

<b>Institution:</b> De Montfort University		
<b>Unit of Assessment:</b> 33		
<b>Title of case study:</b> DIY and Maker Music: Changing Attitudes to Music Creation and Consumption; Developing New Musical Technologies and Communities		
<b>Period when the underpinning research was undertaken:</b> 2003–present		
<b>Details of staff conducting the underpinning research from the submitting unit:</b>		
<b>Name(s):</b>	<b>Role(s) (e.g. job title):</b>	<b>Period(s) employed by submitting HEI:</b>
Dr John Richards	Reader in Music	1 October 1999–present
<b>Period when the claimed impact occurred:</b> January 2014–December 2020		
<b>Is this case study continued from a case study submitted in 2014?</b> N		
<b>1. Summary of the impact</b> <p>Dr John Richards' research into DIY and Maker music has led to new musical communities and experiences, producing cultural objects that combine visual arts, music and electronics. By taking electronic music back to a fundamental level of wires, components and electricity, Richards has changed how music is consumed and disseminated. From 2014 to present, he has received 30-plus new commissions for large-scale participatory events that have directly impacted communities in Europe, the USA, China and Japan. He has specifically influenced the teaching of DIY electronic music in Greece and Cyprus. His work – and he himself – has featured in films, videos, exhibitions and numerous broadcasts on radio and online, reaching tens of thousands of viewers, readers and listeners worldwide. His Mute Synth and versions thereof have been used by novices and well-known composers alike to create innovative new music.</p>		
<b>2. Underpinning research</b> <p>All articles were published in international, peer-reviewed journals; and commercial partnerships and commissions were from leading organisations in the field of electronic music and the arts.</p> <p>In the late 1990s, the digital era completely transformed access to information and technology, narrowing the gap between professional and public and enabling new possibilities for 'bottom-up' media production that was more accessible and less expensive than the 'top-down' corporate approach. The DIY and Maker communities that emerged at the time provide a context for Richards' distinctive research profile that focuses on shared experience, collective instrument building, the concept of the 'living' installation and authentic performance where instruments are played by non-experts. Richards' research also addresses the ideology behind the 'democratisation of technology', the cultural activity that resulted from it, and the impact on music and music technology – how it is consumed, disseminated and, most significantly, experienced.</p> <p><b>(1) DIRTY ELECTRONICS: PARTICIPATION AND ENGAGEMENT</b></p> <p>Since 2003, Richards has explored a music aesthetic emphasising face-to-face experiences and social interaction, and engaging physically with making sound and the materials that make sound [R1]. This approach, known as Dirty Electronics, is fundamentally concerned with active engagement and participation within music. There is also a strong connection between the process of building instruments and performance. A new piece for Dirty Electronics often begins with an idea for a sound-generating device that can be built and played by more or less anyone and becomes a catalyst for composition and large-group performance. Activities are often run outside the academic environment; they draw on a range of social and cultural demographics and are run as grassroots initiatives that are not solely reliant on funding [R1, R2]. Further research undertaken by Richards shows that DIY and Maker music encourage greater access to new forms of music-making and female participation in electronic music [R3].</p> <p><b>(2) INNOVATIVE FORMS OF TECHNOLOGY: PHYSICAL EDITIONS</b></p>		

In 2011, Richards collaborated with Mute Records, one of the most influential, commercially successful and long-lasting British independent record labels, and graphic designer Adrian Shaughnessy, to bring together many Dirty Electronics aesthetics into a sound device 'of the hand': an alternative format to the CD or digital download/stream. The result was the Mute Synth, a hand-held touch and tilt instrument with copper etched artwork and contoured printed circuit board that combines sound synthesis with a sequencer. The Synth is controlled by the conductivity of the human body which completes the instrument's circuit when the copper etching is touched. The Mute Synth premiered at the Short Circuit meets Mute event at the Roundhouse in London attended by 4,000 people. Mute Synth was followed by Mute Synth II in 2014 [R4] and Mute Synth 4.0 in 2018 [R5]. The Mute Synths were all designed to be battery-powered and portable, encouraging use in everyday spaces beyond the recording studio. In 2017, he collaborated with designer Jack Featherstone on *Polytik* (bleep/Warp Records) [R6]. *Polytik* (a play on the word *polyptych*) explores electronic components, not only for functionality, but also their visual qualities, where components are laid out in abstract and graphical patterns. Circuit board production processes of coloured protective lacquers, copper traces, tin coatings and screen prints inform the design.

