

CHASING SONIC THREADS: DISENTANGLING THE ELECTROACOUSTIC TAPESTRY OF IRELAND★

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Abstract: This article seeks to initiate discourse around the vibrant and somewhat uncharted electroacoustic weave that significantly contributes to Ireland’s musical tapestry through a consideration of six diverse threads: Softday, Jennifer Walshe, Karen Power, Linda Buckley, Fergal Dowling and Jonathan Nangle. Investigation of Ireland’s recent electroacoustic scene will confirm that an emerging DIY aesthetic aligns with international trends of the past decade, with pop-up events, improvisation groups, experimental music collectives and intermedia festivals providing avenues for collaborative and creative expression. It will provide contrasting, yet interconnected examples of what will be termed ‘DIYing’ including a discussion of influences, concepts, practices and brief analyses of works. It is hoped that this article will see the beginning of a wider acknowledgement of the rich musical dialogues that are taking place.

‘Power comes from celebrating difference’:¹ Jemima Foxtrot, performance poet

When contemplating electroacoustic music in Ireland, Foxtrot’s words ring sonorously true. Atkinson and Emmerson tell us that: ‘Within the seemingly vast and proliferating range of practices grouped together under the umbrella term “electroacoustic music”, there appears a diversity and plurality of musical landscape that is perhaps without precedent’.² A brief perusal of the Electro-Acoustic Resource Site (EARS) confirms the continually expanding array of subsets stemming from and contributing to this blanket label.³ In recognition of the fact that ‘electroacoustic’ as a contested term can connote very different

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¹ Jemima Foxtrot, *New Tate Modern: Switched On*, special programme for the opening of the New Tate Modern, London, BBC Two, aired 18 June 2016.

² Simon Atkinson and Simon Emmerson, ‘Editorial’, *Organised Sound* 21 no. 1 (2016), pp. 1–3, here p. 1.

³ See the ‘Genres and Categories’ section of the EARS site: <http://ears.pierrecoupric.fr/spip.php?rubrique3>.

things – or nothing at all – it is deliberately employed here in its broadest sense, to mean any art work that exploits elements of the electric and the acoustic in a concrete or obscure way. This article also omits many creative strands that contribute to the vibrant texture of the current electroacoustic and new music scenes in Ireland. This is simply a snapshot in time, a representative sample of six diverse compositional threads across somewhat imprecise generational groupings: Softday (Sean Taylor and Mikael Fernström), Jennifer Walshe, Karen Power, Linda Buckley, Fergal Dowling and Jonathan Nangle.⁴ Nor does this article attempt to wholly define any of these compositional voices; their diverse outputs and multi-faceted approaches defy conventional musicological definition.

Context

The pulse of new music in Ireland is strong and its electroacoustic vein is healthy, with diverse outputs providing rich nourishment. This is despite the significant reduction in support for arts and culture since the economic downturn. Government investment is currently set at 0.1 per cent of GDP while the European average stands at 0.6 per cent; this places Ireland bottom of the list of EU countries.⁵ While the Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs (the scope of which, as the name suggests, is perhaps too widespread for one department) has made a noteworthy commitment to build on the successes of the Ireland 2016 centenary year during a five-year Creative Ireland initiative, recently awarding an extra five million euros to the Arts Council, two million to the Irish Film Board and one million to Culture Ireland, overall spending in 2017 is down by 16 per cent on the previous budgetary year.⁶ Additional funding will undoubtedly be attributed to wider community arts and education projects, with a significant chunk of the Arts Council's current music subsidy just announced for opera development.⁷ These are all worthy initiatives, but where is the explicit and longer-term commitment to investing in new music practices, in particular the wide-ranging electroacoustic variety discussed in this article?

A survey commissioned by the Arts Council entitled 'The Arts in Irish Life' revealed that between October 2013 and May 2014, 71 per cent of the nationally representative sample of adults surveyed agreed that the arts play an 'important and valuable role in a modern society', with 60 per cent agreeing or strongly agreeing that 'even in current economic circumstances local authorities and central government should maintain their level of funding to the arts'.⁸ However, only 66 per cent agreed that 'today's arts and artists are as important to our society as the legacy of the arts and artists of the past'.⁹ This statistic is disconcerting, especially when electroacoustic music will

⁴ Unless otherwise stated, all quotations are extracted from interviews conducted with composers in researching this article.

⁵ Statistics according to the National Campaign for the Arts as extracted from the Council of Europe. See <http://ncfa.ie/news>.

⁶ For more information on the Creative Ireland Programme, please see: <http://creativeireland.ie>.

⁷ See www.artscouncil.ie/News/Arts-Council-announces-major-new-opera-initiatives/.

⁸ The findings of the report carried out by Kantar Media TGI mostly related to the Republic of Ireland Target Group Index (TGI) 2014 – a survey conducted between October 2013 and May 2014. Valid results were obtained from a total 2,971 adults who completed a paper questionnaire and were considered a nationally representative sample of adults aged 15+ resident in the Republic of Ireland. See www.artscouncil.ie/News/Arts-attendance-jumps-Irish-remain-%E2%80%98creative%E2%80%99-new-survey-shows/.

⁹ 'The Arts in Irish Life' survey.

always be considered a niche player in the wider arts and culture context, irrespective of both its contribution to art and its experiential impact. Another worrying statistic is that more than 20 per cent of young people aged 15 to 24 expressed dissatisfaction with the information about the arts available to them.¹⁰ This is, however, outside the remit of this article.

A clear deduction can be made: as with other arts genres in Ireland, electroacoustic music is in a state of flux. In the words of Samuel Beckett: 'Where I am, I don't know, I'll never know ... you must go on, I can't go on, I'll go on'.¹¹ Linda Buckley takes a positive view on the current situation, asserting that 'the main trend is that there is no trend'. Instability has provided a renewed impetus for new approaches to creating and experiencing electroacoustic art: DIY – doing-it-yourself with or without support.¹²

'DIYing', as it will be called here, might be said to be an overall approach and creative behaviour most often encompassing heterogeneous approaches and hybridisations that centres around 'doing it anyway' no matter the challenges. Indeed, the 2014 SPOR festival in Aarhus, Denmark, guest curated by Jennifer Walshe, purposefully encouraged such behaviour in its title, 'Do It Anyway'. Most DIYing in Ireland is practised outside an institutional context but is not devoid of connections to it. Many active practitioners engaging in DIY events are also studying or working at tertiary institutions or have graduated from accredited programmes, and not all DIY events go unfunded. Much of the time, events are facilitated by collectives or performing groups. Collaborative or solo work can be prepared or improvised, cross-disciplinary, cross-media, cross-location, employ technologies and a variety of materials in new ways to create engaging performances, working musical instruments, installation art, dance, theatre, and so forth. Audiences or discrete members of communities of practice may be involved in the making of electroacoustic art. Irrespective of the methods of production or modes of presentation, the mutual vein running throughout is that of shared interests and values, and a genuine thirst for doing something different, in a different way.

It may be suggested that some form of self-sufficient attitude or practice has always been an inherent part of the bond between artist and medium (or in this case, media) reflecting a true commitment to the artist's calling. Notwithstanding this contract, DIYing could be considered an inevitable consequence of the digital age we live and act in, with easy access to the myriad genres of music or open source software via smartphone technology. It could also be posited that its emergence is simply due to creativity's innate refusal to stand still; indeed, its impatience in waiting for academic or government bodies to categorise and prioritise projects is palpable.

In his extended essay, *Cultural Hybridity*, the influential cultural historian Peter Burke discloses that in the present moment in our culturally globalised world, 'it is difficult to deny that what we see, hear and experience ... is some kind of mix, a process of hybridization'.¹³ Atkinson and Emmerson advise that:

¹⁰ 'The Arts in Irish Life' survey.

¹¹ The final line from Samuel Beckett's novel *The Unnamable*, first published as *L'Innomable* (Paris: Les Éditions de Minuit, 1953).

