Instrumental infrastructure, instrumental sculpture and instrumental scores: A post-instrumental practice

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Abstract

Over the past two decades, evolutions in musical practice have seen increasing diversification of the tools, medium and methods used in new western art music. A renewed focus on the integration of non-sonic materials not normally associated with music has emerged, with an emphasis on practices exploring how these materials are used in performance. Numerous musicians, reviewers, educators and scholars have attempted to describe and define these practices in writings, resulting in the emergence of new terminologies. This article identifies some key terminologies in current discourse, then discusses how words and language contribute to development of music practices. Trends in the integration of non-sonic materials are examined, including brief case studies of works exploring instrumental infrastructure, instrumental sculpture and instrumental scores. Finally, the notion of post-instrumental practice is proposed as a means to draw together some of the key themes and processes in current praxis.

Introduction: Diversifying musical tools, medium and methods

This article is motivated by discourse surrounding evolving practices in contemporary western art music. Over the past two decades, practices focused on expanding, diversifying and developing musical *tools* (instruments, interfaces, materials), *medium* (composed sound, performed music) and *methods* (collaboration, compositional practices, performance practices) have become increasingly prominent.[1] The foundations of these practices can be traced back

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[1] Louise Devenish, 'Instrumental Infrastructure: Sheet Materials, Gesture and Musical Performance', in *Embodied Gestures*, ed. Enrique Tomás, Thomas Gorbach, Hilda Tellioğlu and Martin Kaltenbrunner (Vienna: TU Wien Academic Press, 2021).

to the experimental and avant-garde approaches of the mid-twentieth century, particularly to musical subdisciplines that emphasized theatrical or visual elements, such as instrumental theatre or Fluxus. The creators of this music were influenced not only by western art music traditions, but also by neighbouring disciplines across the performing and visual arts, and the resulting works frequently included non-sonic elements as part of their performance. A seminal example is Kagel's *Dressur* (1977),[2] which required the three percussionists of pioneering French group Trio Le Cercle to perform notated gestures as well as notated music. During the same period, a proliferation of new electronic and digital music practices began to emerge. This accelerated towards the end of the twentieth century with the advent of the Internet and greater access to digital technologies. New digital technologies influenced the materials, processes and presentation models used in music composition and performance, offering additional possibilities for the integration of non-sonic elements into musical practice.

In the early twenty-first century, the evolution of these practices has further expanded with greater emphasis on interdisciplinarity and intermediality. Central to this, is the application of structural, compositional and instrumental musical devices (such as rhythm, form and technique) to materials traditionally associated with non-sonic materials (such as theatrical sets, lighting and gaming hardware) or to non-sonic aspects of performance (such as notation and physical gestures). Ciciliani observes that the creators of works emphasizing the non-sonic are 'working from the understanding that sound alone is no longer sufficient to express their musical ideas', yet their work remains firmly rooted in western art musical practice.[3] In this discussion, he cites François Sarhan's live installation practice and Jennifer Walshe's regular inclusion of performative or video elements in her compositions as recent examples of musical work featuring non-sonic materials as core components of the music. Similarly, in a discussion of multisensory approaches to contemporary music making, Voithofer references works wherein sound is one of many features – rather than the primary feature – of musical works that 'want to be understood as music'.[4] As new compositional and performance practices exploring the notion of 'musical material' have developed, in many works a blurring of material roles takes place, as both sonic and non-sonic materials are used for various purposes simultaneously. While many of these works could be perceived as belonging to various forms of performance (e.g. theatre and dance), a common thread amongst them is the requirement for specialist musical skills to be applied to non-musical materials. Composer Jessie Marino explains how this way of thinking influences her work:

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[2] Mauricio Kagel, *Dressur* (Frankfurt: Edition Peters, 1977).

[3] Marko Ciciliani, 'Music in the Expanded Field: On Recent Approaches to Interdisciplinary Composition', in *Darmstädter Beiträge zur Neue Musik*, ed. Michael Rebhahn and Thomas Schäfer (Mainz: Schott, 2017), 23–35, here 24.

