Institution: **University of West London**

Unit of Assessment: **UOA 33 - Music, Drama, Dance, Performing Arts, Film and Screen Studies**

Title of case study: **Sonic Cartoons: influencing the study, creative practices and public understanding of record production and recorded music**

Period when the underpinning research was undertaken: From 2005 to 2020

Details of staff conducting the underpinning research from the submitting unit:

Name(s): Simon Zagorski-Thomas	Role(s) (e.g., job title): Professor of Music	Period(s) employed by submitting HEI: From 2003 to date

Period when the claimed impact occurred: From 2014 to 2020

Is this case study continued from a case study submitted in 2014? No

1. Summary of the impact (indicative maximum 100 words)

Practitioners in record production have benefited from a conceptual framework for planning and implementing recording, processing and mixing decisions, based on clear musical goals. The notion of *sonic cartoons*, developed by Zagorski-Thomas out of his work on phonographic staging, provided an enhanced theoretical model for considering the schematic nature of recorded music. The model has been widely adopted in recording arts pedagogy, as well as having a significant impact on sound engineers, musicians and record producers. Public understanding has also been advanced through a BBC World Service eight programme series written and presented by Zagorski-Thomas that used sonic cartoons to show how recorded performances and the associated technologies reflected wider social and cultural trends.

2. Underpinning research (indicative maximum 500 words)

Zagorski-Thomas first published about the notion of *sonic cartoons* in 2014 in a monograph [R1] and book chapter [R2]. These built on research Zagorski-Thomas had conducted since 2005 and his previous twenty years of professional recording practice.

The *sonic cartoon* concept differs from previous work on *phonographic staging* (Moylan) and the *sound box* (Moore) in that it discusses recorded music as a schematic representation of musical activity. It draws on Lakoff and Johnson's cognitive theory of metaphor and categorical thought, Smalley's notion of *spectromorphology* in electroacoustic composition and Gibson's ecological approach to cognition to synthesize a theoretical framework about the cognitive mechanisms that inform both creative intention and the listener's interpretation.

There are two main components. First, is the idea that perception is based on the broad sense of the brain trying to establish what is happening by creating a kind of 'best guess' based on all modes of perception (i.e. 'what is happening?' rather than 'what am I seeing? What am I hearing?') and that we therefore hear music, both in a literal and metaphorical sense, in terms of the sound of someone doing something somewhere.

Second, is the notion that these 'best guess' mechanisms are the basis of our ability to create and understand schematic representations as being representations of something. The sound of an orchestral recording coming out of two speakers in a small room is not the same experience as listening in a concert hall. And more commonly, with virtually all recorded popular music, the sound is a deliberate simplification or distortion of 'reality': the notion of *sonic cartoons* addresses how these simplified and distorted representations can be made to suggest a more complex 'whole' – even an abstract or 'impossible' one. This provides a theoretical basis for planning, executing, mixing and listening to recorded music.

The theoretical work bridges the gap between the historical / ethnographic work which describes professional practice in the sector and the technical literature which focuses on how the technology works. Zagorski-Thomas' research provides this musicological bridge, explaining how and why the techniques and technology work using these approaches to embodied cognition, metaphor and interpretation, and thus enables critical reflection about strategic decisions and creative choices.

In R3, Zagorski-Thomas explored how this theoretical, musicological (as opposed to technical) toolbox can be used to enhance music technology pedagogy and, along with a series of conference presentations, a book tour and subsequent guest lectures, provided a framework for educators to embed the specific notion of *sonic cartoons* and the more general idea of using musicological theory into the curriculum of vocational courses.

Subsequently, Zagorski-Thomas produced a series of detailed analytical examples to help students and practitioners think about additional aspects of *sonic cartoons.* In R4, using in-depth analyses of popular music examples, the notion of timbre – and the ways in which it can be manipulated in the production process – was explored through techniques which enhance, alter or inhibit the perception of energy expenditure, materiality, agency and the environment. For example, the attack transients of a sound can be enhanced using equalization or dynamic compression to give a perception of higher energy expenditure.

In R5 he provided additional analyses of examples to show how the notion of intertextuality can be explored through *sonic cartoons* dealing with explicit textual references, cultural references to genre and historical period, and more specific categorical references to gendered bodies, ambiguous materiality and metaphors of space in instrumental resonance.

