

New Technologies, Old Behaviours: Electronic media and electronic music improvisors in Europe at the turn of the millennium

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Two improvisation scenes emerged in the late 1990s – *Echtzeitmusik* in Berlin, and in London the New London Silence – with similarities in aesthetic and approach. Among these is a tendency towards a more silent and less responsive style of improvising often referred to as reductionism, and the inclusion of electronic resources, with a complex interaction between the two. This article introduces these two scenes and their respective approaches, and uses interviews with key improvisors in each to interrogate the performers' approaches to electronics, and whether this plays a role in determining and developing their aesthetic and performance style.

1. INTRODUCTION

I am clarifying a concept for improvisation, the main features of which are: waiting for things to come, rather than going to fetch them; the valuing of silence as an active musical contribution; only playing when it feels necessary to do so; attending to exactly when sounds begin and end; limiting the responsiveness and interaction between the musicians; focusing on the sound, rather than on the feeling. (Robin Hayward 1999, in Blazanovic 2014: 181)

In the late 1990s, a more silent, more sound-oriented and occasionally less responsive form of improvisation started to emerge simultaneously in Berlin and London, the crucial years being most likely 1997/98. In Berlin, the new movement came to be known as *Echtzeitmusik* ('real-time music'), the roots of which were to be found in the open spaces of the East side after the fall of the Wall. In 1995, a group of young friends and musicians had started to gather and play in a club called Anorak, which had opened in 1995 in Prenzlauerberg (Blazanovic 2014: 52–3). The first flyer with the name *Echtzeitmusik* appeared for a concert in 1994 but it is at Anorak that the musicians started to use the name consistently to emancipate themselves from the dominant Berlin free jazz improvisation scene (ibid.). Their music did not yet have the aesthetic features that would later make it aesthetically recognisable, but broadly speaking it was a mixture of improvised music with alternative rock, electronica or free jazz, reminiscent of the New York Downtown scene of the 1980s (ibid.: 59). The new approach to sound started to emerge in 1997, in the last phase of

Anorak and with the opening of a new venue, the 2:13 Club, where musicians started to be called 'die leisen Leute' ('the quiet people') (ibid.: 59–60; Beins, Kesten, Nauck and Neumann 2011: 34–5).

Some of the musicians involved in the scene from the very beginning include pianist Andrea Neumann, percussionist Burkhard Beins, turntablist Ignaz Schick, trumpeter Axel Dörner, guitarist Annette Krebs and tuba player Robin Hayward. Thanks in part to Berlin's extremely cheap living costs and the intellectual excitement around the new historical phase beginning to take shape there, *Echtzeitmusik* grew into a rich and diverse network of international artists who either moved to Berlin or made it their meeting point. Over the years, *Echtzeitmusik*'s flexible aesthetic has predominantly been involved with improvised experimental music, but bordering on a wide array of adjacent fields of music such as noise, electronica, trash pop, free jazz, contemporary composed music, performance art and sound art (Beins et al. 2011: 29–30). Musicians who came to be associated with the *Echtzeitmusik* over these years include electronic performers Toshimaru Nakamura, Thomas Ankersmit, Boris Baltschun and Marta Zapparoli, clarinetists Michael Thieke, Kay Fagaschinski and Lucio Capece, flutist Sabine Vogel, saxophonist and later voice performer Alessandro Bosetti, saxophonist Chris Heenan, pianist Magda Mayas, trumpet player Liz Albee, violinist Biliana Voutchkova, percussionist Michael Vorfeld and many others.¹

In London, an equivalent shift in approach to improvisation came from a group of British improvisors known as the New London Silence. Violinist and later electronic performer Phil Durrant is seen as a pivotal figure for the reductionist approach that spread through London's experimental scene from the end of the 1990s; tired of the post-Webernesque virtuosity of much of the improvisation scene in London, in the mid-1990s Durrant had begun looking for a more restrained approach and started to rehearse with

¹For a more comprehensive and in-depth analysis of the *Echtzeitmusik* scene, see Blazanovic 2014.

receptive musicians such as cellist (and soon-to-be tam-tam specialist) Mark Wastell and harpist Rhodri Davis (Bell 2005; Beins et al. 2011: 76; Wastell 2016). The first recordings displaying this approach came out in 1997: one was *Navigations* by the Chris Burn Ensemble, on which two pieces, one by Durrant and Axel Dörner and the other by Rhodri Davies and Mark Wastell, presented a more reduced approach. Wastell and Davies are one of the essential sources of agency for the new movement, their collaboration having started in 1995 in the trio IST with bassist Simon Fell. Another significant early recording was *Beinhaltung* by the trio of Phil Durrant, Austrian trombonist Radu Malfatti and German synth specialist Thomas Lehn (Bell 2005). Malfatti is a recurring presence whose influence was important both in the *Echtzeitmusik* and the New London Silence scenes (Blazanovic 2014: 35; Fell 2013).

Another important meeting ground for London's new improvisors was Eddie Prévost's ongoing series of weekly improvisation workshops, where, in 1997, Wastell had already started to work with the musicians who would later contribute to the New London Silence, such as trumpeter (and later electromagnetic field specialist) Matt Davis and sax and feedback player Graham Halliwell (Bell 2005: 35). The label 'New London Silence' was used for the first time by the trio The Sealed Knot (Burkhard Beins, Mark Wastell and Rhodri Davies), initially in the liner notes of their first recording on Wastell's Confront label in 2000, and later for a tour in September 2001. The subheading of the flyer for the tour was a single line of text: 'Berlin Reductionism [space] New London Silence' (Figure 1).²

The popularity of the movement was further cemented by an article by Clive Bell that appeared in *The Wire* magazine in 2005 (Bell 2005).

