

Institution: Royal Conservatoire of Scotland		
Unit of Assessment: 33		
Title of case study: Challenging Creativity – <i>Technophonia, Microscopic Dances</i> and Drake Music Scotland's Digital Orchestra		
Period when the underpinning research was undertaken: 2012-2020		
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:
Dr Oliver Iredale Searle	Interim Head of Composition	Oct 2001 - present
Period when the claimed impact occurred: Since 2012 and throughout the current Assessment Period		
Is this case study continued from a case study submitted in 2014? N		

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

Since 1997, Drake Music Scotland (DMS) has used digital technology to enable disabled young people to participate in music-making. The music it commissioned from Oliver Searle, first in 2012 and then in 2017 has unlocked new experiences for DMS musicians and new ambitions for the organisation and the young people with whom it works. Searle's work has tilted the balance from active participation to education and achievement, developing the agency of the young musicians involved, while high-profile performances have changed wider perceptions of the musical capacities of disabled musicians. Searle's continuing collaboration with DMS has opened new creative routes for both performers and composers.

2. Underpinning research (indicative maximum 500 words)

In 2012, DMS successfully applied to the PRS for Music Foundation's New Music 20x12 commission programme. They commissioned Oliver Searle to write music for an ensemble comprising of three DMS musicians and members of the City of Edinburgh Music School (CEMS), a mainstream specialist music school for secondary pupils, which would perform as part of the Cultural Olympiad accompanying the 2012 Olympic Games in London.

In making the commission DMS planned to draw on the electronic instruments that they used extensively in their practice with young disabled musicians, and work with a composer to develop new musical material that would begin to establish a repertoire for those technologies. At the same time, their young musicians would share a platform, literally and metaphorically, with the non-disabled musicians of CEMS.

The commission presented an opportunity for practice research in composition that would have a number of clear objectives. Searle explains:

I became acutely aware of how rarely I had witnessed people with disabilities being offered a musical challenge in performance, and being presented with activities that they might find initially difficult, requiring repeated practice and learning to complete (and thus allowing for the opportunity to improve specific, musical performance capabilities on a certain instrument). The challenge for me as a composer/musician lay in stretching not only participants' skills and abilities, but also the technologies involved, discovering what they may be capable of achieving, and what this may offer for their development.

The musicians who were to be involved in the performance had a wide range of significant physical and cognitive impairments. Over twelve months, Searle worked directly with them to

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explore, in detail, how they made music and from this work emerged an initial concept for a series of pieces.

Music psychologists tell us regularly about the fantastically complex series of procedures that your brain goes through on its way to performing music. We must interpret pitches, rhythms, dynamics and articulations from a page of music, itself a type of complex language, then begin to realise these through a number of minuscule muscle movements, making decisions about the attack and sustain of individual notes, before moving to the next one. With or without sheet music, we are looking at others around us, perhaps focusing on a conductor/director, using our ears to decide when to join in with other musicians, altering our pitch by the smallest of microtonal increments and balancing our sound to produce a musical performance. These tiny movements and processes (many of which are only barely noticeable, or often completely invisible to the human eye), seem to me to be a number of microscopic dances between our neural processes and motor skills.

From this starting point, Searle composed *Technophonia (Microscopic Dances)* using the Skoog, Soundbeam and Brainfingers electronic instruments alongside the acoustic ensemble from CEMS. It was performed at Broughton High School, Edinburgh (world premiere); Queen's Hall, Edinburgh; Royal Conservatoire of Scotland; and the South Bank Centre, London. It was nominated for a Royal Philharmonic Society Award and a British Composer Award in the Community and Education Project category in 2013.

In 2017, Searle was commissioned to write a further suite of dances, entitled *Microscopic Dances* (an entirely new work, unrelated to *Technophonia (Microscopic Dances)*). In the intervening years, and building on the pivotal experience of *Technophonia*, DMS had established the Digital Orchestra – 'the world's first youth orchestra using only digital instruments'. The new commission was to write for ten disabled musicians – the largest ensemble that DMS had at that time assembled – and twelve members of *:futures*, the cross-genre contemporary ensemble of the National Youth Orchestra of Scotland.

This second commission extended considerably the musical scope and ambition of the earlier project, continuing to test the range of possibility for all the young musicians involved, and incorporating new technologies, new notation, and more complex structures into the music. *Microscopic Dances* won the British Composer Awards 2018 Prize in the Amateur or Young Performer category, and the Scottish Awards for New Music 2018 Prize in the Collaboration category; it is a research output in the current submission, along with an article by Searle for *IMPAR: Online Journal for Artistic Research* that reports and reflects upon his experience of working with DMS.