### (3) COMPOSITIONAL WORKS: MUSIC AND PERFORMANCE

Through exploring the physical nature of electronic sound, Richards' research has become increasingly multidisciplinary, drawing on electronics, graphic design and information and experience design. Many of Richards' works highlight a technological process that is examined through music and performance: for example, *Hope* (2011) at Festival of Britain 60th Anniversary, Southbank Centre, London; *Data Trail* (2013) at Edinburgh Science Festival; and *Hidden Sine* (2015) at Electronic Music Week, Shanghai Conservatory of Music. Much of the research draws on the concept of composing inside electronics and performing through objects.

### 3. References to the research

- [R1] Richards, J. (2008) 'Getting the hands dirty', *Leonardo Music Journal*, 18: 25–31; <https://doi.org/10.1162/lmj.2008.18.25>
- [R2] Richards, J. (2013) 'Beyond DIY in electronic music', *Organised Sound*, 18(3): 274–281; doi: 10.1017/S1355771813000241
- [R3] Richards, J. (2016) 'Shifting gender in electronic music: DIY and maker communities', *Contemporary Music Review*, 35(1): 40–52; <https://doi.org/10.1080/07494467.2016.1176771>
- [R4] Richards, J. (2014) *Dirty Electronics: Mute Synth II*, Mute Records [hand-held synthesiser, CD and booklet]. CD includes music by Dirty Electronics (John Richards, Chris Carter, Simon Fisher Turner, et al); <http://www.dirtyelectronics.org/mutesynth2.html>
- [R5] Richards, J. (2018) *Dirty Electronics: Mute Synth 4.0*, Mute Records [hand-held synthesiser, composition and booklet]; <https://www.dirtyelectronics.org/shop.html>. See also: <https://www.dora.dmu.ac.uk/xmlui/handle/2086/17034>
- [R6] Richards, J. and Featherstone, J. (2017) *Polytik* [hand-held synthesiser, composition and booklet]; <https://www.dora.dmu.ac.uk/handle/2086/13690>. See also: <https://bleep.com/merch/label/6906-polytik>

#### Grants:

- [G1] EU Cultural Grant (2016–2019): Creative Europe *Interfaces* is an EU Culture project involving eight other European partners (total funding EUR3,800,000). DMU amount EUR517,000 (with Leigh Landy). Richards was lead researcher on two projects: DIY Instrument Making/Hacking and Telematic Hacking.

### 4. Details of the impact

Dr John Richards' research into DIY and Maker music has had an impact on understanding, learning and participation, by empowering individuals to actively engage in the creation of new music and make their own instruments and devices, and by training teachers to include electronic music in their lessons. His work has also had an impact on creativity, culture and

society by featuring in films and videos, in books on popular music and music studies, in museum exhibitions and public lectures on art and design, and in specialist and mainstream media. Finally, his research has had an impact on production, with the commercial manufacture and marketing of hand-held battery-powered synths, such as the Mute Synths.

### **(1) DEMOCRATISING MUSIC-MAKING**

Richards' philosophy is described by Lourdes Garcia as having 'created an environment of true participatory, DIT [do it together] art and made the practice of music more democratic' [C1: 228]. This is corroborated by the many leading contemporary art and music institutions that have commissioned Richards to create participatory events for large groups and ensembles. These have included synth-building workshops and performances. Richards has contributed significantly to changing behaviours of music festival goers, for example, at Sónar, the largest festival of electronic music internationally with global franchises [C2]. Sónar Barcelona has in excess of 100,000 people attending. Building on his contributions to Sónar Barcelona 2012 and 2013, Richards ran participatory events at: Sónar Reykjavik (2016); Insomnia Festival (2016) (Norway), part of the We Are Europe programme in partnership with Sónar and funded by an EU Cultural Grant; and Sónar Hong Kong (2017) [C2]. Typically, the events would host 30 participants and run multiple times daily. These events benefited the broader community by breaking down the distinction between amateur and professional in favour of establishing a non-hierarchical 'participant' and encouraging festival attendees from a range of musical backgrounds, such as DJing and dance music, to engage in experimental electronic music. Richards has contributed to the 'participatory turn', changing music festival attendees from passive consumers of 'the acts' to active participants creating their own devices for sound-making. These events were also staged as 'public making', a form of 'performance-installation', where audiences could observe the activity, thus further disseminating the research.