Although the Berlin scene never identified itself with the term 'reductionism', this label inevitably, and perhaps problematically, became associated with both of these scenes. From the very beginning *Echtzeitmusik* and the New London Silence maintained frequent exchanges, resulting in a network that soon expanded to other cities that were experiencing similar musical interests, such as Vienna, Tokyo and Barcelona (Beins et al. 2011: 69–77).

There are differences between Berlin and London that are worth mentioning. Contrary to Berlin, in London some of the early actors of the 'lowercase improv' scene insisted more on the modernist principle that the 'new thing' referred solely to the musical sound (Bell 2005), rather than the community focus of a flexible network of people with plenty of contradictions in the sound they embrace. The difference comes out also in the names: New London Silence

points to a new aesthetic connected to an acoustic component of the music, whereas the term *Echtzeitmusik* expresses an aesthetic based on a modality of musical performance. It is tempting to locate the source of this distinction in the recent historical differences between their two host cities: in Berlin, after the fall of the wall that had kept so many friends and family members near yet unreachable, the insistence on bridging differences was a more powerful drive than the emancipation of a new sound from the previous directions of free improvisation. Moreover, the history of free improvisation in Berlin, mostly revolving around the Total Music Meeting festival (1968–99), had very respectable antecedents but was not comparable with those in London, which from the 1960s to the 2000s had been the main furnace for European free improvisation.

2. IMPROVISATION AND ELECTRONIC MEDIA

Echtzeitmusik and New London Silence are two movements of capital importance to understand the challenges of improvisation in relation to electronic media. Increased access to electronic instruments and media played a significant role in some of the directions explored in Berlin and London in those years, for two primary reasons. First, the acoustic qualities of electronic sound started to become a major source of ideas and inspiration, even for acoustic improvisors (Rhodri Davies in Beins et al. 2011: 70). Many of the most common techniques that defined the sound of these two scenes have direct references to electronic music. For example, a continuous block of texture travelling flat and horizontally through time, cut sharply and unemphatically at the beginning and at the end,³ shows clear references to electronic music performances that used gates to activate and deactivate the sounds, when controllers with sophisticated ways to control amplitude dynamics were not yet available. Repetitive and circular motions are reminiscent of the looping technique omnipresent in studio-based electronic music from the days of analogue tape. Using the sound of the breath through a wind instrument without letting the note sound, while using the mouth and the keys to filter the spectrum of the sound, became so common in Berlin that it is now regarded as something of a cliché,⁴ this sound is

³A good example of this is 'Unwanted Object II' by The Sealed Knot (The Sealed Knot 2020) – primarily Burkhard Beins's percussion part – but also providing a good example of the repetitive/circular motion discussed later in this paragraph (as well as being a particularly original contribution to the aesthetic of the third generation).

⁴For an example of this technique, listen to the fifth track of *Phosphor* at 9:10 (Phosphor 2001).

²Private email exchange with Mark Wastell.

The Sealed Knot
Berlin Reductionism New London Silence

AUTUMN 2001 TOUR

BURKHARD BEINS
Percussion

RHODRI DAVIES
Harp

MARK WASTELL
Violoncello

Tuesday 25th September - CHELTENHAM 8pm
The Strand, 40-42 High Street, GL50 1EE, contributions welcome

Wednesday 26th September - CARDIFF 8.45 pm
Platform One, Chapter Arts Centre, Market Road, CF5 1QE £2

Thursday 27th September - HUDDERSFIELD (Lunchtime) 1pm
St. Paul's, Huddersfield University, Queensgate, admission free

Thursday 27th September - SHEFFIELD (Evening) 8pm
Moorlands, 78 Kingsfield Road, S11 9AV £4 / £2

Friday 28th September - LONDON 7.30pm
All Angels Festival, St. Michael & All Angels Church, Bath Road, W4
Turnham Green Tube £6 / £5

Saturday 29th September - READING 8.30pm
Rising Sun, 30 Silver Street, RG1 2ST £5 / £4

'The Sealed Knot' are part of a young generation of musicians who share an interest in exploring silence, texture and time within an acoustic chamber music context. Beins has been touring the States with his electronic - industrial group PERLONEX. Wastell and Davies have recently returned from their acclaimed New York debut, playing in Derek Bailey's COMPANY with John Zorn and Joey Baron.

Financial assistance from Jazz Services National Touring Support Scheme

Figure 1. Flyer for the first tour of the band The Sealed Knot.

familiar to anyone who has heard a white noise generator sent through a filter.

The associations with the electronic material were conscious. Asked about this, Mark Wastell says: ‘There was much discussion about that at the time. Especially between Phil Durrant, Rhodri and myself. Also, glitching sounds and sine waves were utilised by us.’⁵ Burkhard Beins also confirms this view for the Berlin scene:

We openly discussed this a lot. We deliberately wanted to break with the personal expression and the ever-continuous flow of most improvised music back then. In order to do so, we introduced long silences (inspired by Radu Malfatti, Cage, etc.), and yes, elements commonly seen in electronic music such as monochrome or static textures and “filtered” sounds (certain minimalist electronica of the 90’s), and machine-like repetition and start/stops (musique concrète, industrial).⁶

With such similarities in the techniques, it is not surprising that acoustic and electronic instruments merge seamlessly in terms of sound.

It must be noted that these electronic or studio techniques that inspired the acoustic instrumentalists, such as amplitude gates, loops, white noise generators and filters, all come from the pre-digital era. The digital techniques most employed by the neo-modernist academic establishment, such as spectral re-synthesis, complex phase vocoders and algorithmic techniques, were not influential for the *Echtzeitmusik* and New London Silence scenes. Nor did the boom of the personal computer and later the laptop have the kind of aesthetic impact seen elsewhere.