[4] Monika Voithofer, 'My Material is Not Sound. My Material is Audibility: Notes on Non-Cochlear Music', paper presented at Rethinking Sound, 30–31 March 2018, Seoul, South Korea.

> Since the era of John Cage, we musicians have come to accept and extend definitions of music to be the organization of absolutely any sound. Continuing this context, I wanted to think of music as the organization of any vibration. This would allow us to include light, objects and the manipulation of bodies and space, to the possible roster of musical materials. We could then think of remapping the concept of amplification to include costumes as an amplification of our skin and bodies, video projection as the amplification and animation of light, and further, we could harness and direct electrical flow, not just as a tool for powering our machines, but as an organized and creative platform for the electrical impulses in our brain, to carve out and illuminate a lively performative space within our imaginations.[5]

Marino is not suggesting that costumes might be used 'as an amplification of our skin and bodies' in the same way that bass amplifiers function for electric bass guitars. Rather, she theorizes one way that the sonic concept of amplification could be applied to non-sonic materials such as light or costumes to explore perception of musical ideas beyond hearing, to include visual and tactile perception. Musical elements such as rhythm, dynamics or texture can be perceived in a variety of ways using various senses; the visual perception of gesture in communication of musical expression has been widely studied.[6]

Flashpoints: Language around new music practice

Marino is one of a growing number of makers, reviewers, scholars and educators who have attempted to address interdisciplinary, intermedial and intermodal practices in new music in writing or presentations. However, in many works, the blurring of roles and boundaries is successful enough to render established musical language almost useless when attempting to discuss or analyse them. Genres such as 'instrumental music' are challenged by these works, as are established understandings of existing terms including 'virtuosity', 'musicality' or 'technique'. In such circumstances, these practices is almost more easily described by what they are not, than by what they are. Consequently, as existing language has failed, a proliferation of new terms has emerged. This list of terms can be viewed as evidence of efforts within the field to use language to assist in meaning-making around current practices. Although discourse surrounding new music is known for being jargon-heavy, the number of contemporary terms that have been applied to similar or overlapping practices in new music is surprising when gathered together.[7] Some of the contemporary terms applied to practices concerned with interdisciplinary, intermedial and/or intermodal approaches in new music are:

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[5] Jessie Marino, 'SU Masterclass 43: Jessie Marino on Body as Musical Material', 21 October 2020, at Speak Percussion: Sounds Unheard, https://soundsunheard.com/su-masterclass-43/, accessed 17 May 2021.

[6] Mary Broughton and Catherine Stevens, 'Music, Movement and Marimba: An Investigation of the Role of Movement and Gesture in Communicating Musical Expression to an Audience', *Psychology of Music*, 37/2 (2009), 137–53.

[7] The majority of these terms were developed around the same time, with a concentration of new terms emerging between 2010 and 2020. For further information on these terms, see, for example: Music in the Expanded Field (Ciciliani, 2017); post-percussive practice (Stene 2017); New Discipline (Walshe 2016, Walshe and Takasugi: 2016); relational music (Shlomowitz 2017); conceptual music (Lehmann 2006); post-dramatic theatre (Love, 2018);

- music in the expanded field
- the new discipline
- post-percussive practice
- post-electronic music
- post-digital experimental music
- relational music
- conceptual music
- post-experimental music
- post-instrumental music
- instrumental theatre
- composed theatre
- post-dramatic theatre
- post-aural music
- non-cochlear sound art
- non-cochlear music
- transdisciplinary sounding art
- interdisciplinary music
- intermedial music
- transmedial performance
- post-medial performance

