBC Radio 3's 70th season, Hecker was commissioned to write a new piece for multi-channel surround sound, *Inspection (Maida Vale Project)* [3.6]. It was presented in a 2016 live edition of Radio 3's *Hear and Now*, broadcast from the Maida Vale Studio. Binaural (3D) sound is designed for headphone listening and produces an immersive, spatial audio.

3. References to the research

- 3.1. Hecker, F. (2015-2016) *Formulations*. Culturgest, Porto, Portugal; MMK Museum fur Moderne Kunst, Frankfurt am Main (exhibition). Gaensheimer, S., Mackay, R., Wandschneider, M. (Eds), Hecker, F. *Formulations*. Culturgest, Lisbon, MMK Frankfurt / Verlag der Buchhandlung Walther König, Cologne (Edited book) (Submitted in REF2). Includes: Press release for *Formulations* exhibition at MMK Frankfurt (24 November 2016)
- 3.2. Hecker, F. (2015-2017) *A Script for Machine Synthesis*. Teijin Auditorium, Stedelijk Museum Amsterdam; Maison de la Radio - Studio 104, Paris (performance). Hecker, F., Negarestani, R., Mackay, R. *A Script for Machine Synthesis*. Sonic Acts, Amsterdam, 2015 (publication). Hecker, F., Röbel, A. *A Script for Machine Synthesis*. Editions Mego, Vienna (CD) <https://www.youtube.com/watch?v=eCZXRzaDDIo>
- 3.3. Hecker, F., Mackay, R. (2016-2017) *FAVN*. Alte Oper Frankfurt, Frankfurt am Main; V-A-C Foundation, Moscow (performance) (Submitted in REF2)
- 3.4. Hecker, F. (2017) *Synopsis*. Tramway, Glasgow (exhibition)

3.5. Hecker, F. (2017-2019) *Halluzination, Perspektive, Synthese*. Kunsthalle Wien (exhibition). Müller, V J., Schafhausen, N. (Eds), Hecker, F. *Halluzination, Perspektive, Synthese*. Berlin: Sternberg Press (publication) (Submitted in REF2)

3.6. Hecker, F. (2016-17) *Inspection (Maida Vale Project)*. BBC Maida Vale Studio 3, London; Andquestionmark, Stockholm; TBA21, Vienna (performance). Hecker, F. *Inspection II*. Editions Mego, Vienna & Urbanomic, Falmouth, UK (CD) (Submitted in REF2)

4. Details of the impact

Disseminated through four international exhibitions and a radio broadcast, Hecker's research has generated impact by catalysing new institutional approaches to sound art, shaping public awareness and understanding of sound art and expanding audiences. The work has reached wide audiences: over 75,570 in total for the exhibitions, and approximately 75,000 for the Radio 3 *Hear and Now* broadcast.

1. Catalysing new institutional approaches to sound art

In presenting Hecker's works, many institutions were exhibiting sound for the first time or at unprecedented scale. *Formulations* 'was the first monographic survey exhibition completely based on sound art' at MMK [5.1]. *Halluzination, Perspektive, Synthese* was 'the first sound work on that scale at the Kunsthalle' and changed the museum's policy towards experimental contemporary art: 'artistic practices that make use of synthetic sound [...] will be more readily considered again for upcoming exhibitions' [5.2]. The institution confirmed that they have 'been bold with advocating the use of sound within the gallery space thanks in part to an understanding of the spatial acoustics and the spatial/dramatic effects it can produce' [5.3].

Hecker's research has also contributed to staff development, promoting knowledge of the presentation of sound. Staff at MMK 'gained new knowledge of sound as an artistic material [...] on [an] audio-technical as well as artistic level', making 'the museum more confident in presenting, collecting and conserving sound work' [5.1]. Tramway confirmed that 'staff gained a more intimate knowledge of, sound, acoustics, and composition particularly in a technical capacity; how to install works of this type and [in] an interpretive capacity; how to talk about and convey ideas around sound and its history to an audience'. Inspired by Hecker's exhibition, Tramway has been 'bold with advocating the use of sound within the gallery space, thanks in part to an understanding of the space's acoustics and the spatial/dramatic effects it can produce.' [5.3]. Kunsthalle Wien noted that 'Staff were encouraged to discuss the acoustic chimeras Florian Hecker created, and share their experiences with colleagues, friends and visitors, resulting in greater appreciation and new understandings of aural dimensionality. The education team learned a great deal about sound and timbre; a knowledge that they could then share with the audience' [5.2]. Alte Oper Frankfurt said that *FAVN* 'definitely developed the knowledge of our program team', encouraged their continued collaboration with artists working in alternative art forms and formats, and 'motivated us to pursue the strategy of working together with other art institutions.' [5.4]. Alte Oper Frankfurt noted that the experience of staging *FAVN* has been 'an asset for the realization of other projects' [5.5].