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

- 1) Score: *Technophonia (Microscopic Dances)*. 2012. Available on request.
- 2) Score: *Microscopic Dances*. 2017. Included in this submission: REF2.
- 3) Article: Searle, O.I., 'Challenging Creativity: Inclusive Composition' in *IMPAR: Online journal for artistic research in music* (Vol. 2, N° 1, 2018), pp. 19-33. Included in this submission: REF2. Also at: <https://doi.org/10.34624/impar.v2i1.805>
- 4) Video: *Technophonia (Microscopic Dances)*. 2012, first performance, complete <https://www.youtube.com/playlist?list=PL6jIWgIh2ovYYgCNv9sOLjrv0tz0F4NB->
- 5) Video: *Microscopic Dances* (2017). 2017, first performance, complete <https://www.youtube.com/playlist?list=PL6jIWgIh2ovYYgCNv9sOLjrv0tz0F4NB->

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

'DMS is the nation's leading arts organisation providing music making opportunities for people with disabilities. Our expertise in inclusive music technology and specialist teaching methods

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supports people of all ages and a wide range of disabilities to play, learn and compose music independently.' [from the DMS website].

The initial ambition of DMS in commissioning Searle to write *Technophonia* was to showcase what young disabled musicians could do with specialist music technology, and to demonstrate that their learning and experience is as valid as that of a young person playing more conventional instruments. By moving away from devised work towards composed music, it would be possible to challenge DMS's young musicians and in the context of new music for a mixed ensemble, both the non-disabled and disabled players could be 'pushed' in different, but equivalent, ways. It would not be tokenistic, it would not be easy, for anyone.

Both disabled and non-disabled musicians use tiny, often hidden, movements to control their instruments. Searle picks up this idea in the subtitle *Microscopic Dances* and thereby draws attention to what disabled and non-disabled musicians share. In their mode of presenting *Technophonia* DMS amplified this further, making clear the work being done by all the young musicians on stage – using, for example, close-up video, verbal explanations, and repeat performances to uncover the process.

The DMS musicians were experienced with the technology, able to control sounds and developing their skills in manipulating those sounds in all their dimensions. But the challenge of *Technophonia* was to use those skills in an ensemble context, working with other musicians. DMS's musicians had little experience of playing with those who were not part of their immediate peer group. As the focus of work turned towards ensemble playing, new vistas of opportunity began to open up, both for the individual players and for DMS.

It had always been a fundamental principle of the DMS approach to foreground the active participation and burgeoning musicianship of young disabled musicians. *Technophonia* introduced new demands, around not only the execution of the music, but also how to practise, how to be in a rehearsal, and how to prepare for performance. For DMS's young disabled musicians, it was a first experience of the discipline of ensemble performance – what to do, where to look, how to interact with the other players and the conductor, when to wait, when to take your turn. The gradual rallendando in 'Secluded Charleston', for example, required the Brainfingers performer to take the lead and set a steadily slowing tempo: this required significant practice on his part. The staggered entries between the Brainfingers and Soundbeam parts in 'Veiled Sarabande', for example, demanded that the musicians reliably took cues from one another. Rehearsals with Searle for *Technophonia* involved a steep learning curve for everyone: the Skoog part in 'Clandestine Waltz', for example, demanded careful anticipation and preparation, and clear communication between conductor and player. And then there was a new social aspect, for all the young musicians involved – new experiences of working with other young people of the same age but very different capacities.

Paradoxically, the more defined structure of fully composed music allowed those supporting DMS's young musicians to take a step back, so that the performers could take greater control, making choices within the framework of the score, and expressing themselves with greater freedom. The opportunity to fail was a crucial, and rare, opportunity for the young disabled musicians to develop greater autonomy and capacity for self-criticism, pivotal steps to a greater agency that has subsequently seen them living, working and travelling independently. Performers reported a sense of rich accomplishment. 'Being able to perform has fulfilled my biggest dream! It makes me feel equal to my able-bodied peers' (Rhona Smith, *Technophonia* musician and member of the Digital Orchestra).

Following the premiere in Edinburgh and performances in Glasgow and London, *Technophonia* was recorded commercially by NMC and broadcast on Radio 3 (Hear and Now, 21 July 2012).

Building on the experience of working with DMS for *Technophonia*, Searle worked with Pete Sparkes, DMS Artistic Director, to design a new composition module as part of the Conservatoire's suite of Options modules, specifically designed to extend young composers' sense of how music can be written, develop more inclusive compositional practices, and explore the creative potential of working with disabled musicians through digital technology. The module was first delivered in 2014 and led to DMS musicians becoming regular visitors to the Conservatoire – with a performance by DMS musicians forming part of the Conservatoire's 2015

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PLUG festival of new music. This encouraged disabled student composers to speak more about their work, both within but also beyond the dedicated module, a change in practice that has gathered momentum and increased in its impact over time such that former student composers are who are themselves disabled (such as Rylan Gleave, and Siobhan Dyson) are finding success, and further promoting a more inclusive, expansive and challenging view of musical composition. Other 'graduates' of the module include Electra Perivolaris, Ambassador for the BBC Young Composer Competition, and the approach taken has been shared widely with, for example, Searle speaking about the module at the 2015 European League of Institutes of the Arts (ELIA) Teaching Academy in Tilburg, the Netherlands.