¹² Support here refers to financial backing or assistance with dedicated venues, space, technologies, and so forth.

¹³ Peter Burke, 'Introduction', in *Cultural Hybridity* (Cambridge: Polity Press, 2009), p. 2.

It would be wrong to think that hybridisation of genre and style is somehow a phenomenon that technology has 'let loose', but it has profoundly changed its nature. Something that is made 'easier to do' changes social habits (witness social and smart media), and in time leads to new practices, new ways of viewing existing genres – and perhaps new genres themselves.¹⁴

Barry Truax, reflecting on journal articles from the early 1990s in which he tried to predict future paradigm shifts in electroacoustic music, confesses that 'it would have taken a gifted futurologist to predict the power and ubiquity of handheld and other portable devices today in terms of audio'.¹⁵ He adds: 'it is not unusual today to see a handheld device producing real-time granular synthesis or granulation of sampled sound'.¹⁶ Toner Quinn considers the consequences of making art in this expanding digital environment:

The splintering of our musical life continues apace, driven inexhaustibly by our digital world. The future we are heading towards is one where micro music communities proliferate, as artists, with unbounded access to new sounds and ideas, create endless types of musical expression. With every new artistic stretch, audiences too become stretched. Something will break. Perhaps everything will.¹⁷

He goes on to say that '[f]or listeners, this is a golden age; for artists, it's a creative nirvana; for promoters, the brave ones, it is an opportunity'.¹⁸ Interestingly, Quinn's article commences with a reminiscence of reorganising records into their correct sleeves as a child on holidays. He says of this:

I never knew what to do with the Roger Doyle records. And so I gave them a section of their own. I was still a child when I related this unfortunate news to Roger, who said it was the greatest compliment that somebody could give him, which of course confused me entirely. Doyle may have been my first introduction to the splintering music world.¹⁹

Eimear Noone, the Los Angeles-based Irish composer of video game music and curator of the independent iDigMusicFest, is more pragmatic: 'Collaborative media perhaps play an even bigger place in the life of the twenty-first century composer, it now having become de rigueur for all technological forms of entertainment to have their own score' – whatever form that score may take.²⁰ No matter the opinion held, technology's relationship with the creative arts is not going away anytime soon.

Looking back on the brief history of electroacoustic music in Ireland, it would be all too easy to declare that there were far more opportunities for a young Roger Doyle in the early 1970s than for a young Jonathan Nangle in the 2010s. Certainly, Doyle was afforded many opportunities, most of which involved studying abroad: at the University of Utrecht, in Salzburg, at The Hague, at the Finnish Radio Experimental Music Centre in Helsinki, all with foreign government scholarships. But the reality is that there are more composers, more performers, more

¹⁴ See Atkinson and Emmerson, 'Editorial', p. 3.

¹⁵ Barry Truax, 'Paradigm Shifts and Electroacoustic Music: Some personal reflections', *Organised Sound* 20(1): 105–110 (Cambridge: Cambridge University Press, 2015) p. 107.

¹⁶ See Truax, 'Paradigm Shifts', p. 105.

¹⁷ Toner Quinn, 'The Splintering: Towards a Future of Micro Music Communities', *The Journal of Music* (published online 23 May 2014) See <http://journalofmusic.com/focus/splintering>.

¹⁸ See Quinn, 'The Splintering'.

¹⁹ See Quinn, 'The Splintering'.

²⁰ Eimear Noone, 'From Bleeps and Bloops to the Epic Theme: The Rise of Video Game Music', *The Journal of Music* (published online 26 April 2016) See <http://journalofmusic.com/focus/bleeps-and-bloops-epic-theme-rise-video-game-music>.

institutional graduates of music, technology, and multimedia programmes in Ireland in 2017 than could ever have been imagined in 1974, and all are seeking support, opportunities and financial assistance from a shrinking purse that was never deep enough.

At the forefront of education and research in electroacoustic music and multimedia are Trinity College Dublin, the University of Limerick and Queen's University Belfast. These institutions have played a part in shaping some of the leading advocates and practitioners of this new DIY aesthetic, including most of those featured in this article. Jennifer Walshe, Jonathan Nangle, Linda Buckley and Fergal Dowling all attended TCD and Karen Power studied at SARC in Belfast. Sean Taylor and Mikael Fernström come from different backgrounds, Fernström originally from electronic engineering and telecommunications, and Taylor from fine art sculpture. All seven are actively involved in higher education research-led teaching both in Ireland and abroad; in so doing, they impart the principles and practices of DIYing to younger generations. For instance, Walshe, in her teaching role at Brunel University London, recognises the various situations that younger student composers now find themselves in: 'I was like that; that person was me'. In assisting them on a personal journey to realise creative work in their own unique way, Walshe imparts some of her influence, knowledge and experience of DIY practice to them:

[E]very composer [wants] to write in a certain way . . . but he [Amnon Wolman, her mentor at Northwestern University] used to say to me: 'Your job as a teacher is just to sort of listen to the person until you figure out what it is they really want to do and then help them do it and give them the technique that specifically they need which is not going to be the same for every student because different people want to do different things'.

She provides an example:

When I have students and they come in and say: 'I think I wanna do a piece with a paper bag', my job is to say: 'What type of paper? Is it recycled paper? Did you make it yourself by hand from onions that you saved? How heavy is the paper? How big is the paper? Have you looked at the paper industry?'

Softday's engagement with communities of interest allows them to practice shared-knowledge exchanges. In this way, they maintain a 'two-way conversation at all times'. The sonic results of these dialogic interactions are considered 'co-authored' and Softday acknowledges the value of such contributions, 'allocating them the proper position within the compositions'.

This sense of collaboration and community predominates the various collectives and ensembles participating in DIY practices. The Dublin Sound Lab (DSL), established in 2008 by Fergal Dowling with organist Michael Quinn, initiates interchanges of composers, performers and technologies, providing opportunities for exploration into new works by upcoming and established Irish electroacoustic composers (for example, Anna Murray, Judith Ring, David Bremner and Gráinne Mulvey), the performance of works by international composers such as Jean-Claude Risset, Barry Truax, Karlheinz Essl and Gérard Grisey, and workshops, discussions and free recordings of composers' works at the Music Current Festival. They also commission music and visual art work including, in 2013, a large-scale video work from Cork-based artist Ailbhe Ní Bhriain to accompany

the DSL performance of the seven-movement mixed media work, *Mirrors of Earth* by Kaija Saariaho.²¹

The Irish Composers' Collective, which has been labelled a 'ready-made community of creators, performers, and listeners ...', collaborated with Ensemble Music in 2015 to present the 'ICC Takeover' of No. 45 Merrion Square Dublin, a Georgian mansion that houses the Irish Architectural Archive.²² The programme included music, film, dance and spoken word installations with a different composer occupying each of the seven rooms in the building. Other examples include the Dublin Laptop Orchestra and the Spatial Music Collective (of which Nangle and Buckley are members). Since 2009, the curator-performers of the 'Kaleidoscope Night' series have been championing contemporary and classical music by presenting new or lesser-known works outside of the concert hall in a more relaxed and social setting. This informality seeps through to pop-up events or gatherings such as listening clubs that regularly take place among like-minded individuals. The invaluable work of the Contemporary Music Centre (CMC) in promoting and supporting individual composers, ensembles and events should also be noted.²³

This proliferation of DIY ensembles, cross-disciplinary collaborations and improvisatory events, not to mention annual festivals and academic symposia, has resulted in a melting pot of musical expression in Ireland where classical, rock, pop, electroacoustic and traditional musics could easily be placed side by side on a concert programme, although this tends not to happen often at larger events. It is perhaps an obvious point to make that no distinctly 'Irish' style of electroacoustic music exists, or is unlikely to ever come into being. Certainly, the idea of using geography as an indicator of creative style is inappropriate. This itself opens the door for creative expression that is freed from the shackles of tradition. Buckley feels that 'there's something uniquely positive about being from Ireland ... we don't have that kind of weight of history on your shoulders'.²⁴ Fernström agrees: 'The reason I think that Ireland is a great place for creativity is because there's actually a lot of freedom. Quite often when you do something different you're not condemned ... you're still allowed to exist'. Younger composers start out in this freer environment, so, as Buckley points out, they 'are not afraid to mix' and 'moving between worlds seems natural'.