Finally, in R6 (a practice-as-research output), Zagorski-Thomas provided a detailed analysis of how metaphors drawn from the text and context of the Haydn Piano Sonata were translated into sound – for example, using digital sampling, distortion and audio FX to provide contemporary parallels to Haydn's exploration of 'new' (18th century) piano technology. Exposing the process of creating a *sonic cartoon* of this type provides students and practitioners with a 'way in' to both the musical metaphors and the ways in which they have been realized through the technologies and techniques of record production. R6 was one of the outputs from the AHRC-funded *Classical Music 'Hyper-Production' and Practice-As-Research* project.

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

R1 Zagorski-Thomas, S. (2014) The Musicology of Record Production. Cambridge: Cambridge University Press.

R2 Zagorski-Thomas, S. (2014) 'An Analysis of Space, Gesture and Interaction in Kings of Leon's "Sex On Fire" (2008)', in von Appen, R. et al. (eds) Twenty-First-Century Pop Music Analyses: Methods, Models, Debates. Farnham: Ashgate Publishing Limited.

R3 Zagorski-Thomas, S. (2016) 'How Is Theoretical Research Meeting the Challenges of Pedagogy in The Field of Record Production?' Chapter in *Music, Technology & Education: Critical Perspectives* edited by Dr Evangelos Himonides and Dr Andrew King; Farnham: Ashgate Sempre Psychology of Music Series.

R4 Zagorski-Thomas, S. (2018) 'The Spectromorphology Of Recorded Popular Music: the shaping of sonic cartoons through record production'. Chapter in *The Relentless Pursuit of Tone: Timbre in Popular Music.* Edited by Robert Fink, Mindy LaTour O'Brien, Zachary Wallmark; New York: Oxford University Press.

R5 Zagorski-Thomas, S. (2018) 'Timbre as Text: the cognitive roots of intertextuality'. Chapter in *The Pop Palimpsest: Intertextuality in Recorded Popular Music.* Edited by Lori Burns and Serge Lacasse. Ann Arbor, MI: University of Michigan Press

R6 Zagorski-Thomas, S (2020) Haydn Piano Sonata XVI:50 – Hyper-Production MIDI version; available at http://www.c21mp.org/simon-zagorski-thomas/

Grants: PI: Simon Zagorski-Thomas; Feb 2009 – Jul 2009; *Musicology of Record Production*; HEFCE Research in Teaching Environment fund; £24,750.

PI: Simon Zagorski-Thomas; April 2015 – Nov 2015; *Classical Music 'Hyper-Production' and Practice-As-Research* (Ref: AH/M010155/1); Arts and Humanities Research Council; Digital Transformation in the Arts and Humanities: Small Grants January 2015; £40,101.

Quality Statement: R1 was awarded the International Association for the Study of Popular Music Book Prize in 2015. https://www.iaspm.net/book-prize/. Outputs R1, R4 and R6 have been submitted to REF 2021.

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

Through his leadership role in the Art of Record Production conference, journal and international association as well his publishing, editing and public speaking on the topic,

Zagorski-Thomas' research has influenced vocational pedagogy in sound recording and record production and on the creative practice of emerging and experienced professionals in this multi-billion-dollar industry. In addition, he has increased public understanding of recorded music through his broadcasts and presentations.

International impact on pedagogy of record production

Since the publication of his work on sonic cartoons in 2014, Zagorski-Thomas' works in this area have become key texts in recording pedagogy. Although all the references [R1 – R6] have been important, the *Musicology of Record Production* has had the greatest influence. The significance for pedagogy was identified by the reviewer for the International Association of Popular Music (IASPM) Journal who concluded that: "Overall then, Zagorski-Thomas carves out a space for a discussion that, while taking record production as its focus, opens out into a whole wealth of important areas. In doing so it poses a challenge to how we think about recordings, and how we think about teaching the skills associated with record production." [S1]

The texts are used on the programmes for some of the most prestigious sound engineering courses globally, including in the USA, Canada, Australia, Europe and the UK, with corroboration available from leading academics in a range of universities. [S2]

The monograph is widely held in university libraries across the world. The WorldCat website showed that, by 2020, 692 university libraries, from the UK to New Zealand, held a copy. In addition, the publishers, Cambridge University Press, reported that as of November 2019, 37 university libraries in 17 countries held eBook copies: these included libraries in the Scandinavia, Switzerland, South Africa, India, Thailand, Australia, China, USA, Canada, Mexico, as well as in the UK. [S3]