Some of the individual elements within this list of terms (adjectives, prefixes etc.) highlight three tendencies around the language used to discuss new music. First, a number of these terms are direct adaptations of twentieth-century visual art terms to twenty-first-century contemporary music. Examples include Lehmann's 'relational Music' (which follows Bourriaud's notion of 'relational art' or 'relational aesthetics', first articulated in the 1960s), Ciciliani's 'music in the expanded field' (which follows Krauss' influential writing in the 1970s on sculpture in the expanded field[8]) or Kim-Cohen's non-cochlear sonic art (which follows Derrida, as well as Duchamp's notion of 'non-retinal art', dating from the 1910s). Second, a tendency to extend and develop language via the use of prefixes such as 'post-', 'non-' or 'inter-' is evident. This enthusiasm for prefixes also has links to visual art, as has

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post-aural music (Vaughan, 2019); transmedial music (Prins: 2015); non-cochlear sound art (Kim-Cohen); transdisciplinary sounding art (Craenen, 2016).

[8] See Harry Lehmann, *The Digital Revolution in Music. A Philosophy of Music* (Mainz: Schott Music, 2012); Harry Lehmann, *Relational Music: A Paradigm Shift in Art Music*, online video recording, YouTube, 23 May 2019, www.youtube.com/watch?v=IbVFCvBgYZ8 (accessed 1 September 2021); Ciciliani, 'Music in the Expanded Field'; Rosalind Krauss, 'Sculpture in the Expanded Field', *October*, 8 (1979), 30–44; Seth Kim-Cohen, *In the Blink of an Ear: Toward a Non-Cochlear Sonic Art* (London: Bloomsbury, 2009).

been briefly remarked upon in the blog post International New Music English,[9] which borrows heavily from Gilda Williams' summary[10] of research into the vocabulary, syntax and genealogy of the distinctive lexicon that is International Art English (IAE) by Alix Rule and David Levine.[11] Williams notes that IAE is marked by three characteristics, which are echoed in art music writing:

- Habitually improvising nouns: 'visual' becomes 'visuality'
- Fashionable terminology: 'transversal', 'involution', 'platform'
- Abuse of prefixes: 'para-', 'proto-', 'post-', 'hyper-'[12]

Third, it is curious that disciplinary categories such as 'music', 'theatre' or 'sound art' appear so frequently given that interdisciplinarity, intermediality and intermodality are key features of much of the work these terms aim to describe. This suggests that the key questions that drive the creation of these terms start with: Is it music? Is it theatre? Is it art? Does it matter? Why do these questions keep returning? To address these questions, we must consider how and why these terms develop.

The motivation behind the development and use of these terms is as varied as the places in which they appear, which includes biographies, programme notes, magazine interviews and features, as well as scholarly articles, books, theses and conference presentations. Some ringfence artist roles, focusing on the impact of a particular theme of practice on the composer, or the theatre maker.[13] Those that focus on compositional practice could perhaps be doing so in an effort to connect current new music praxis to western art music history, refining terms over time to retroactively trace musical chronologies back into the twentieth century,[14] whereas others have emerged as personal reflections from artists-in-residence in festival programme

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[9] Danika Paskvan, *INME: International New Music English and Online Identity Formation in Post-Digital Experimental Music*, 2017, www.danikapaskvan.com/essays/2017/7/12/inme-international-new-music-english-and-online-identity-formation-in-post-digital-experimental-music (accessed 7 April 2020).

[10] Gilda Williams, *How to Write About Contemporary Art* (London: Thames & Hudson, 2014).

[11] Alix Rule and David Levine, 'International Art English', *Triple Canopy*, 16 (2012), https://www.canopycanopycanopy.com/contents/international_art_english (accessed 13 October 2020).

[12] Adapted from Williams, *How to Write About Contemporary Art*, 13.

[13] For examples, see Michael Rebhahn, 'I Hereby Resign from New Music', trans. by Wieland Hoban for *Darmstädter Beiträge zue Neuen Musik*, 22 (2012), http://data.nuthing.eu/maestri/rebhahn_newmusic.pdf ; Jennifer Walshe and Steven Tatsugi, *Thoughts on a New Discipline*, 2016, https://voicerepublic.com/talks/gedanken-zu-einer-neuen-disziplin; Hans-Thies Lehmann, *Postdramatic Theatre*, trans. and with an introduction by Karen Jürs-Munby (London: Routledge, 2006); Ciciliani, 'Music in the Expanded Field'.