The autonomy of DIYing has to some extent resulted in the diversity of approaches, practices and outputs discussed below, but it cannot be said to be a uniquely Irish phenomenon. The 2014 SPOR festival mentioned earlier included a hackathon where participants collaborated to 'make something' within a given timeframe, and during the festival's seminar it was suggested that "the process, the way people create music today, is radically being rethought" across the world'.²⁵ Following this thread, a prominent theme of the 2015 Toronto International Electroacoustic Symposium (TIES) was 'Cross-Media Practices and the Body in Performance', where

²¹ For more information, see www.dublinsoundlab.ie.

²² See www.irishcomposerscollective.org/about/, referencing Tom Service's writing on the collective in *The Guardian*, 2008.

²³ See www.cmc.ie/composers.

²⁴ Extract from 'Cross Currents Radio Series' featuring contemporary Irish composers and their works, including Linda Buckley. The series was broadcast on RTÉ Lyric FM across three Fridays, 9, 16 and 23 September 2016. See www.cmc.ie/features/cross-currents-radio-series-audio-shorts.

²⁵ See Quinn, 'The Splintering'.

contributors presented works that had emerged from collaborations between sound and visuals, sound and body, and sound and sculpture. In a recent issue of the Canadian Electroacoustic Community's electronic journal *eContact!*, purposefully entitled 'Sonic DIY: Repurposing the Creative Self', James Hullick evaluates his personal motivations for establishing the Melbourne-based sound art organisation JOLT Arts:

As a young composer in Australia, with limited prospects, I came to the realisation that I would either have to give up my art or get on and organise it myself: find the musicians, pay the musicians, book the venue, advertise the event ... entities such as JOLT are useful for challenging bigger institutions to be better at what they do.²⁶

He appends a note of warning: 'Ultimately those who sign up for DIY acts must accept the fine print that states: "This may not work out"'.²⁷ In the same issue, Jean-Michel Maujean and Cissi Tsang discuss the Makestra project where they explored alternative tuning systems and various materials in order to build a non-conventional DIY ensemble which included a 16-tone piano, hydrowoofer, 3D-printed flutes and a 'playable plant'.²⁸ They were incentivised to 'experience the act of music as both instrument creator and player' by virtue of exploring 'music and harmony at a more grassroots level ... The Makestra instruments are based on a foundation of knowledge sharing, which is a keystone in DIY communities'.²⁹ This view resonates with a number of the composers featured below. The Bang on a Can group have contributed to this growing trend in the US, as has Atlanta-based composer Klimchak, who has been building DIY instruments and creating electroacoustic music for film, theatre, dance and live solo performance since 1994. His *CooksNotes* (an on-going performance work which he began in 1994) is an attempt to consolidate cooking and composition/performance, the two worlds in which he has practiced professionally:

I made musical instruments out of kitchen implements, wrote music for those instruments and designed recipes to be made with them. For the show, I did a concert of the music while cooking the recipes. At the end there was a full meal prepared for the audience and I to share.³⁰

An interesting recent study of Brazilian electroacoustic music revealed that mid-generation composers, who they term the "'core" of today's Brazilian electroacoustic music', are more concerned with the theoretical aspects of compositional practices than with actually experimenting directly with sound materials.³¹ On the contrary, the younger generation has reverted to similar DIY approaches of the past: 'It is

²⁶ James Hullick, 'Fuck It, I'll Do It Myself: Or, why on Earth would anyone start a sound art organization in Melbourne and call it JOLT?', *eContact!* 'Sonic DIY: Repurposing the Creative Self' (18.3, published online December 2016) See http://econtact.ca/18_3/hullick_jolt.html.

²⁷ See Hullick, 'Fuck It, I'll Do It Myself'.

²⁸ Jean-Michel Maujean and Cissi Tsang, 'Making the Makestra: Repurposed, bio-electronic and 3D-printed instruments', *eContact!* 'Sonic DIY: Repurposing the Creative Self' (18.3, published online December 2016) See http://econtact.ca/18_3/maujean-tsang_makestra.html

²⁹ See Maujean and Tsang, 'Making the Makestra'.

³⁰ Adam Scott Neal, 'Using Everything and the Kitchen Sink: Interview with Atlanta-based composer Klimchak', *eContact!* 'Sonic DIY: Repurposing the Creative Self' (18.3, published online December 2016) See http://econtact.ca/18_3/neal_klimchak.html For more information, see <http://klimchakmusic.com/new/>.

³¹ Rodrigo Cicchelli Velloso, Frederico Barros, Orlando Scarpa Neto, Cláudio Bezz, and Jorge Ardila, 'Theoretical Frameworks in Brazilian Electroacoustic Music', *Organised Sound* 21, no. 2 (2016), pp. 97–105, here p. 103.

as if the third generation has been brought back to an experience similar to the first generation, albeit in a different territory, by having in front of them new mediums, methods and materials to be explored'.³² In addition, the study found that this third generation, again like the older one, is not as rigidly conformed to the institution as its middle counterpart: 'Pioneers in the genre as well as newcomers ... craft their technique in more direct and empirical ways when compared to the middle range of the age group'.³³ The researchers also realised that their filter:

did not capture a contingent of large and growing young creators. These young people have been gathering in places such as Audio Rebel, in Rio de Janeiro, and Ibrasotope, in São Paulo. These are places outside the musical academic universe and, even though many young university students (from music as well as other disciplines) perform there, these places can be characterised by an environment of non-academic experimentation, where various musical genres are practised – from popular music, electronic or not, to free improvisation.³⁴

In the UK, the not-for-profit Community Interest Company OTOProjects programmes new music 'that exists outside of the mainstream' for performance in Café Oto, with live music presented almost every night.³⁵ In addition, the OTO Project Space provides a location for artists to explore and develop new work. Early in 2017, pianist Xenia Pestova performed Ed Bennett's *Out of Nowhere*, an immersive work for piano and electronics, and Jennifer Walshe has performed there on several occasions, including free improvisation with M.C. Schmidt from the Baltimore-based duo Matmos, a programme of sound and vision with experimental musician and vocalist Sharon Gal, bass-guitarist Andie Brown and audio-visual collage artist Vicki Bennett (aka People Like Us), and a trio with cellist, improviser and composer Okkyung Lee and pianist Pat Thomas.

Contemporary music festivals in London, Liverpool, Bangor and Manchester (to name but a few) and collectives such as New Music Scotland, all contribute in differing amounts to the DIY aesthetic in the UK, with public participation in DIY-style events fast becoming embedded in contemporary music festivals. For example, the Huddersfield Contemporary Music Festival (HCMF) offers a free interactive art workshop where participants can create audio-visual art works using Bronwyn Stubbs's electric paint.³⁶ Further afield, the group Thirty Three Thirty Three has participated in artistic exchange between London and Cairo in its two-part bi-location international festival Masâfât, promoting underground creative practice.³⁷ The International Festival of Electroacoustic Music (MUSLAB) established by CAMIN-ART based in Mexico City, Paris and Geneva, aims to 'promote and disseminate contemporary artistic creation, generate access to specialised music education and new technologies as well as promoting art through respect for diversity of cultural expressions and values of coexistence'.³⁸ There is also the mecca of Darmstadt, the 'meeting point for composers, interpreters, performers, sound artists, and scholars. For discovery, learning, networking,

³² Velloso et al., 'Theoretical Frameworks', p. 103.

³³ Velloso et al., 'Theoretical Frameworks', p. 104.

³⁴ Velloso et al., 'Theoretical Frameworks', p. 104.

³⁵ See <https://www.cafeto.co.uk/>.

³⁶ See <http://hcmf.co.uk/interactive-art-workshop/>.