### **(2) ENGAGING GREEK YOUTH WITH DIY MUSIC**

As part of the Creative Europe *Interfaces*, an EU Culture-funded project [G1] with a focus on bringing new audiences to new music, Richards developed workshops for schools and ran induction events for teachers and artists in Athens, Greece, in partnership with the Onassis Cultural Centre (OCC). Between 2018 and 2020, three-hour workshops, titled *DIY: Making Our Own Musical Instruments*, reached around 400 primary and secondary students (ages 10–15 years) in six to eight sessions over two months. The children, many of whom were from refugee or immigrant communities and had no music experience at all, made simple DIY acoustic and electronic music instruments using recycled materials, electronic circuits and components, and created their own sound compositions, improvising and performing in small groups and then as one big ensemble in an event for teachers, children, family and friends, organised by the OCC.

Gelina Palla, a visual and sound artist and art teacher at the 1st Experimental High School of Athens, who conducted many of the workshops, says: 'The students were very engaged in all of the activities ... many children asked where they could find materials to continue experimenting and stated that they didn't want the workshop to end' [C3]. The materials used in the workshops were donated to schools for use in future workshops and performances. A toolkit of educational material was completed and translated into English during the lockdown of 2020 and is available through the OCC website to all teachers and artists interested in organising similar workshops at schools and in the community [C3]. Palla herself has continued to run workshops for students and adults in schools and the community, and says:

This experience triggered further work and led me and my colleagues to extended research into the fields of experimental music, DIY and maker culture, the history of new music during the twentieth century, and contemporary practices in participatory art creation and education ... Richards' approach to music embraces grass-root movements based on hacking on the one hand and circuit bending / dirty electronics on the other. Both open immense possibilities for popularizing innovative music making and thus break down the barriers between the research centre and society at large, especially youth. [C3]

### **(3) CONTRIBUTING TO CULTURE AND INSPIRING CREATIVITY**

Richards features as a 'leading protagonist' in electronic music in *The Sound is Innocent* (2018) [C4]. Johana Ožvold, the director, described Richards as one of 'five leading protagonists [who] have transformed art, culture and even public life ... The idea to create the film as an interface of events – the "object" to connect, meet and share, and disseminate – was fundamentally inspired by his works' [C4].

The film premiered at Visions du Réel / Burning Lights documentary film festival in Nyon, Switzerland in April 2019 and has been screened 63 times at leading film and music festivals: Barbican, London (Doc n Roll Festival); Sheffield Doc/Fest; MUTEK Festival, Canada; Revelation Perth, Australia; and DOK.fest Munich, Germany. In September 2019, it received Special Jury Mention for Best Documentary Feature in the See the Sound competition at SoundTrack Cologne. The film was also screened at alternative, small cultural venues run by enthusiasts, and in small towns and cities throughout Europe. Ožvold observed that: 'For many people, this was their first contact with electronic music culture. In Q&A sessions after screenings, we were inspired by questions raised by the film' [C4].

Richards' compositions have been broadcast on BBC Radio 3 (*Late Junction* special with Gabriel Prokofiev, 26 December 2017); Czech Radio (Dirty Electronics, *Making for Radio*, 24 November 2017); and Dommune Tokyo (one of the world's leading streaming channels, with an average of 10,000 viewers per stream and reaching in total 50,000,000 viewers worldwide) (live performance/broadcast/stream, 12 September 2017) [C5].

During the 2020 pandemic, London-based arts organisation Nonclassical ran online international workshops, promoted by the British Council on Twitter, to give aspiring musicians a chance to start or develop their own creative practice. DIY synth-building was one of the topics offered, alongside extended violin techniques, turntablism and contemporary composition in what is described as 'a host of eclectic practices from the front lines of the contemporary music scene' [C6].

The benefits of Richards' research have extended beyond music to a range of design-related areas, demonstrating wider impact within the arts. *Polytik* has featured in exhibitions at the V&A (2018), the Philharmonie de Paris (2019), and the Design Museum, London (2020) [C7].

Richards has been a guest speaker at leading design institutions such as Royal College of Art (2014/2015), Copenhagen Institute of Interaction Design (2014) and Tama Art University, Japan (2017).