The research has been of particular value in developing programmes in providers with close industry connections. In one example, it contributed significantly to the design of a new MA by the BIMM [the British and Irish Modern Music Institute], which runs diploma, undergraduate and postgraduate courses in the UK, Ireland and Germany. The Course Leader for the programme has written:

> We launched the MA Popular Music Practice at BIMM Institute London in Summer 2019 and at BIMM Institute Brighton and Bristol in the summer of 2020. The research output of Simon Zagorski-Thomas has been invaluable to this programme – particularly here at BIMM Brighton -- principally because it applies Practice as Research disciplines to the field of popular music, whereas much of the existing scholarship and established schools concentrate more on experimental music and classical music.

> Professor Zagorski-Thomas's output is particularly relevant because our course has four strands (production, composition, performance, entrepreneurship) and his work is extremely relevant to the first three of these subject areas – while those candidates on the entrepreneurship strand find his method sufficiently engaging to be able to apply it to their own work. We use several pieces extensively in the modules MPM701 Popular Music Practice and Research an MPM705 Major Project." [S4]

In another example, a testimonial from a professor at the Popakademie Baden-Württemberg said:

> Pioneering the research stream Art of Record Production within Popular Music Studies Mr. Zagorski-Thomas offers our students a relevant and otherwise new perspective to record production both within the history of popular music as well as within the history of recording. By combining theory with his thorough knowledge of recording practice his approach opens for new valuable insights within popular music which other, more conventional approaches, fail to do. This approach, binding theory with practice is a central tenet in the work of the Popakademie and its degree programs". [S5]

The MA in Record Production at UWL, originally devised by Zagorski-Thomas in parallel with the book, was fundamentally shaped by this research. Between 2013/14 and 2019/20, around 90 students from North America, South America, south-east Asia, China, Europe and the UK have taken the course and can be expected to be using these ideas in their professional practice and in the education of new generations. [S6]

Influence on creative practice

Zagorski-Thomas' research has also influenced the working practices of well-established music engineers and producers by encouraging theory-inflected reflection on both the use of existing skills and techniques and the development of new approaches. The annual Art of Record Production (ARP) conference has been an important vehicle for this influence. Established by Zagorski-Thomas in 2005, the ARP conference was designed to bridge the gap between research and industry and has been a primary driver in bringing research to the attention of practitioners. It has an international audience, with recent conferences held in Canada, Norway, Denmark, the USA (twice), Sweden and in the UK. ARP's close connections with organisations such as the US Producers & Engineers Wing of the GRAMMY organisation and the UK Music Producers Guild has meant that producers and engineers from around the world have been influenced by research discussed at these events.

In an example of this influence, a professional producer and engineer with experience on over 30 albums and EPs by artists such as ███████████████████████████████, said:

> I became aware of Simon's work through the Art of Record Production conference, where I presented some of my practice in 2016. Simon presented on the Classical Music Hyperproduction project and this research has had a notable effect on my own work over the last few years. In seeking to explore unconventional techniques in this most conservative field of recording practice I feel that Simon and the co-authors have given voice to the artistic ambitions of many practitioners, encouraging debate and experimentation…'Recreation' on the Icelandic label Bedroom Community has received a lot of attention (cross-station international airplay) for its unorthodox approach to repertoire and sonic presentation, my work on this record is indebted to the enquiry stimulated by Simon's academic practice.

Another experienced mix engineer and producer based in Queensland, Australia whose credits include ████████████████████████████, has written to say that:

> I think the greatest influence your research has had on my creative practice, is how I cognitively experience my practice whilst it is happening… since I have been reading your work I have been engaging with 'doing as thinking' and as a result, it seems like I am cognitively engaged and aware with what is going on during the process. I am no longer a bystander, I am in the music production experience 'doing as thinking'. This has led to a revitalized understanding of my mixing and production process after 29 year's practice and also results in creditable 'real world' practice-based investigations. For example, my mixing on ███████████ "Crimson Criminal'' and the subsequent publication in the IASPM practice-based call.