³⁷ See <http://masafat.thirtythreethirtythree.com/>.

³⁸ See <http://muslab.org/index-en.html>.

exchange and debate, collaboration, and – last but not least – invention’.³⁹

Six trends in Ireland

Softday

‘Our territory is definitely in that exploration around a changing aesthetic’.

Softday have been creating DIY art since 1999. Initially, they produced works for others to perform, ‘testing the abilities of human musicians to play computer-generated music’. However, this position has evolved and changed radically over the past 18 years, particularly since they began to put themselves ‘in the music’:

It’s ... a reflection of the influences that both of us bring to the collaboration – Mikael [Fernström] comes to sound art from a Pierre Schaeffer acousmatic interest. I [Taylor] come at it really from a sculptural context, and performance art, and also, having worked extensively with Pauline Oliveros with her deep listening institute, so I’ve been very influenced by the convergence of those ...

At present, Softday are content with being referred to as ‘Climate Change Artists’, although Fernström would prefer if they were not defined at all. Their organic approach to listening to the world, sound practice and the creation of art works through social engagement methods, illustrates their interest in ‘the aesthetic of the amateur’, and co-authorship as mentioned earlier. This has led them to establish their own scratch orchestras and ensembles consisting of professional and amateur musicians. In involving local communities of practice in the exchange of lay and expert knowledge during both the research and music-making processes in projects such as *Amhrán na mBeach (Song of the Bees, 2010–2013)*, *Marbh Chríos (Dead Zone, 2010/2011)*, and in their current research analysing pollution in the Chicago river (expected 2018–2019) and environmental damage in the West Bank, Gaza, their works pose social engagement questions directly to their audience but in a more accessible and evocative manner with one-off performances generally taking place on site:

We like contestation because it allows us to talk to both sides of the question ... what we’re trying to do is ... to deconstruct, or maybe return art making, and listening, and sound practice back to a far simpler ... more honest aesthetic.

They see their work as paying homage to Dada and Fluxus movements and their ‘creative soundwalks’ clearly exhibit the influence of Guy Debord’s theory of the ‘dérive’, psychogeographical effects and Situationism, where their mantra is: ‘Every real sound you hear in the world is unique. It only happens once’.⁴⁰ For Softday, this approach has ‘opened up a new kind of line of investigation, a new way of doing things’ which means that they ‘don’t sit comfortably within social practice, or music, or sound art, or performance art, or any one of these genres that are already predefined out there’. This judgement on the classification of new music is shared by Jennifer Walshe when she says:

Labels are usually most useful to the people wielding them; for a programmer to be able to describe a concert to a venue, or a musicologist trying to shape a movement they perceive happening, for example. The musicians I work most

³⁹ See www.internationales-musikinstitut.de/en/summer-course/.

⁴⁰ Quotation extracted from Softday website. Audio recording of Softday, *Sonic Sidewalks* available here: <http://softday.ie/sonicsidewalks/>.

closely with tend to be people whose work falls into several different categories, and regard labels with a certain level of disobedience.⁴¹

Two creative outputs of this practice are *Sonic Sidewalks* (2010) and their annual *Acouscenic Listening Intensive*. Having its third year in 2016, the one-day *Acouscenic Listening Intensive* sees Softday and a small number of participants exploring and actively interacting with 'the study of listening, creative soundwalking and the mindful meditative practices of Tai Chi and Qigong'. As Fernström explains:

We sometimes discover different ways of listening to the world ... you could say it's quite elitist but we are trying to pioneer the whole field of listening to the world in a different way, to pay attention to what we hear rather than it just being background noise ...

This approach is influenced by the ecological listening work of Bernie Krause as documented in his book *The Great Animal Orchestra* (2012): 'The planet itself teems with a vigorous resonance that is as complete and expansive as it is delicately balanced. Every place, with its vast populations of plants and animals, becomes a concert'.⁴²

For *Sonic Sidewalks*, Softday established the Softday Mobile Philharmonic project in association with the social art project SpiritStore and EVA International, Ireland's Biennial of Contemporary Art in Limerick. The concept behind this work was to produce a one-off soundscape encompassing sonic characteristics of the Limerick city landscape as they occurred in real-time on a given summer's day, utilising low-cost mobile technologies and open source software. Members of the public attended a workshop with Taylor and Fernström and a soundwalk route was devised and followed, beginning and concluding at French's café, with stop-off points such as the Farmer's Market, John's Square and Colbert train station. Material was recorded along the route and fashioned into a public performance piece using mobile phones as instruments of playback, recontextualising both the discrete sonic content and the communicative purpose of the mobile devices themselves.

Complex sound art performances combine field recordings, controlled improvisation, structured pieces of music (electronic and acoustic) and the sonification of scientific data utilising a variety of methodologies such as audification. In *Amhrán na mBeach*, Softday explore issues such as Colony Collapse Disorder, the dependence of plants and animals on bees, and the commodification and urbanisation of bees by humans in collaboration with the Monks of Glenstal Abbey and beekeepers from Ireland and abroad. Sonic material was collected through field recordings taken at a number of locations throughout Ireland and scientific data was assembled and sonified:

We built a special frame for recording sounds inside a hive structure. Specially selected electret microphone capsules were inserted in the corners of the frame. With two microphone frames inserted, we get an 8-channel recording from a hive.⁴³

⁴¹ Jennifer Walshe, in conversation with Stephen Graham, 'Gaming Tactics', *The Journal of Music* (published online 11 June 2012) See <http://journalofmusic.com/radar/gaming-tactics>.

⁴² Bernie Krause, *The Great Animal Orchestra* (London: Profile Books, 2012), p. 9. Krause's writings are based on 40 years of experience recording ecological landscapes.

⁴³ Extract from the 'Development' section of the *Amhrán na mBeach* (Song of the Bees) project. See <http://softday.ie/bees/development>. The work was premiered on the 27 April 2013, Church of Glenstal Abbey. Video excerpt of premiere available here: <http://softday.ie/bees/>. Performers included the Irish Chamber Orchestra (Violin: Katherine Hunka (leader), Oonagh Keogh, Kenneth Rice, Niamh Fitzpatrick; Viola: Joachim Roewer, Beth Mc Ninch; Cello: Rudi De Groot, Richard Angell; Double Bass: Sarah

Beekeepers were trained in gathering materials and performing as laptop musicians in the 'Apiary Ensemble' and a SamplePlayer constructed in PureData enabled interactivity with the sonic materials during performance (field recordings, acoustic and electronically generated content) using graphic scores as guides. Moments of controlled improvisation were built in to the performance in Glenstal Abbey:

The choreography is worked out collectively; everything about the piece in Glenstal was highly choreographed – everybody knew their cues which we had worked out with them in rehearsals.

Softday's current project intends to engage with a number of communities of interest in Chicago, to sonify pollution data garnered from the Chicago river. They plan to collect data from the local community using specially designed kits and sonify the results in conjunction with other research findings.

Jennifer Walshe

'The body, for me, is not a kind of abstract, conceptual thing. It's a very concrete, physical phenomenon'.