MMK, Tramway and Alte Oper Frankfurt credited Hecker's exhibitions with raising their institutional profile [5.1, 5.3, 5.4]. *Inspection* was shortlisted for Best Technical Production in the 2017 BBC Radio Awards and Radio 3 credited this for raising the profile of the station

and its R&D programme [5.6].

The exhibitions also stimulated technological innovation. *Inspection (Maida Vale Project)* was the BBC's first live binaural broadcast. Following its success, collaborations in live broadcasting were undertaken with BBC Radio 2 and BBC Proms 2018. This led to the training of Radio 3 engineers in live binaural technology – skills that were employed in approximately 20 broadcasts during the BBC Proms 2018 season. The BBC testified that *Inspection* has influenced the ways live binaural sound 'will continue to be developed for live music applications and is likely to have an impact on future audiences' [5.6].

2. Shaping public awareness and understanding of sound art and expanding audiences

Hecker's work has reached wide audiences: over 75,570 in total for the exhibitions [5.6] and approximately 75,000 for the Radio 3 *Hear and Now* broadcast, based on average weekly listening figures for FM and DAB networks [5.6]. The broadcast on 3 December 2016 alone attracted 4,270 online listeners, over three times the usual number for *Hear and Now* [5.7].

Kunsthalle Wien commented that *Halluzination, Perspektive, Synthese* increased understanding of 'post-war modernity, audiology, and psychoacoustics' and the 'experience of hearing' among the visiting public and staff [5.2]. It generated new audiences for experimental sound art by engaging 'a broader public who may be unfamiliar with [Hecker's] work', including those in 'computer-generated sound, media theory, software studies and computational culture' [5.2]. *Formulations* drew 3,865 visitors, 'a success' compared to other projects at MMK [5.1]. Alte Oper Frankfurt noted that *FAVN* 'attracted groups of audiences we usually don't see in classical concert formats' [5.4]. The BBC confirmed that 'the live audience at the venue [for *Inspection*] was visibly younger than the average audience for *Hear and Now* / Radio 3, and it formed part of the programme's ongoing strategy to appeal to new and younger listeners' [5.5].

Synopsis 'enhanced the profile' of Tramway 'by generating increased audience figures, and reaching new audiences interested in sound and composition that have subsequently been retained' [5.3]. The gallery confirmed that visitor figures (5,400) were 'very high ... when considered against other exhibitions of a similar duration'. The exhibition was accompanied by a series of drop-in sound activities for the public. The adult workshops were attended by those with a specialist interest in sound and composition, 'which differs from the previous visual art workshop attendances' [5.3]. Primary School groups that attended 'were very engaged' and pupils talked 'enthusiastically about the work as an immersive experience' [5.3]. Tramway replicated this model of engagement at a mainstream public event at Glasgow Royal Concert Halls, engaging with over 800 children aged 3-7 [5.3].

Public awareness of sound art and its potentials has been further influenced by the considerable media reception of Hecker's work. It was the subject of hour-long features on French and Austrian national radio (*Radio France* audience 20,000; *Austrian Broadcasting Corporation* audience 15-20,000 [5.8]). Its impact has also been noted by the international art press. *Artforum* described *Formulations* as '[o]ne of the most radical museum exhibitions of recent memory' and a 'disorienting show [that] radically challenges our listening habits' [5.9]. *The Wire* praised Hecker's work for exploding 'sound art's traditional confines' [5.9]. *The List* described it as 'genre-busting' [5.9]. *Frankfurter Rundschau* described *FAVN* as 'an uncompromising listening experience' [5.9]. *Studio International* remarked that 'Hecker successfully explores the inherent quality of sound' and 'dramatises this process for each

individual to experience' [5.9]. *Technosphere Magazine* noted the way, '[t]hrough computation, listening is further freed from its naturalized role' [5.9].

5. Sources to corroborate the impact

- 5.1. Testimonial from Deputy Director, MMK Museum für Moderne Kunst Frankfurt
- 5.2. Testimonial from Deputy Director, Head of Dramaturgy, Curator, Kunsthalle Wien
- 5.3. Testimonial from Tramway Glasgow
- 5.4. Testimonial from Artistic director and Managing Director, Alte Oper Frankfurt
- 5.5. Email from Classical music production and organisation, Alte Oper Frankfurt
- 5.6. Testimonial from the BBC, including online listening figures for *Hear and Now* broadcast from Technical Producer
- 5.7. Collated attendance figures for exhibitions and performances at Hamburger Bahnhof, Berlin; MMK Frankfurt; Alte Oper Frankfurt and Tramway, Glasgow
- 5.8. Collated broadcast media figures for Hecker's work
- 5.9. Collated press coverage for Hecker's work