The second of the two reasons mentioned earlier is that the slower pace of the decision-making involved in these more contemplative approaches allowed the necessary space for the performers to come to terms with the relationship between their own agency and the agency of any machines involved. If we consider the use of the electronic tools in groups from the first two generations of free improvisors, such as the Evan Parker Electroacoustic Ensemble, we notice the acceptance of a separation: electronic music is focused on sound processing, thus even when the decision-making is indeed a loop of responses between the instrumental and the electronic material, the network is hardwired to have the first step coming from the acoustic instruments. The electronic media do not grow with the improvisatory dynamic, they come after and have to scramble among daunting technical challenges to find effective solutions to join a well-functioning and powerful musical construction. Sound processing does not require the same detail of intervention that we hear, for example, in the usually lightning fast interaction

between Anthony Braxton and Evan Parker:⁷ a quick passage of many notes can be processed with effects, sampling and algorithmic modifications, bypassing the problem of having to make timely decisions over the most minute detail. The approach generally displayed in the third generation of improvisors, as exemplified by *Echtzeitmusik* and New London Silence, is different. The electronic media are embedded in the evolution of the scene, not only in the acoustic way just described, but also in terms of decision-making. Electronic media players are not separated on a different plane of decision-making: the slower pace makes possible a normalisation of the roles, so if the electronic instrument does not allow the same fast interaction of an acoustic instrument, the acoustic players tend to adjust to the minimum common denominator by limiting their possibilities.

In terms of numbers, the normalised presence of electronic music performers in improvised settings is noticeable in the line-ups of some of the most respected large improvisation ensembles that came out from these two movements. In London, if we look at Mark Wastell’s ever-changing ensemble *The Seen*, we notice that electronic musicians are almost always present, occasionally even accounting for the majority of the participants. From 2003 until the time of this writing, *The Seen* has played in front of an audience 25 times, always in a different formation, although with many recurrent musicians gravitating around the group. Looking at all the concerts played, out of 206 individual performances as part of *The Seen*, we can count 66 instances of performance using either a fully electronic instrument (laptop, analogue synth) or something in between (feedback cello, feedback cymbals, guitar in combination with electronic tools).⁸ This means that 32 per cent of the instrumentation in this project has been made up of electronic instruments. In Berlin, the main large improvisation ensemble is the *Splitter Orchester*. The *Splitter* has a relatively stable personnel: with the exception of Helena Gough, who played only in the first concerts of the orchestra, and Magda Mayas who joined later, the current electronic members have been with the group uninterruptedly from its start in 2010.⁹ Out of the current 24 members, four use electronic instruments (Ignaz Schick, Marta Zapparoli, Mario de Vega and Boris Baltschun) and two (Andrea Neumann and Magda Mayas) use mixed sets, which

⁷Braxton and Parker’s duo recording in London 1993 provides many good examples of this; for example, at 4:20 of the first track (Braxton and Parker 2003).

⁸This does not include electric guitar when played without additional electronic tools because of its iconic place in the acoustic instrument world.

⁹www.splitter.berlin/ (accessed 12 December 2019) and private email exchange with Patrick Klingenschmitt and Michael Thieke.

⁵Private email exchange.

⁶Private email exchange.

means that 25 per cent of the group use electronic instruments.

Comparing these numbers with other major large improvisation ensembles whose sound is rooted in the ideas of the first two generations of improvisors, a clear difference is immediately apparent. Some early large experimental improvisation groups did include electronic improvisors; for instance, in Anthony Braxton's Creative Orchestra, the 20 or more elements often included a synthesizer player (Richard Teitelbaum or Bob Ostertag).¹⁰ The low number of electronic musicians in those days reflects the obvious fact that portable electronic tools were generally rare and expensive, and improvisors able to play them with the skill equivalent to that of the greatest acoustic players even rarer. Another comparison is more telling of the change of scenario that the third generation brought about: the London Improvisation Orchestra (LIO), which was founded in 1997/98, and is thus almost contemporary with *The Seen*. Out of the 31 musicians who recorded on *Proceedings*, the first release of the LIO in 1999, only two, Adam Bohman and Kaffe Matthews, are listed as electronics performers, and this proportion stays pretty much constant throughout all the group's abundant subsequent releases. These differences in the instrumentation of other large improvisation ensembles operating at the same time as the Splitter Orchester and *The Seen* demonstrate that the broader inclusion of electronic instruments proper in *Echtzeitmusik* and the New London Silence is more a result of a change in improvisatory dynamics than the broader availability of the electronic tools. Indeed, the sound of the LIO is deeply influenced by the ideas of the first two generations of improvisors: Evan Parker and Steve Beresford were among the most notable names involved in the group's founding years (London Improvisers Orchestra n.d.),¹¹ whereas *The Seen* and the Splitter Orchester are inextricably linked to the generation that came after.

The broader diffusion of an electronic sensitivity for the sound and a generally slower pace of interplay contributed to an approach to improvisation that, especially in the early years, preferred a more contemplative attitude over the frantic and responsive action of the early free improvisors. A rigid interpretation of this contemplative approach, displaying an extreme inhibitory control preventing traditionally dialogic forms of improvisation, coupled with a significant use of silence and barely audible volume levels, came to be identified with the two scenes and labelled as reductionism, which went on to become very popular

in the circles of experimental music (closing a circle of influence that will be discussed further later). Nonetheless, the reductionist interpretation and its easy branding tend to hide some of the most interesting achievements of the third generation of improvisors; it is therefore worthwhile to elaborate more on what forms of reductions and limits are in play.