Sound is central to Walshe's compositional language, even when it is not immediately apparent or is deliberately conceptual. When she considers changes in stage lighting, an opera character's costume, the text or graphic in a score, or the objects selected for performers, each for her has a sonic gesture. Walshe's approach to composition encompasses periods of deep research into heterogeneous sonic and conceptual domains before deliberately juxtaposing apparently disparate materials that would not normally be found together in seeking out relationships and connections for creative exploitation. No sound is prohibited and Walshe is particularly drawn to those that are not considered sonically beautiful in a conventional sense, a scrubbing brush on wet tiles or the crunch of porridge in a plastic bag for instance. Inspiration and influence can stem from anywhere or anything: as a teenager, she read about La Monte Young's approach to making music; later at Northwestern, she became immersed in the world of American experimentalists such as Cage, Partch and Brecht. Other influences originated from Phillip Tagg and Roland Barthes. Walshe is instinctively drawn to and seeks in her own music 'a fresh weirdness . . . I just want something to kick me into an awareness of the fact that I'm alive, that I'm here right now'. This is certainly evident in her approach to current creative output:

Right now, what I'm interested in is work which is about this time that we live in, and trying to deal with it in some way – that doesn't mean that it has to be splashy and have memes from the internet in it – it can mean a lot of different things, but it's trying to address this time, and looking forward to a time when I can actually look back at my work and it seems very 2011, very 2015, that I can actually date it because it was actually about that time, rather than aspiring to make these works of timeless beauty, the classic cultural narrative . . .⁴⁴

A recent project, *Everything is Important* (2015–2016) for voice, string quartet, video and tape, commissioned by the Arditti Quartet for the 2016 Darmstadt Festival, illustrates this approach where she researched anti-facial recognition makeup and Korean beauty masks,

Halpin), the Glenstal Abbey Choir (incl. Wolodymyr Smishkewych), Cyprian Love (organ), Judy Kravis (readings) and the Softday Apiary Ensemble (laptops) consisting of Ciarán Casey, Jenny Haughton, Simon Sleeman, Aine Nic Giolla Coda and Softday.

⁴⁴ Extract from the 'Cross Currents Radio Series' featuring Walshe.

stockpiled texts on topics ranging from artificial intelligence to object-oriented ontologies to climate change in addition to sourcing content from scientific databases and YouTube clips, making field recordings, generating electronic sounds and recording stringed instruments, coupled with producing video content and performance materials for the string quartet and her vocal part, and taking dance classes for a one-minute choreographed segment in the work. By both placing herself in her own video parts and dancing on stage, Walshe actively confronts 'the entire history of women's self-hatred of their own bodies'. She is very aware that the manner in which she is dressed on stage can impact perception of her and her work and she actively plays with this. What's most important for her are the people within the performance space and the changing energy within that space, be that in Darmstadt, Donaueschingen or Dublin – a formal staged setting in a large theatre, or an informal free improvisational setting in a café.

She recently proposed 'The New Discipline', a true DIY compositional approach around the concept of the 'auteur':

'The New Discipline' is a term I've adopted over the last year. The term functions as a way for me to connect compositions which have a wide range of disparate interests but all share the common concern of being rooted in the physical, theatrical and visual, as well as musical; pieces which often invoke the extra-musical, which activate the non-cochlear. In performance, these are works in which the ear, the eye and the brain are expected to be active and engaged. Works in which we understand that there are people on the stage, and that these people are/have bodies.⁴⁵

Taking her cue from Robert Ashley, his TV operas for instance, she seeks out the unification of music and text by writing and setting the material herself. Walshe also directs, performs and trains others in the presentation of her work. This practice is evident not only in opera writing, *XXX LIVE NUDE GIRLS!!!* (2003) and *Die Taktik* (2012) for instance, but also in her exploration of various personae (all 'slivers' of herself) in works such as *The Total Mountain* (voice and film, 2014), an energetic performance piece underscored with serious questions about social media and communications technology which she has performed 18 times since its composition, including at the 2016 Music Current festival.⁴⁶

Other examples include various outputs from the 'Grúpat' art collective (2007–), a set of alter egos assumed by Walshe which includes the outsider artist Violetta Mahon, the sculptor, sound artist and musician, Turf Boon, and the installation artist Helen O'Brien, known as O'Brien Industries, and her collaborative intermedia works emanating from the 'Aisteach project', of which the *Historical Documents of the Irish Avant Garde Vol.1: Dada (1921)* (2012) is a fine example.⁴⁷ Here,

⁴⁵ Jennifer Walshe, *The New Discipline*, written for 'The Borealis Festival' 2016. See www.borealisfestival.no/2016/the-new-discipline-4/ for complete text.

⁴⁶ For a brief excerpt from *The Total Mountain* performed by Jennifer Walshe and accompanying notes on the work commissioned by the Donaueschinger Musiktage 2014, see <http://milker.org/thetotalmountain>.

⁴⁷ Jennifer Walshe, *Historical Documents of the Irish Avant Garde Vol.1: Dada (1921)* (2012). The example referred to here was performed by Walshe at New Music Dublin, 8 March 2014. The work is a collaboration by Dermot O'Reilly, Brian Sheridan and Jennifer Walshe. For a recording of the live performance by Jennifer Walshe, see www.aisteach.org/?p=164.

her consideration of identity, language, art and the larger question of 'what does it mean to be Irish?' are sonified through layers of drone-type textures with fragments of a Gaelic language intoned against a cacophonous grainy texture of acoustic and synthetic material.

For Walshe, the influence of theatre began at an early age, when her mother, a writer, took her to see Beckett plays; her first experiences of performance was playing Satie and 'thinking the performance directions were normal'.⁴⁸ Since she sees all music as music theatre, it is unsurprising that visual content, physical movement and theatricality are significant in her output. Walshe's chamber opera, *Die Taktik*, centres on the notion of games in everyday life, from a sporting game like tennis to the more impactful one of evolution. This multi-narrative work is itself a type of game where Walshe invites the audience to determine patterns of information within the musical and theatrical structure of the work in real-time. The opera is structured in 21 scenes, each with its own set of vocal and instrumental lexicons, movement directions (including dance) and video game footage. No conventional libretto is applied and singers have very little text to perform. Instead, ten voiceovers played over speakers relay information about pattern recognition, sport, biology and quantum physics; recorded by Walshe in and around Stuttgart, these produce a documentary effect. The chorus interacts with the audience creating a wholly immersive experience within the space. The score was produced in 'shooting-script' style for ease of reference as time signatures and tempi vary across parts at any one point in the work.

Karen Power

'For me, it's always been about merging acoustic and electroacoustic'.

Working only with pre-recorded materials, Karen Power explores contexts of hearing, questioning how a musical space is transformed via the juxtaposition of natural and acoustic instrument sound, and how this changing context impacts the way we hear it and behave within it. Moreover, she is concerned with instrumentalists' reactions to these juxtapositions, how they hear their instrument and view their playing in a different light. In exploring this, she has spent two years developing the 'Aural Score' and 'Aural Part' system for rehearsing and performing her works. Both function in similar ways to their conventional counterparts, the aural score providing open or very directed performance information, the aural part providing specific information on textures, rhythms, frequencies, and so on. Performers are not expected to reproduce exactly what they hear in their individual aural parts, but rather to interact with them, at times formulating a response to what they hear around them in a partially improvised manner. These 'guided improvisations' allow Power to maintain control as the composer, providing contextual support throughout the work.

The system was applied in *veiled babble* (2015/16), composed for Ensemble Mosaik while Power was on the DAAD Berlin Artists' Programme.⁴⁹ This residency afforded Power the necessary time

⁴⁸ Extract from the 'Cross Currents Radio Series' featuring Walshe. See www.cmc.ie/features/cross-currents-radio-series-audio-shorts.

⁴⁹ *veiled babble* was written for Ensemble Mosaik and premiered on 22 January 2016, at the Ultraschall Festival, Berlin. For an excerpt from the premiere of *veiled babble* performed by Ensemble Mosaik, see www.youtube.com/watch?v=RKOhVyW9mag.

she needed to consider ‘the idea of improvisatory elements’ within her music and to explain the work’s concept to the performers; as strictly notated music was becoming ‘less and less relevant to the materials themselves’, rehearsals were becoming what she calls ‘living processes’. The work takes sonic content collected from six chosen locations along the River Spree in Berlin and dialogically juxtaposes it with a large ensemble dispersed throughout the performance space, responding to and interacting with the aural score and each other within the musical environment being created. In addition they recall their overall approach to the work as it nears its conclusion (Power’s ‘Memory of Hearing’ concept). The nine-piece ensemble is divided into three groups (see Table 1), each assigned a leader, with varying possibilities for staging provided depending on venues and performance contexts. In addition, five volunteers are required to operate iPods or smartphones at the beginning of the performance.