#### (4) COMMERCIALISATION OF MUTE SYNTHS

Some of the sound objects created for participatory events have led to commercial products in collaboration with leading record labels in electronic music. The releases of the Mute Synth II (2014) and Mute Synth 4.0 (2018) brought a new type of 'product' to market and reached a global market, exceeding 3,000 sales. Most retailed for around GBP100, but signed, limited editions went for many times that, and are still traded as collectables on eBay [C8]. The Mute Synth II was released with a CD of music created with the synth by various artists; it was featured in London's *Evening Standard* ('We will, we will rock yule', 25 November 2015) as an ideal Christmas gift [C9]. The two synths were distributed with a booklet containing documentation and text by Richards on music for DIY electronics. Since 2014, the Mute Synth videos have received approximately 37,000 plays, and the Dirty Electronics webpage, where music examples and documentation of circuits and instruments can be downloaded, receives on average 1,000 visitors globally per month [C10]. This resource has helped contribute to the diverse community of DIY electronic music. The synths have been used to create music by hundreds of musicians, from novices through to established artists such as Vince Clarke, who wrote for 1980s bands Erasure, Depeche Mode and Yazoo. They have been featured on social media channels (Twitter, YouTube) by musicians (English post-punk band A Certain Ratio; Jas Shaw of Simian Mobile Disco), music events (Sónar+D) and retailers (Amazon Music) [C9].

#### 5. Sources to corroborate the impact

- [C1] García, L.N.C. (2019) 'Composing in circuitry: sonic artist Dirty Electronics', in Z. Beaven, M. O'Dair and R. Osborne (eds) *Mute Records: Artists, Business, History*, London: Bloomsbury, pp 223–234; ISBN 9781501340604

**[C2] Sónar**

<https://sonar.es/en/2021/what-is-sonar>

<https://sonar.es/en/2021/past-editions-2015>

<https://www.insomniasfestival.no/2016/events/insomnia-scream-with-dirty-electronics>

<http://weare-europe.eu>

<https://sonarhongkong.com/en/2017/artists/dirty-electronics-jack-featherstone-polytik-sonar-d>

**[C3] Testimonial from Gelina Palla, letter, 27 November 2020.**

Educational Toolkit; <https://www.onassis.org/whats-on/diy-build-your-own-musical-instruments/diy-building-our-own-musical-instruments-educational-material> |

**[C4] *Sound is Innocent* (2018) – Dirty Electronics / John Richards features as one of five artists in film. Supported by the Czech Film Fund; <http://thesoundisinnocent.net/en/> Testimonial from Johana Ožvold, letter, 10 November 2020.****[C5] Compositions and broadcasts**

Late Junction BBC Radio 3; <http://www.bbc.co.uk/programmes/b09k6gm8> (listing – excerpt only). Czech Radio, *Making for Radio*; <https://www.radiocustica.cz/dirty-electronics-john-richards-a-studenti-amu-de-montford-university-uk-7586957>

Dommune Tokyo streaming channel; <https://www.dommune.com> (5.5 dommune JAPANESE LANGUAGE.pdf).

**[C6] Nonclassical workshops**

<https://www.nonclassical.co.uk/events/2020/3/18/thrupenny-synth>

<https://www.nonclassical.co.uk/events/2020/3/18/radical-nails>

**[C7] Exhibitions**

Videogames: Design/Play/Disrupt, V&A, London (2018/2019) – *Polytik* (2017) part of exhibition and feature in catalogue; <https://www.vam.ac.uk/blog/projects/videogames-an-interview-with-sound-designers-coda-to-coda> (5.7 polytik.pdf).

Electro Exhibition, Philharmonie de Paris (2019) – *Polytik* (2017) part of the exhibition; <https://philharmoniedeparis.fr/en/electro-exhibition>

Electronic: From Kraftwerk to the Chemical Brothers, Design Museum, London (2020) – *Polytik* (2017) part of exhibition and feature in catalogue; <https://designmuseum.org/exhibitions/electronic-from-kraftwerk-to-the-chemical-brothers>

**[C8] Mute Synth 4.0 distribution (5.8 Mute Synth dist.pdf and <http://web.archive.org/web/20190423002226/https://mutebank.co.uk/products/mute-4-0-synth>); limited edition signed copies (5.8 Mute Synth limited ed.pdf and <https://tinyurl.com/y2jo4hfj> ).****[C9] Press and social media**

Mute Synth II, Evening Standard, 25 November 2015 (5.9 eveningstandard.pdf).

Social media references (Twitter, YouTube) by musicians (English post-punk band A Certain Ratio; Jas Shaw of Simian Mobile Disco), music events (Sónar+D) and retailers (Amazon Music) (5.9 press social media.pdf).

**[C10] Dirty Electronics website: archive of commissions, physical editions and additional documentation; <https://www.dirtyelectronics.org/menu.html>**