3. REDUCTIONISM

The ideas proposed by the main protagonists of the London and Berlin scenes at the turn of the millennium, in a very early stage, did indeed initially present some aesthetic coherence, but this soon started to splinter into a kaleidoscope of approaches, ranging in terms of electronic improvisation from the lightning fast responsiveness of Ignaz Schick on turntables, to Phil Durrant's more objective and contemplative approach to electronic sound, passing through Toshimaru Nakamura's subtle equilibrium between the behaviour of the instrument and the performer's decision-making on the no-input mixer. Moreover, if we focus on the individual actors, we can rarely find a musician whose activity can be pigeonholed in only one direction. Reductionism falls short of describing how this variety of approaches and the coexisting tendencies in each individual improvisor are associable with a surprisingly tight and identifiable group of people, who shared many common intentions, of which aesthetic reductionism is perhaps not the most salient. Marta Blazanovic describes the movement in its dawn as aesthetically dominated by a reductionist approach, resulting in a music that was 'relatively withdrawn, much reflected upon, more conceptual, and not that intuitive – but still essentially improvised' (Beins et al. 2011: 30), but also points out that:

The term reductionism exemplifies how, in the ever-changing practice of improvised and experimental music, very specific labeling can even have a negative effect in the long run. The musicians, who at the time of their first records and first bigger tours spread the term themselves for practical reasons ... now mostly complain when categorized as reductionists. (Blazanovic 2010: 2)

The radical reductionist urge was already considered 'over' in 2005, with Mark Wastell calling the New London Silence 'dead' (Bell 2005; Wastell 2006). Andrea Neumann (2003: 130) found the term reductionism 'artificial', while Axel Dörner said that reductionism was just a word he ended up being associated with against his will and talks about an 'expansion' rather than a reduction:

[F]or me, what we call 'reductionism', is actually an extension of my playing. So when I play concerts where fewer types of sound happen, and a lot of silence, then for me it's an extension of my playing. Maybe it has

¹⁰On the albums *Creative Orchestra Music 1976* and *Creative Orchestra (Köln) 1978*, respectively.

¹¹www.londonimprovisorsorchestra.co.uk/ (accessed 20 March 2019).

something to do with the fact that I don't play this kind of music exclusively. (Beins et al. 2011: 362–3)

Finally, the unease surrounding the term can perhaps best be condensed in Kai Fagaschinski's irony in referring to reductionism as the 'r word' (Beins et al. 2011: 253).

While artists accepting or rejecting labels is perhaps of limited relevance, the idea of creating exclusion criteria on the basis of a rigid application of reductionism can have significant implications in a field such as improvisation, where inclusion or exclusion from the scene demonstrably affects the possibility to play music that generally requires more people freely sharing a set of premises. If any rigid criteria of aesthetic inclusion were ever set in these two scenes, it was only in the very early days; after a few years 'the reductive strategies could be truly acknowledged as means to an end, through which the gained musical potential they brought was sought to be extended and evolved in new directions' (Blazanovic 2014: 77; Hayward in Beins et al. 2011: 222). Soon, *Echtzeitmusik* identified itself as a network of people with aesthetic ideas that were diverse and always in flux (Beins et al. 2011: 19). Ironically perhaps, the most rigid inclusion criteria are now often seen among festival organisers, record producers and musicians who join these movements well after the main protagonists have come to doubt its coherence.

3.1. Reductionism and improvisation

The relationship between reductionism and improvisation is thus complex. In Michael Thieke's playing, there are moments where he is controlling three different layers of sound: the standard clarinet's note, the multiphonic in the high register and the breath, all three layers treated almost independently, using three different, mostly cyclical, amplitude patterns and specific techniques to produce variety in this threefold subtle movement. If the duration of such a complex aggregate of motions extended only for the short span of a note in a classic burst of activity typical of the first generation of free improvisors, our perception would stand no chance of grasping and appreciating all the acoustic micro-developments. Thus, the duration is long, the fundamental pitch is stable, the volume is quiet and there are no frequent abrupt changes of direction in the music.¹² These elements call for active listening and encourage the listener to dive into the details. Does the term 'reduction' really provide a good idea of what is going on here?

¹²For an example of this, listen to the beginning of the track 'Chicago' in *Blurred Music*, especially at 1:35, by the duo Biliiana Voutchkova and Michael Thieke (Voutchkova and Thieke 2018)..

If 'reduction' is considered in relation to the information the musicians are exchanging or the listeners are receiving during the performance, the term seems at odds with the basic theory of information, which states that, if we reduce the maximum amplitude of the information channel, but we increase the resolution of the signal accordingly, the capacity of the channel, and thus the amount of information carried, stays the same (Shannon 1948). As observed in the programme notes for the group Phosphor, working with very quiet material was functional to 'opening a microscopic dynamic spectrum with a large potential for differentiation' (Beins et al. n.d.). The increase in resolution, and thus the potential for major differentiation, is achieved relying on the adaptiveness of our perception: once the listener's perception adjusts to a new threshold of detail, the amount of information carried by the sound can result even in an expansion. The idea of reduction leads to misinterpretations about the adaptiveness of our perception because it often categorises a performance on the basis of the capacity of the information channel mistakenly considered as a constant instead of a variable. Despite a general preference in these scenes for insistently keeping the sound to barely audible levels, both silence and loudness can foster adaptive perceptive phenomena. Phil Durrant, even if he has no issues with the term 'reductionism', is aware of this mechanism: 'the big thing is not a reduction in material and volume, it's a reduction in pace' (Bell 2005: 35). There is no denying that the third generation of free improvisors insisted on limits, but limits here are often functional to the expansion of the information channel: when the channel's capacity increases, new actors emerge from the world that had previously been below the detection threshold of our perception, and thus concealed from our point of observation; new actors mediate new agencies during the performance and details that had previously not been worth our attention are now the mediating forces that make unforeseen events happen.¹³