Power divides the piece into five segments for rehearsal purposes only. The performance should evolve seamlessly (see Table 2).

A number of pitch/tonal centres are listed in the score: B, C#, D#, E, G, G#, A. Performers are free to choose the range of variation around these centres (e.g. B quarter flat) in conjunction with their aural part, unless particular octave ranges are specified. The accompanying text for each aural part is detailed, outlining the structure of the five interwoven segments, important elements to note in the aural part, pitch restrictions, sonic phrasing, cluster chords, harmonics, and bowing sequences. Time is a crucial element in Power’s works and it is mapped out precisely in the score.

Recording is fundamental to her compositional process and although she captures the sounds of a place or natural environment, Power’s approach is never to reconstruct them but to ‘recreate the energy and transform it into a musical sense’. Recent installation and concert works investigate sounds of everyday life that are inaudible to the naked ear, such as natural sounds beneath the surface of ice. Bernie Krause writes of his experiences of listening to glacial ice:

[T]his environment is not quiet: explosive sounds occur when crevasses form in the glacial span ... in addition to the startling popping and groaning of the ice and the ever-present wind and frequent storms, calving glaciers release huge walls of frozen water ... with a volatile, thunderous burst of sound ... Then there is the sound of the glacier’s own movement: a slight, ominous oscillation caused by its relentless progression overland – a slow, creeping sensation ...⁵⁰

Evoking the ethereal and unknown nature of the Arctic, *instruments of ice*, *loaded silence* and *sonic cradle* (all 2015) tap into the unique sonic properties of ice. In particular, *instruments of ice* presents the listener with a cacophony of gestural activity across noise, nodal and pitched materials, including cracks, pops, granulations, pitched ice and swells of glacial material in direct conversation with acoustic instruments, all informed by Power’s memory of this seemingly silent and vast extreme environment.⁵¹

once below (2015) captures the underground sounds of a disused war bunker under the Gesundbrunnen train station in Berlin.⁵²

⁵⁰ Bernie Krause, *The Great Animal Orchestra*, p. 8.

⁵¹ *instruments of ice* was premiered by the Quiet Music Ensemble with Karen Power, 28 May 2015, at the DAAD Gallery, Berlin. It was also programmed for the New Music Dublin Festival 2017, again for performance by the Quiet Music Ensemble. Promotional video including extracts from the premiere available here: www.youtube.com/watch?v=dnjplm7MdSk.

⁵² *once below* was premiered 26–30 August 2015 at the Kapelle der Versöhnung (Chapel of Reconciliation), Berlin during the Mikromusik Festival 2015. Soloists: Michelle O’

Table 1:
Division of the ensemble for performance of *veiled babble* (adapted from original score).

Group 1	Group 2	Group 3
Piano	Percussion	Cello
Bass Oboe	Bass Flute	Bass Clarinet
Viola	Bass Saxophone	Violin

Table 2:
Five rehearsal segments for *veiled babble* (adapted from original score).

Rehearsal Segment	Material
0'00"–4'00"	opening sounds; various degrees of water granulation from above and below the river
4'00"–9'00"	focus on low frequencies; based on different methods of transport recorded through the river
9'00"–16'00"	a series of hypnotic sea creatures eating and simply living through the river
16'00"–23'00"	water transport systems; from tourist to functioning ships and boats
23'00"–28'40"	lower transport frequencies; enhanced by the river and varying layers of running river water

Setting these sounds in a double installation with the Kapelle der Versöhnung (Chapel of Reconciliation) above ground, Power considers how and why visitors behave in a certain way when they enter this domed-shaped space. Four musicians with varying degrees of improvisation experience become directly linked with the audience through their interaction with the sound material they hear within the space.

Linda Buckley

'I've always been interested in that kind of cross-genre aesthetic ... but it's more of an openness or maybe an approach I would say'.

For Linda Buckley, there has never been one clear-cut compositional path. Much of her early creative life was spent improvising, developing an eclectic interest in electronic music, and accumulating influences from such diverse sound worlds as medieval harmony, minimalism, electronica, and Irish traditional music.⁵³ Discrete sonic experiences have remained with her, been enhanced and appended, and are evident in her output. Part of her compositional philosophy is a belief that every composer internalises a unique set of influences that filter down and eventually emerge as a sense of self.⁵⁴ For this

Rourke (Voice), Erik Drescher (Glissando Flute), Johnny Chang (Viola), Rishin Singh (Trombone). An excerpt from the premiere of *once below* at the MikroMusik Festival 2015, Berlin is available here: www.youtube.com/watch?v=J6H1K2cECfo.

⁵³ Buckley explains the influences that formed her choice of programme for The Kaleidoscope Night, 7 September 2010 here: www.cmc.ie/news/180810/composer-linda-buckley-will-curate-september-kaleidoscope. Also see www.kaleidoscopenight.com.

⁵⁴ Extract from 'Cross Currents Radio Series' featuring Buckley.

reason, she feels that ‘in a way, my music has not changed that much, but I suppose I’ve just grown and developed as an artist as anyone would’.

Buckley employs found-sound and sounds from the natural environment in considering how such materials impact upon instrumental and vocal writing. Timbre is extremely important to her and she is drawn to the causal ambiguity that can result from manipulating real and synthetic sound. Much of her current output does not engage with notation; instead, she is concerned with generating a ‘seamless unity’ between her own voice and electronics, resulting in a more immersive, liberating and personal experience for her and the audience. Searching for and creating this intense emotional connection stems from her early experiences singing in a choir:

One of the first experiences that I ever had that made me want to become a composer was being in a choir and singing and feeling that sound all around you and just being in the middle of harmony ... and thinking: ‘imagine being able to write something and have that feeling brought across [it] must be incredible’.

This ‘blurring of distinction between what is electronically-generated sound or what is acoustically-produced sound’ has inspired Buckley for almost 20 years, and she recognises a kindred curiosity in the works of the ‘one woman Hadron collider’ Annie Gosfield and the ‘existential journeys’ of Kaija Saariaho.⁵⁵ An intuitive affinity with mystery, Gothic aesthetic, spatial music and its historical presence in architecture has led to research residencies in Italy, Iceland and Gotland, Sweden. Buckley’s time in Iceland produced *Torann* (2015) for large ensemble and tape written for the Crash ensemble. Her use of thick sound mass textures creates both an imaginary visual and atmospheric impression of the country’s expansive landscape, enveloping the listener for lengthy periods before returning them to the listening space. By composing the ensemble music in conjunction with the electronic parts, Buckley is satisfied that she maintained a balanced and cohesive dialogue between the two:

I was really happy with that piece in terms of having the ensemble at times almost feel like this big electronic kind of dense sound mass and then vice versa, having the electronics sound like early string instruments ... and merging all those worlds together.

Interestingly, as a younger composer Buckley experimented with a similar dialogic approach to varying degrees of success. She feels she has flourished with *Torann* owing to a more experienced outlook and honed compositional technique.

Visual imagery and colour play a significant role in her creative practice. When working on *Torann*, a volcano erupted close to Lake Laugarvatn where Buckley was staying, causing her to contemplate the ‘colour of lava and textures of lava ... and speed, and density, and heat ...’. In particular, she concentrates on envisaging the physicality of live instruments, apparent in an early work *Do you remember the planets?* (2004) for viola and electronics, where she imagined the viola as a ‘super-instrument that was trailing off into other worlds’.⁵⁶ This relates to her overarching vision of ‘immersion’:

⁵⁵ Quotations extracted from www.anniegosfield.com/bio.html in reference to a BBC review and ‘A guide to Kaija Saariaho’s music’ by Tom Service in *The Guardian*, Monday 9 July 2012. See www.theguardian.com/music/tomserviceblog/2012/jul/09/kaija-saariaho-contemporary-music-guide.

⁵⁶ Extract from ‘Cross Currents Radio Series’.