A third, with nearly 30 years of professional experience working with ████████████ ██████████, said:

> As a music producer and mixing engineer Simon's written work and conversations have encouraged critical analysis of processes and techniques adopted in my professional practice. As my music production learning curve took place on projects, the focus was always on delivering results. It wasn't until I met Simon that I began to reflect on mix processor choices or recording techniques that lead [me] to understand a wider aspect of the choices I was employing. [S7]

Enhancing audience understanding of recorded music

Zagorski-Thomas devised, wrote and presented an eight-programme series on *How the World Changed Music,* commissioned by the BBC World Service and broadcast in 2019. The programmes used examples of recorded music from around the world to discuss how recorded performances and the technologies which produce them reflect wider social and cultural trends. For example, the program explored how the recorded female voice in both 1920s Chinese popular music and 1980s Indian film music reflected and exaggerated features that defined cultural gendered stereotypes. These links between sound and culture are central to the notion of *sonic cartoons*.

The BBC's Development Officer said the approach which used examples from different countries was popular with World Service audiences. He noted that although scheduling across multiple platforms made it difficult to establish audience numbers - taking into account

the scheduling on BBC radio platforms across the world, broadcasting on local FM affiliates and partners, on satellite radio in the US, and online – "…the reach of the series is considerable… in the many millions". He also said the [Zagorski-Thomas] series was "much lauded" by the World Service Senior Commissioner. [S8]

Zagorski-Thomas was a principal contributing expert on *The History of Music and Technology* series on the World Service, hosted by former Pink Floyd drummer ▇▇▇▇▇▇▇ His research discussing the way changes in audio technology had affected how producers and musicians thought about recorded music featured in two of these 53-minute programs (*Acoustic to Electric and The Beatles And Beyond*), first broadcast in June 2019.

The AHRC-funded project *Classical Music 'Hyper-Production' and Practice-As-Research* enabled further impact through working with public venues to produce *In Modern Dress* concerts at Kings Place, London (Oct 2015), UWL (Jan 2016), and at the RMA Conference at the University of Birmingham (Sept 2015) and through a series of video and audio excerpts of hyper-production mixes from Bach, Beaudoin, Haydn and other composers which were shared online. Collaborators included colleagues from the Royal Academy of Music and postgraduate students from the London College of Music, UWL, the Akademia Muzyczna im. Karola Lipińskiego (Wrocław) and the Konvalia Quartet. The project provided examples of these innovative and exaggerated approaches to the sound of classical music to both non-academic audiences and professional musicians. [S9]

The immersive audio-visual implementation of *sonic cartoon* techniques was also demonstrated to the public in the *Afro-Cuban Music Room* project at UWL. The eight-speaker audio installation used re-amping production techniques to create spatial audio effects that allow the audience to control the immersive audio experience by walking around. This was later presented at the Pitt Rivers Museum, Oxford (May 2018) in an event at which 1600 people registered to attend, and at the *La Linea Latin Music Festival* at EartH in London (May 2019). [S10]

Zagorski-Thomas has also used the idea of *sonic cartoons* to explain the schematic nature of recorded music to public audiences. Talking about and demonstrating how production techniques can be used to influence a listener's interpretation, Zagorski-Thomas presented at several music festivals. These included the *Culture Capital Exchange*, London (March 2017), the *No.6 Festival*, Portmeirion (August 2017), the *Also Festival*, Warwickshire (June 2018) and the *Harrogate International Festival* in Yorkshire (July 2018) with the audiences for these estimated to be over 500 people.

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

S1. Elsdon, Peter. (2016). REVIEW | The Musicology of Record Production. 6, pp.177-180. DOI: 10.5429/2079-3871(2016)v6i2.11en.

S2. Corroboration can be obtained from senior academic staff at: University of Massachusetts Lowell; Université Laval, Quebec; Australian National University; University of Oslo; Leeds Beckett University. Contact details for each of these is provided in the corroborating evidence.

S3. World Cat: https://www.worldcat.org/title/musicology-of-record-production/oclc/890603808&referer=brief_results accessed 2/12/20; CUP email 28/11/20.

S4. Email from Course Leader, MA Music Production, BIMM Brighton, dated 16/11/20.

S5. Email from Professor, Popakademie Baden-Württemberg, dated 17/12/14.

S6. MA Record Production student number / origin data in the corroborating evidence.

S7. Testimonials from three music industry professionals in the corroborating evidence.

S8. Letter from Development Editor, BBC Audio, dated 27/7/20.

S9. Summary information on project performances, Classical Music 'Hyper-Production'.

S10. Summary information on project performances, the Afro-Cuban Music Room.