These concepts are certainly not new. Cage (1961) had already proposed this idea eloquently about 50 years earlier. Feldman (2000) was insisting on limits and repetitions in a way that often very closely anticipates the music that came out of London and Berlin from the end of the 1990s. From the 1980s onwards, Walter Branchi, former member of the Gruppo di Improvvisazione Nuova Consonanza, insisted on quiet music to allow the sounds of the surrounding

¹³For an enlightening early theorisation of how awareness of our limits to process information can enhance our processing capabilities, see Herbert Simon's concept of bounded rationality (Simon 1997). Specifically, see pp. 46–7 for the limits of our rationality and pp. 225–7 for the uneasy relationship between quantity of information and human processing capabilities.

environment to be part of the music (Branchi 2017: 104). Starting from the early 1990s, the Wandelweiser group found all sorts of new interpretations of composing the quiet, letting the sounds of the environment and the most inaudible details of the musical gestures participate in the composed material (Bell 2005; Blazanovic 2014). A truly innovative aspect of the third generation of free improvisors is their ability to adopt this sensitivity in a performance that remains essentially improvised. There had been early visionary forerunners such as Roscoe Mitchell (Lewis 2008: 322) experimenting, among other things, with a similarly reduced pace in improvisation, but it is not until these Berlin and London scenes of the late 1990s that this approach reaches its full expression in group improvisation and an international reach.

4. SURVEY: THE STATE OF TECHNOLOGICAL DEPENDANCY

In this survey the same three questions were presented to seven electronic musicians representative of the third generation of improvisors, focusing for the most on Berlin and London. The questions are aimed to better understand their instrumentation, what led them to their current sets and, ultimately, how they see the relationship between the objects they play and their aesthetic. Respondents from the *Echtzeitmusik* scene include Toshimaru Nakamura, Ignaz Schick and Marta Zapparoli, as well as Thomas Lehn who, although he never lived in Berlin and was not an active part of *Echtzeitmusik*, shared the same concert venues and collaborated with numerous members of both the Berlin and London scenes. Respondents from the New London Silence are Phil Durrant, Phil Julian and Bill Thompson.

4.1. Toshimaru Nakamura

Toshimaru Nakamura is the pioneer of the no-input mixer, a standard mixing board transformed into an electronic music instrument by plugging its output back into its input and controlling the resulting feedback using gains and filters. After deciding to focus on the no-input mixer in the mid-1990s, Nakamura started to split his time between Tokyo and Berlin, getting deeply involved with the *Echtzeitmusik* scene. His music has been recorded on over one hundred audio publications, including nine solo CDs.

- LM: What do you look for in an electronic instrument? What brought you to your current setup?
- TN: I started to play electric guitars when I was a teenager. Nothing so special. It

happened to me just like it did to many other kids. Guitars were everywhere around. I grabbed one of them. And my first job I had was a sound technician. It was the days back in analogue tape machines, effect units, and mixers. So, those things were always around. At one point in my life when I decided to stop playing the guitar, I saw all those things around me left over. And I found possibilities in them.

- LM: How do you see the relationship between technological innovation and aesthetic innovation?
- TN: I understand technology and aesthetics are related. In human history, they cannot be separated from each other. But I don't really look into the technological side because I don't invent or develop anything totally new. Technology is everywhere. I am just a user. So, I only care about my aesthetics.
- LM: How do you see the balance between obedience to the instrument and the possibility to improvise with someone else making decisions?
- TN: I don't think they can be separated. When I play improvised music on my no-input mixing board, sometimes I make my decision, sometimes I follow what my machines want to say. I cannot tell how much is from me, and how much from my mixer because the balance is always different. If I have to say, they are more or less 50/50.

4.2. Thomas Lehn

Among electronic improvisors, Thomas Lehn has been one of the most active voices in the last 25 years. In this period he has been performing in all sorts of formations on modular synthesizers and since 1994 has performed almost exclusively on the EMS Synthi A, an analogue synth released in 1971, which he still uses today without any substantial modification.

- LM: What do you look for in an electronic instrument?
- TL: Firstly, I always considered my synthesizer as a music instrument, like an acoustic instrument. Like those, it produces sounds of various kinds of which music is created.

However, like other electronic instruments, the EMS Synthi A offers at times the possibility to produce sounds without the player's activity: it is capable to run itself. A feature, which I do not want to regard as of such high importance; I use it very occasionally, but I enjoy a lot when the Synthi 'proposes' or 'surprises' me with some material I can pick up, 'observe' and develop further!

LM: On what basis do you decide to introduce a new element in your setup?

TL: Another consideration when regarding the Synthesizer as an 'instrument' is the phenomenon of growing with it in a kind of long-term relationship, where you go through various stages over the years. Like with an acoustic instrument, there is no end of learning, no end of getting deeper into something. The same consideration I have also with ensembles: I am curious about what happens with the music after many years working together: what stays, what opens up into other aesthetical orientations based on long-term work.

This is probably the main reason why I did not change my electronic setup anymore, since I got the Synthi A back in 1994. I am staying with it like a violinist stays with playing the violin. Aside from continuing performing with the piano, the Synthi A became my main and only electronic instrument. I never introduced any other electronic devices into my setup or around the Synthi so far ... In the majority of all my performances, I just use the Synthi without any other additional electronic devices.

LM: How do you see the relationship between technological innovation and aesthetic innovation?

TL: I value as said above a deepened background, and the growth of something over a long run and continuity of work. In this respect – despite the wide range of new possibilities of sound structure and qualities – I see and hear technological innovation with a critical eye and ear in regards to aesthetic innovation. I believe, aesthetic innovation is not so much based on technological innovation, rather on the minds of the artists themselves. New sounds do not necessarily mean 'innovation'; it might on a superficial level, but not necessarily on a deeper consideration of art.