[I]t's not necessarily just about the music that's presented to me, it's about how it is presented . . . it's not just about the material itself but it's the feeling that you have when you're in that space. So, a lot of that is to with atmosphere, it's to do with immersion, it's to do with lighting, it's to do with everything that occurs from the moment that you walk into that space and walk out again . . .

Three recent cross-media collaborations with visual artists reflect these interests. *Changeling* (2016), a collaborative piece between Buckley, director Laura Sheeran and dancer Stephanie Dufresne, centres on the story of Brigid Cleary, the last woman to be burned as a witch in Ireland (Clonmel, 1895) and explores the psychology behind the horrific human actions that can arise from hysteria, lack of knowledge and mythological beliefs.⁵⁷ In 'Fire Dance', a slow-moving texture results from manipulated vocal content, slowly detuned and dismantled as if stretched. Certain frequencies are highlighted, creating clusters of tonal material in addition to subtle internal pulsations.⁵⁸

Another collaborative work, *Passages* (2016) sees Buckley co-writing with her sister Irene. In comparison with *Changeling* where the producers collaborated throughout the process, the soundtrack for Ailbhe Ní Bhriain's film was composed independently in response to the concept of the project: '*Passages* represents the warmth of shared journeys, the mystery of night ships and the passing of time'.⁵⁹ Voice also features strongly here; the progression of atmospheric sound events is slow and textures are rich and immersive like a delicate fabric containing interwoven strands of sonic fibres. Much of the raw material for this piece stems from recordings of foghorns, wind, and the sea made by the Buckley sisters near their childhood home in The Old Head of Kinsale, manipulated and merged with synthetically generated material. Vocal sounds morph into electronic material and back again in a seamless 'interplay between the real and the synthetic, the acoustic and the electronic'. The soundtrack is not intended to synchronise with the visuals onscreen resulting in 'very interesting meeting points which are different every time'. Buckley is no stranger to collaborating with her sisters and, in particular, she feels 'there's something really beautiful about hearing people who know each other very well sing together'.⁶⁰

A Reflection of Light (2016) is a collaboration between Buckley and the artist Grace Weir, centred on the story of 'Let there be light', a work by the Irish abstract painter Mainie Jellet currently hanging in the School of Physics at Trinity College Dublin. Although Buckley was given a very open brief in terms of content, the film was already complete, so the visual image governed the musical content. Buckley's subtle spectral music was intended as 'an atmosphere or a tint to what is occurring in the visual', influenced by Morton Feldman's concept of listening to music as if looking at something in nature, Eric Satie's furniture music and Brian Eno's ambient music, 'something that kind of enhances your environment but isn't

⁵⁷ *Changeling* was premiered 7 July 2016, Scots Church Clonmel as part of the Clonmel Junction Festival. Choreography & performance: Stephanie Dufresne; Visuals: Laura Sheeran; Original score: Linda Buckley; Director: Laura Sheeran.

⁵⁸ For an excerpt from 'Fire Dance' from Buckley's *Changeling* See <https://soundcloud.com/irishcomposers>.

⁵⁹ *Passages* was premiered 4 July 2016, Kicham Barracks Clonmel as part of the Clonmel Junction Festival. Video: Ailbhe Ní Bhriain; Soundtrack: Linda and Irene Buckley. See www.junctionfestival.com/events/2016/6/4/passages. For an excerpt from *Passages*, see <https://soundcloud.com/irishcomposers>.

⁶⁰ Extract from 'Cross Currents Radio Series' featuring Buckley.

something that you have to have your full attention on ... [that] is definitely the case for the Grace Weir [film] ...'.

Fergal Dowling

'You could actually think of it as ... the computer running a multi-player game and these instrumentalists, instead of using game controllers, they're using sound ... to interact with [it] and we're watching them doing it'.

In his early compositional explorations, Dowling was concerned with making stand-alone tape pieces that could double as installations, and interactive works that could just as easily be performed by a gallery visitor as by a trained musician. Instructions would be provided along the following lines:

Try and explain to the audience just using musical gestures, what's actually happening with the electronics, so how the electronics are responding to you, and once you feel you've explained how it's working, you can stop.

Dowling has since taken considerable time to research interaction and group interaction in perfecting the 'Sketch' MaxMSP patch that has become a salient component in his recent live electronic works. His close involvement with the Dublin Sound Lab provided the opportunity to develop and test the patch, including programming it to capture the reverberant sound produced within St Teresa's Church, Dublin when the organist ceased to play a chord. The organ system here was quite unusual in that a MIDI keyboard had been installed near the altar so the organist could conduct the choir while playing the organ at the opposite end of the church. In addition, the organ had a MIDI output and this provided the material for capture. Dowling could then 'splice on the reverb tail of an earlier chord to get this rather odd effect, or ... just play the reverb tails on their own'. To this, he added violin and double bass, with each instrument acting as triggers for the organ. Once he had completed this stage of the patch's development, he decided to map the technique onto real-world instruments, resulting in the aptly named *Sketch* (2011) for actor, viola, harpsichord and computer; in this instance, individual instruments were triggering each other, adding layers of complexity to the system.

The process works like a simple chain function: sonic material generated by the acoustic instrument(s) is automatically recognised and captured by the computer, so acoustic articulations and dynamic inflections must be clearly sounded. As this process continues and further material is gathered, the onsets and/or terminations of sound events are used to trigger the playback of previously recorded sonic content. Successive recordings produce recurrences of earlier acoustic material layered with previous playback material (nothing is manipulated) and mapped onto real-time performance context; in essence, 'the process uses extensive direct quotations of the actual performance to create sequential repetitions and layerings ... like a spoiler in a movie'.⁶¹ Each recontextualised event introduces new meaning, allowing for greater interactivity and the generation of evolving associations between instrumentalists, computer operator, sonic material and contexts. In practice, this is a complex strategy and Dowling provides detailed performance, computer notation and system requirement guidelines in the score for each piece. It is important to note that

⁶¹ Partial quotation from interview with composer; partial quotation from the original score of *Stops VIII*.

Dowling does not consider the computer an instrument, but ‘a place that embodies the piece, the piece only happens in the laptop. It’s not another element that can be substituted, it’s actually ... the space where the piece resides’.

The aim with *Stops VIII* (piano and computer, 2014) and *Spoils* (Baroque ensemble and computer, 2016) has been to initiate a formal relationship between computer and performers where each voicing is afforded equal status within the work.⁶² Improvisation is imbedded, in that scored pitch material can be performed in any order using the suggested rhythm, performers and computer operator work through the various sections (what Dowling calls ‘cue groups’) without being confined to specific bars or timings (within reason), and decisions regarding recording (what and when) are made during the performance. ‘The computer cues define the relationship and interaction of the acoustic parts’ and in *Stops VIII*, the pianist needs to balance his/her dialogue with that of the recontextualised material.⁶³

The five-movement *Spoils* – a concerted effort to ‘make a very coherent piece’ on a larger scale – is in Trio Sonata form and the application of Dowling’s process results in a series of interwoven lines of content that naturally expand in complexity as the number of triggered events increases (see Table 3).⁶⁴

The title comes from the Latin ‘spolia’ which pertains to the reuse or recontextualisation of stone or sculpture from one building in another. This speaks directly to a DIY aesthetic. In movement 2, ‘Fleashes’, Dowling’s intended dialogic design is clear, the triggered material at times chasing the acoustic instruments before entering into intense musical arguments with them, at other times seeming to envelope them before the musical interaction shifts focus and new material is introduced. Movement 3, ‘Stones’, begins with a more hurried musical statement from the acoustic ensemble. Note-off silences are pronounced in the early part of the movement, the result being that the computer’s triggered sound events are heard almost in entirety before the next acoustic statement is made. The final movement, ‘Grounds’, builds in complexity and intensity as it progresses.⁶⁵ The recontextualised ‘spoils’ begin to destabilise the clarity of the acoustic material before the violins and cello initiate a final segment which juxtaposes their held notes with cluster chord interjections on harpsichord, building to a cacophony with the triggered sound events.