The DMS Digital Orchestra was launched in 2016 and is a direct outgrowth from *Technophonia*. When the Conservatoire hosted the 2016 Conference of the International Society for Music Education (ISME) the Digital Orchestra was a highlight of the performance programme. Searle and Sparkes presented their work together in a demonstration entitled: 'Overcoming Challenge with Creativity', which referred to *Technophonia* and included a live performance by Digital Orchestra musician Rhona Smith and some of the Conservatoire students who had taken the module, performing a new piece the students had composed as part of the course.

The Digital Orchestra is now an Associate Member of the Association of British Orchestras, and the young musicians of the Orchestra have been invited to perform internationally, including at the True Colours Festival in Singapore to an audience of over 10,000. The second commission from Searle - *Microscopic Dances* – with new technologies, new notation, and more complex structures, and supported by an Athenaeum Award from the Conservatoire, helped to push the development of the Digital Orchestra even further.

Performances in which young disabled performers are highly visible have helped to raise awareness of the creative capacities of disabled young people. DMS's campaigns supporting young disabled musicians - #iamamusician – are likewise linked to a new ambition to support disabled musicians at all stages in their musical development. DMS is now commissioning more disabled composers – often the 'graduates' of Searle's module at the Conservatoire – and the ambition of the Digital Orchestra continues to grow with, for example, the Diversions project led by disabled composer Ben Lunn in partnership with the Hebrides Ensemble, which won both the ISM Collaboration Award and the RCS Making It Happen Award at the 2020 Scottish Awards for New Music. Ben Lunn has also taught on the Conservatoire module.

For DMS, *Technophonia* helped to tilt the balance from supporting musical activity (for example, in special schools), to a more focussed pursuit of music education opportunities – a pathway of development – for young disabled musicians. The stages of music education open to those in mainstream education, such as instrumental lessons, school bands and community ensembles, are not generally there for disabled musicians, and so neither are there opportunities for them to develop the social and collaborative skills that come with group music making. The pathway of opportunity is narrow and, in particular, there are few opportunities for young disabled musicians who aspire to sustain their own development as musicians.

High profile performances and broadcasts, and award-winning music like *Microscopic Dances*, together with changes in the training of young professional musicians, are helping effect a sea-change in the new music world – but also a change in society's perceptions. Thursa Sanderson OBE, CEO of DMS, has this wider objective firmly in her sights: 'This is as much about the audiences as it is about the musicians. The audience sees a disabled musician on stage and then sees them differently'.

As the judges of the 2018 British Composers Awards state: 'there is nothing microscopic about the ambition and impact of this courageous work'.

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

- 1) BBC News item on *Technophonia* (2012) [outwith the AP, but a good introduction to the music and the impact]
<https://www.youtube.com/watch?v=D7Hdy9x4U8M>

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- 2) Factual Statement from DMS. Available on request.
 - 3) DMS Introduction to its Digital Orchestra (citing role of *Technophonia*).
<https://drakemusicscotland.org/what-we-do/digital-orchestra/>
 - 4) Retrospective on DMS 20th Anniversary (discussing *Technophonia* and the Digital Orchestra)
<https://www.ism.org/features/drake-music-scotland>
 - 5) Creative Scotland article on *Microscopic Dances* (2017) premiere
<https://www.creativescotland.com/explore/read/stories/music/2017/drake-music-microscopic-dances>
 - 6) Press release for British Composer Awards 2018, referring to *Microscopic Dances* and giving source of quotation in the summary above.
<https://ivorsacademy.com/wp-content/uploads/2019/03/British-Composer-Awards-2018-Winners-FINAL.pdf>
 - 7) Royal Society of Edinburgh Young Academy of Scotland Arts and Humanities at the Parliament event 8 October 2014, featuring a case study on *Technophonia*.
https://www.youngacademyofscotland.org.uk/wp-content/uploads/Arts_and_Hums_Brochure.pdf
 - 8) Case study of Digital Orchestra member Paul Duff (for RS MacDonald Charitable Trust)
<https://www.rsmacdonald.com/story/drake-music-scotland/>
 - 9) New Music Scotland Awards 2020, nominations for ISM Collaboration Awards, referring to *Diversions* and the DMS Digital Orchestra.
<https://newmusicscotland.co.uk/awards2020-collaboration/>
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