4.3. Ignaz Schick

Ignaz Schick is an integral part of the *Echtzeitmusik* scene. Initially trained as a saxophonist, from 2004 onwards he increasingly started to play concerts using the record player as his main instrument (Beins et al. 2011: 239). He quickly shifted from sample-based material to a more abstract form of turntablism, using only objects on the rotating surfaces of the record player. After about ten years, when his set-up was stolen, he came back to a sample-based approach and now he plays mostly with samples from a collection of performance records.

LM: What do you look for in an electronic instrument?

IS: When playing saxophone I am still focusing on so many timbral elements within the tonal control, I simply never got further into all those abstract sounds and noises people like John Butcher, Alessandro Bosetti, Frank Gratkowski or Axel Dörner are capable of doing. And so I decided to do all those abstract sounds with my electronic set-up, like dividing the job. Another aspect is that I can completely exchange the material in my electronic set-up depending on the musical context. Over the [last] years I have worked mostly sample-based, which means by switching from one record to another, I can enter and open a completely different stylistic terrain. Another really important issue is accessibility and tempo. I work mostly with improvisors; many of them are acoustic players, very skilled, virtuoso and fast reacting musicians. I need to be able to react in an instant. That's why I use the turntables, they are extremely fast and reactive, also haptic and hands on. A small gesture can have a big impact.

LM: On what basis do you introduce new elements in your set-up?

IS: Recently my performance records have reached something like 50 LPs, which I carry besides some other machines. So I started sampling entire records onto one sample slot. I took those vinyls out in order to be able to carry less or other vinyls. That's one reason why I added the samplers. Another was when playing in Ilog with Oliver Steidle, I felt that I needed to be more precise as he plays so tight on his drums: with the sampler it is easier to achieve than with records. In Perlone I need a certain range of

materials and a key element is sine wave drones. So here I added oscillators or synths to the line-up. In Splitter Orchestra it is more a question of which sounds and samples of my library will blend and work with the many extended sounds created by the mostly acoustic instruments; the players of Splitter are very tasteful, critical, and demanding due to their highly individualistic craft and refinement, when it comes to sound production. In general I have completely stopped using software and computers in my live-playing. I use both in the studio, but I do not switch software anymore. I use the same tools all the time.

LM: How do you see the relationship between technological innovation and aesthetic innovation?

IS: For me the tools should always be serving the purpose and not vice versa. When I listen to music, I don't want to think of how and with what tools it is made. I want to forget about this and want to be invited to not think anymore. Also we cannot constantly innovate. We also need to repeat, rethink, recreate, rearrange, reorganize, re-categorize, restructure, resolve, restore, re-evaluate and re-contextualize some things achieved in the past. At least for me, this is what I mostly do. I stopped producing new sounds; I sample from the vast history, but put things in different context, and create new constructions and possibilities. Mostly you will not know the sources I use, because they are so unknown and unfamiliar, or in such different context. Of course there are great new machines all the time, and I am not shy to use them if they serve some good purpose.

But recently I have returned more and more to some very basic, analog and often handmade choices in tools. I tend to compose my music using pen and paper and draw my score by hand. It would take too long to achieve what I want to do by using notation software. I use old sine wave generators or oscillators instead of a phone app. Maybe I am old school, but I am happy to not spend time at the computer.

4.4. Marta Zapparoli

Like Ignaz Schick, Marta Zapparoli also came out of *Echtzeitmusik* and is part of the Splitter Orchestra. She belongs to that group of musicians, such as Valerio Tricoli and Marc Baron, who decided to make an

instrument for live manipulation out of analogue tape reels, and found original aesthetic solutions some 30 years after the first experiments by pioneers such as Bob Ostertag and Simon Emmerson. Most of her work happens before the performance, travelling for site-specific recordings or waiting for some processes to deteriorate the tape. Nonetheless, the large array of material and her hands-on approach translate into numerous collaborations with all sorts of improvising performers. In her discourse, more than practical aspects, it is her subjective idea of sound that comes out, but the attention to the behaviour of the machine works as a constant backdrop.

LM: What do you look for in an electronic instrument?

MZ: The electronic instrument is a tool I use to express my physical and polluted idea of sound. I utilize the analogue tape recorder due to its physicality, the risk and potential imprecision involved, the freedom of handling, the background noise, the rough sound, and the chemical characteristics of the tape. My particular love is the capacity of the magnetic tape to change quality after long-time use, particularly in the low-end frequencies. (There is a certain warmth in the bass, and the lack of digital compression allows for a more realistic sense of dynamics and space.) The sound quality of the tape reflects the idea of materiality that I have towards the sounds of the outside world. This machine allows me to use my hands as a connection between different fluxes of energy.

LM: On what basis do you introduce new elements in your set-up?

MZ: My set-up can be very simple with no external effect devices etc., but also at times more complicated with the use of detectors, antennas, radio receivers and more. I don't introduce new elements often, just when my project dives and changes its shape from specific ideas. It is a constant evolution of ideas and the new element is introduced only when I really need it to develop the idea.

LM: How do you see the relationship between technological innovation and aesthetic innovation?

MZ: I think that technological innovation and aesthetic innovation are not linked to each other, are not synonymous. Aesthetic innovation comes from the stimuli of the outside world, interpreted, transformed, reinvented by creativity and imagination.

In our society we need to use technological innovation in an intelligent way to transform unique and creative ideas into new realities.

4.5. Phil Durrant

In London, Phil Durrant was an essential influence in the reductionist turn. Trained as a violinist, before the end of the 1990s he took part in some notable experiences of the London scene such as the 'group voice approach' in a trio with John Butcher and John Russell. Among the first examples of a more reduced approach there is his trio with Radu Malfatti and Thomas Lehn. In the 2000s he gradually shifted towards electronic music, initially with self-programmed Reaktor sessions and more recently focusing exclusively on modular synthesisers. He often performs solo, in duos with Bill Thompson and Mark Wastell, and as part of Wastell's large ensemble The Seen. As an electronic musician, his most influential collaborative effort is the long-standing trio Sowari with Burkhard Beins and Bertrand Denzler.