Jonathan Nangle

‘My go-to analogy is that idea of an object ... a really elaborate object on a table ... that’s your material but then you look at it from every direction’.

Nangle’s compositional style is characterised by a measured process, commencing with a limited range of carefully chosen materials that are then subtly varied and considered from different angles. This

⁶² *Stops VII* was first recorded at the AIC Directions Series, Lutheran Hall, Dublin, 19 May 2016. Piano: David Bremner.

⁶³ A recording of *Stops VIII* with David Bremner performing as solo pianist is available here <https://soundcloud.com/irishcomposers/fergal-dowling-stops-viii-david-bremner-piano>.

⁶⁴ *Spoils* was first recorded at Smock Alley Theatre, 8 April 2016. Performers: Aoife Ní Dhornáin (Baroque violin), Marja Gaynor (Baroque violin), Ilse de Ziah (Baroque cello), Michael Quinn (harpsichord), Olwen Fouéré (recorded voice), Mihai Cucu (video), Fergal Dowling (computer).

⁶⁵ A recording of Movement 5 ‘Grounds’ from *Spoils* is available here at <https://soundcloud.com/irishcomposers/fergal-dowling-grounds-5th-movement-from-spoils>.

Table 3:
Overview of discrete instrumentation for each of the five movements of *Spoils*.

Movement	Instrument
1 Unearths	multi-channel fixed media
2 Fleshes	ensemble and computer
3 Stones	ensemble and computer
4 Remains	surround sound and video
5 Grounds	ensemble and computer

process filters through to his electronic output although the sonic result tends to be 'far busier, louder, and impactful' comprising more rhythmic detail and abrasive content, with his most recent works featuring heavy bass material. Although he frequently employs conventional notation – for example the majority of *Pause* (string quartet and video) for Crash Ensemble was notated – he is intuitively drawn towards a less restrictive, sculptural approach, moulding malleable sonic content without being confined to the grid structure of bars and staves.

The influences of visual art and science are apparent in his installation pieces, *Triple Double Pendulums* (2008), *Trip the Light Fantastic* (2011) and *Breathe* (2013), for example. As in the Makestra project mentioned above, Nangle built non-conventional instruments for each of these pieces. In *Triple Double Pendulums*, commissioned by the Contemporary Music Centre for Culture Night 2008, when a single pendulum is set in motion, it will eventually return to its balanced state; however, when a second pendulum is connected to the first, this fixed motion is upset, causing imbalance or what is called a 'chaotic system'. Nangle constructed an instrument consisting of three of these double pendulums, each creating random rhythmic patterns triggering banks of MaxMSP patches which are also set on a random timer. Each person who sets the piece in motion will experience the same sonic quality generated by the instrument but in a different order; in essence, a different piece will be generated each time.

Trip the Light Fantastic, another Culture Night commission, is a solar-powered installation that produces sound from hammers striking bells.⁶⁶ Once a threshold of stored energy is released, a motor sets the hammers moving thereby composing the music. Changing levels of sunlight and energy stored mean this piece is constantly evolving, gaining energy and fading away. In both works, the installations are fixed in that the sonic properties of output material are pre-composed by Nangle, but the timing of sonic events is not. *Breathe*, commissioned by the 2013 New Music Dublin Festival, incorporates 12 DC motors and propellers, each covered with plastic bags to form resonant membranes that are controlled by an Arduino which has been programmed to produce algorithmically generated rhythmic sequences. The dialogic effect is visually and audibly engaging. Nangle has also designed and built an Aeolian harp and marimba-style instruments

⁶⁶ For an extract from the video footage of *Trip the Light Fantastic* at the Contemporary Music Centre on Culture Night 2011, see <https://vimeo.com/29518280>.

using thin slate with resonators underneath, in addition to assembling a music box to accompany a Toy Piano for *Vivid Traces* (2016), which premiered at the September 2016 'Kaleidoscope Night' concert.

Nangle's encounter with the work of the American visual artist Dan Flavin at a retrospective of Flavin's work had a significant impact on him. Flavin's oeuvre focuses on light, colour and the transformation of space, but there is a legitimate argument for considering them as sound sculptures in which geometric configurations of fluorescent lighting tubes produced variations of low frequency electrical hum textures alongside internal sonic gestures emanating from the ephemeral light fittings themselves. In *untitled (after Dan Flavin)* (2013), commissioned by the Dublin Sound Lab, art, science, music and technology coalesce in Nangle's compositional language.⁶⁷ Layers of dialogues between sonic and visual content are structured in a quasi-theme and variation form (see Table 4). Considering the work from a purely sonic perspective, internal dialogues ensue between hypnotic tonal material (containing processed cello) swelling and receding constantly in the background, pulsating phone interference and glitch content, and later, manipulated tam-tam generating a breath-like sound via convolution processing. Each of these musical conversations are bound up in a wider external dialogue with eight lighting tubes (two horizontal and six vertical resembling a square filled with vertical bars) controlled by a MaxMSP patch designed by Nangle. Although the timing of light changes is mathematically pre-programmed, the sensory result is natural.

In keeping with a Flavinist aesthetic, Nangle selected one block colour (blue), only introducing a second colour (red) at a significant point in the narrative of the piece, and spent considerable time designing the configurations of lighting shapes so they would move synchronously with the gestural actions of the sonic content: '[I]n the dark, when those lights flash, you're just left with the shapes burnt into your retinas . . . it actually obscures the entire frame that it's on . . . you see the patterns very clearly mapped out in your eyes'.

Interconnections and Conclusions

While each composer featured in this article produces vastly different electroacoustic works, connections have appeared upon closer inspection. Softday are unique in their approach to applying a creative turn to seemingly non-musical data. They do however share similarities with Jennifer Walshe in that both apply compositional tools that derive from Dada (which celebrated its centenary in 2016), Fluxus and Situationism, but neither are defined by these movements, and both engage with critical issues of contemporary society in theatrically-driven ways. Like Softday, Karen Power and Linda Buckley pay particular attention to the natural environment around us, but their treatment of found sound and their compositional approaches to acoustic and synthetic materials are comparatively different. Fergal Dowling has become synonymous with live electronic music and the creative work of Dublin Sound Lab, but he shares a similar desire for rigorous testing and perfection of processes with Jonathan Nangle. Nangle in turn bookends the group with his exploration of the art-science dichotomy.

⁶⁷ A video of *untitled (after Dan Flavin)* is available here at www.jonathannangle.com/works/untitled-after-dan-flavin/.

Table 4:
Brief description of thematic content and examples of variations with approximate times in *untitled* (after Dan Flavin).

Approximate Time	Brief Description of Thematic Content & Examples of Variations
0'00"	Main Thematic Content: music and light dialogue initiated; hypnotic tonal material acting as grounding figure presented in a repetitive structure based on descending and ascending movement (e.g. patterns centred on minor third intervals between D,4 and B,4, and between A,4 and F4, at times including D,5); phone interference and glitch material introduced; Synchronous blue light
1'21"	First visual 'flash' imprinting blue square on visual memory
3'10"	Variation: entries more frequent; tonal material begins a pulsating figure highlighting top left and bottom right corners of the blue geometric light sculpture; interference and glitch attacks initially more sporadic before building in intensity
3'54"	Variation: unexpected change in mood and colour with dramatic entry of red light, signalling a more aggressive variation including chordal material morphing into feedback and the introduction of a percussive breath-like sound (tam-tam)
4'44" to end	Variation: drawing the conversation to a close with both red and blue lights; interference and glitch material no longer included and do not return; percussive breath-like sound envelopes the sonic landscape as chordal and feedback material recede into background; piece fades to silence and black out

It is clear that the interweaving of sonic threads of electroacoustic music in Ireland is producing an expanding tapestry of varying textures, colours and forms. With the increase of DIY pop-up events, new intermedia festivals and improvisatory meetings, the growth of exploration into electroacoustic music in Ireland, or whatever it would like to be called, looks set to continue. To quote Mikael Fernström: 'We've found a path – we know we're on it – God knows where it will lead us'.

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