LM: What do you look for in an electronic music instrument?

PD: After at least 15 years of working with specific semi self-built Reaktor Ensembles on a Macbook I changed completely to using a modular synth system in 2016. I had started to incorporate an iPad as a controller into the Macbook assemblage but a birthday present of a Moog Mother 32 and the fact I already owned a Doepfer modular system made me decide to make the change to modular.

First and foremost the sound has to excite me. If the sound world does not excite me 100% then no amount of flexibility will convince me to add a gear to my system. Size is also an important factor. Being able to carry gear to a gig relatively easily has also become an important factor.

LM: On what basis do you decide to introduce a new element in your set-up?

PD: Generally I am quite rigorous with my research before adding a gear. I tend to wait for demos on YouTube, read the specifications, and download a manual. In the last year I have decided I have enough variety and flexibility to do layered 'AMM style' and also 'Moment to

Moment' improvisation and I have decided to work with what I have.

LM: How do you see the relationship between technological innovation and aesthetic innovation?

PD: In terms of the modular scene, I think that they work together. It is mainly the modular scene that I have been following the last 5 years. The increase in the 'West Coast/Buchla' style synthesis modules has reflected consumers wishes but also encouraged people to try a different way of thinking and move away from the more traditional Robert Moog 'East Coast' style. In terms of my aesthetic, I was very keen to explore the West Coast style at a deeper level: a Berlin based company have released two 'Koma' instruments that have provided two affordable portable mixer systems for contact mics DC motors and effects, and their Kickstarter campaign seem to both reflect and encourage a newfound interest in the kind of aesthetic championed by Hugh Davies and David Tudor.

4.6. Phil Julian

Phil Julian is a stable presence in the London scene. For the last 15 years, he has been playing in all the hot spots such as Cafe Oto, Hundred Years Gallery and Iklectik and has recorded with the main protagonists of the New London Silence. He is also another of the few constantly fully electronic members of The Seen.

LM: What do you look for in an electronic music instrument?

PJ: I think some sort of flexibility in terms of what sounds can be generated from/with it is key for me. I don't consciously have a particularly fixed sound palette that I always like to use (although I inevitably gravitate towards some sounds more than others, as everyone does).

I like a certain amount of tactile interaction with whatever I'm using. It doesn't have to be much; a track-pad on a computer can be enough but I generally don't care for setting a process running and allowing it to run itself without me steering it in some way.

LM: On what basis do you decide to introduce a new element in your set-up?

PJ: ... I try and have the idea and then find the best equipment to execute it rather than turning a machine on and tinkering around until something interesting arrives. I used to do that quite a bit but find it a rather frustrating process these days.

I tend not to change live setups too readily or drastically because I imagine it may not fit with another person's aesthetics. Hopefully I have enough sonic 'material' to hand where I can do that sort of adjustment in the moment if needs be.

LM: How do you see the relationship between technological innovation and aesthetic innovation?

PJ: They're often not linked in my mind. I certainly don't rush out and investigate every new piece of gear the moment it arrives; in fact most of the things I use regularly are actually rather old ideas in the grand scheme of things.

If you have a nice new thing, you often want to spend time using it and therefore it's a new exploration of its possibilities and that seems exciting, causing you to create something new. But I've often found that to be misleading and, actually, I could have got a similar result using that dusty old broken thing in the corner, it just so happened that the exciting new thing was switched on at the time. The thing to bear in mind, particularly with electronics, is that they're often not really designed with the amount of real-time interactivity and intuitive layout that improvising musicians might like. Often what ends up on an electronic musician's table was actually designed with a guitarist or DJ in mind for example, so technological innovation in those spheres can often be a little irrelevant or a backward step in terms of what we might like to see.

4.7. Bill Thompson

Bill Thompson was born in Austin, Texas, and relocated to the UK in 2004. First in Aberdeen and from 2010 in London, he has worked on composition, installations and AV performances as well as improvisation, collaborating with musicians such as Keith Rowe, Mark Wastell, Rhodri Davies, Phil Durrant and choreographer Ian Spink.

LM: What do you look for in an electronic instrument?

BT: I'm looking for something that allows 'discoverability' that is inherent to the instrument (or system) and isn't completely 'fixed' or overly determined. If there isn't some inherent 'crack' that I can get into and pry apart to discover something new/different/interesting, I'm not much interested in it.

LM: What led you to your current set-up?

It's rarely been a linear process – i.e. I have found most of my instruments by 'accident' depending on what I was doing before. When I first played electric guitar 25 years ago, I wanted to be a blues/jazz/rock player, but I loved to improvise. I was terrible at imitating other people though – simply couldn't do it, so I spent most of my time improvising and learning the instrument in an abstract way. Eventually, I started to play it unconventionally, adding a few FX, and then after a while, got rid of the guitar altogether and just played a microphone shoved into a shoe through an FX unit. I was also doing computer composition at the time but when I came across CDDJ players I realized they could do most of what I was doing with the computer live, and so I moved on to using those. And then as laptops became more stable I replaced the CDDJs with Ableton and a midi controller which gave me much more flexibility.

After 15 years of that rig combined with various electronics, circuit bent toys, and found objects, I felt that I had 'done it' and wanted something else. Coincidentally I came across a Moog guitar around the same time and was blown away by it – it was a return to the guitar work that I did years ago but with the additional electronics that allowed me to discover new possibilities, and so I moved on to using this almost exclusively.

LM: How do you see the relationship between technological innovation and aesthetic innovation?

BT: I don't like technology to fully determine what I do and so if I can't screw it up a bit, I'm not interested. However, I don't like to be completely in control either. When I started losing interest in my laptop + junk set-up it was because no matter what I did, I didn't feel challenged by it, it 'stopped pushing back'.

5. OLD TECHNOLOGIES, NEW BEHAVIOURS?

The picture we get from this small but noteworthy microcosm of electronic music performers is as diverse as its members; unanimous positions are hard to find, but some common directions emerge. More than a causal single-handed creative vision, personal aesthetics are entangled with chance and shared authorship, and machines actively participate in the process. This is not to say that personal aesthetic concerns are not present; in fact they always are, but in the practices described, 'external' agencies are perceived as equally important in affecting the decisions that lead to the technology of choice. For instance, there is human agency other than the self: we see equipment and gestures adjusting to the desire to be able to play with virtuoso acoustic players (Schick); or to be involved in a continuous, long-term and cooperative process of aesthetic development within an ensemble (Lehn); and we see the concern not to let the equipment change too quickly to catch the other musicians of the group off guard (Julian). A marked role of non-human agency is clearly present in the intrinsic characteristics of the machines and the desire to find a balance between what the instrument has to say versus what the musician wants to say through it (Nakamura). It is interesting to note that there is no rule that can help to predict which electronic instrument will give the best results: sometimes an instrument is chosen because it allows one to do things that do not come easily with traditional instruments (Schick); at other times it is pure chance, an object that is readily available or a birthday present (Nakamura, Julian, Durrant). In terms of technologies oriented to performance, there seems to be no fixed set from which to choose, nor a tradition that can provide a safe direction.

In the attention paid to actors other than the self, and to how personal intentionality is almost always considered in relation to a larger network of agencies, we can verify also in the third-generation Born's account about the awareness displayed by previous generations of improvisors towards the microsocialities of performance and practice (Born, Lewis and Straw 2017: 47). According to the musicians surveyed, the answer to the question that started the survey is clear: the causal relationship between aesthetic innovation and technological innovation is the exception, not the rule. The exceptionality of electronic media has decreased: the electronic instrument is considered an instrument in exactly the same way as acoustic ones (Lehn); experimental electronic performers are fine with considering themselves just users of the technology and focusing the scope of their experimentation to the aesthetic domain (Nakamura); even when mentioning the new timbral possibilities, in performance they often prefer simple handmade instruments to the latest cutting-edge technology (Schick); the idea that new machines generate

new aesthetic directions in improvised performances is either openly rejected (Lehn, Schick, Zapparoli, Julian) or is seen in a broader discourse of weightings, where the performer's intuitive decisions find a balanced coexistence with the independent behaviours of the machines (Nakamura, Thompson). Only Durrant considers the link standing; however, his perspective, rather than aligning with European modernism, instead owes a debt to the first American experimentalism and to English experimental London pioneer Hugh Davies, in that space should be left to sound-producing objects to unfold their own surprising agency and the composer/performer should relinquish a tight grip on the material and become also a listener. Such openness to listening to the objects changes the aesthetic reasoning of the musician.

Probably the most striking finding of this survey is that the laptop is almost completely absent from the set-ups of these improvisors. Omnipresent in studios and in shows where intuitive decision-making is not a top priority, for most of the leading electronic music improvisors, when it comes to the stage, the laptop is either an object to handle with caution, or straightforwardly an obstacle (Schick). Even more interestingly, some musicians who worked extensively with the computer for years ended up abandoning it (Durrant, Thompson). Software development seems like an 'old-fashioned' way to achieve the desired results. While programming environments such as MaxMSP and SuperCollider have reached exceptional levels of efficiency and stability, their diffusion in improvised music is not proportional to their technological advancement. Handmade digital synthesis, an essential element for the forerunners of the League of Automatic Music Composers (Bischoff and Perkis 2007), has almost entirely disappeared. It looks as though, for many of the most active electronic music improvisors of the third generation, the hoopla of electronic innovation has died. New behaviours can be mediated equally by new or old pre-digital technology, and in practice there is a marked trend to favour the latter. The dream of the classical composer of a perfect and docile interpreter is indeed a nightmare for the improvisor: when the laptop stops being a mediator and becomes an intermediary, when it stops pushing back (Thompson), it is discarded in favour of simpler and older electric technologies. The vast majority of electronic tools are not designed with the amount of real-time interactivity and intuitive layout that improvising musicians might like (Julian), thus improvisors are often confronting the obstacle of interfering with the behaviour of machines devised for radically different tasks: turntables, tape reels, analogue modules, contact microphones, and mixer have far fewer layers separating the user from their inner functioning in comparison to musical software, and their behaviour can be altered more easily, more quickly, and with a more intuitive haptic feedback.

The *Echtzeitmusik* and New London Silence scenes proposed a successful integration of mostly simple technologies in electronic music performance that displayed a thorough assessment of the limits of human intuitive mental processes (Marino 2021: 37–50). They did so not by adhering to reductionism, but by considering its advantages and then surpassing its boundaries; not by adhering to ideological views of a perfectly cooperating society and defining a priori the nature of its social bonds, or by adhering to messianic ideas of a society shaped by technology, but by letting social bonds participate in the development of an integrated network of human and non-human actors.¹⁴ The result is a scene where technology is coupled with our capacity to process information, where electronic tools, often unchanged for years after their adoption, are given the necessary time to foster intuitive instrumental approaches that serve improvisation as well as empirical compositional practices; a scene where the boundaries of our rationality are embraced for what they are.

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¹⁴For a comprehensive introduction to Actor-Network Theory (ANT), refer to Latour 2005. Specifically, for the agency of non-human actors, see pp. 63–86 and for the distinction between mediators and intermediaries, see pp. 37–42. For the interpretative differences between ANT and emergence, see Latour et al. 2012.