[14] For an example, see Hans-Thies Lehmann, 'The Gehalt-Aesthetic Turn and Conceptual Music', 47 Internationale Ferienkurse für Neue Musik in Darmstadt, 5 August 2014, www.youtube.com/watch?v=OXsc8_KOViU (accessed 17 May 2021).

notes, quickly gaining traction amongst practitioners.[15] Other terms were coined for use in the context of one subdiscipline of contemporary music practice,[16] or as a means to separate from musical practice,[17] but neglect to consider their current and future intertwining with other musical subdisciplines. Some are used to articulate personal creative processes, or perhaps to identify with like-minded practitioners. In numerous examples, disclaimers distancing the authors from anything that might be interpreted as 'labelling' are included, particularly with respect to artists other than the author.[18] Michael Rebhahn's observations on new music opens by stating that the 'rejection of collective descriptions has always been a matter of honour for artists'.[19] Going deeper, in a discussion of experimental music, Bob Gilmore suggests that the reason new music has problems with definitions is because the very nature of the discipline resists it: the practice is characterized by the extension, expansion and blurring of boundaries.[20]

Regardless of the rationale, clarity or popularity of these terms, and despite some degree of overlap or doubling up in the way these various terms are defined, I argue that they all have some value. Evolving language around new artistic practices can be considered as part of the creative process, and also points to the nature of the work itself, as something that exists between or beyond words and language. Solnit reflects that, while we need words, names and terms, they often fall short, especially when it comes to the intangible. Using the changing state of a sunset as an example, Solnit notes that colours exist beyond words, and there are shades 'for which there will never be a term'.[21] This is an observation that equally applies to sound and music. Sound and music can contain and convey things that cannot – or perhaps, should not – be contained or conveyed in words.

Thus, the use of language is central to artistic practice throughout the creative process. For example, in the *before* stages of a creative collaboration on a new work in any discipline, language is often the first means of knowledge exchange. Emails, phone calls or meetings over coffee are very effective for outlining the skeleton of an idea to a collaborator and gauging

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[15] For example, see *MusikTexte*, 145 (2015), which comprises responses to Jennifer Walshe's *The New Discipline* manifesto.

[16] For example in the subdiscipline of percussion, Håkon Stene, *This is Not a Drum: Towards A Post-Instrumental Practice* (Artistic production, Research report, The Norwegian Academy of Music, Oslo, 2014, http://hdl.handle.net/11250/2379520.

[17] For an example discussing sound art, see Kim-Cohen, *In the Blink of an Ear.*

[18] For some examples, see Stefan Prins, 'On the Multidimensional'*, MusikTexte*, 145 (2015), www.stefanprins.be/pdf/Musiktexte145-On_the%20Multidimensional-ENGLISH.pdf; Matthew Shlomowitz, 'Where Are We Now?', *Tempo* 72 (2018), 70–73; David Roesner '"It Is Not About Labelling, It's About Understanding What We Do": Composed Theatre as Discourse', in *Composed Theatre: Aesthetics, Practice, Processes*, ed. by David Roesner and Matthias Rebstock (Bristol: Intellect Books, 2012).

[19] Rebhahn. 'I Hereby Resign from New Music'.

[20] Bob Gilmore, 'Five Maps of the Experimental World' in *Artistic Experimentation in Music: An Anthology*, ed. by Darla Crispin and Bob Gilmore (Leuven: Leuven University Press, 2015).

[21] Rebecca Solnit, *Recollections of My Non-Existence* (London: Granta Books, 2020), 7.

interest and expertise before moving towards creative development, where discussion of ideas explored in initial workshops or rehearsals is a vital method of reflection. Words and language become important again *after*, for discussing, developing, teaching and sharing. Thus, the creative work makes meaning, and words can assist in making meaning clear,[22] acting as linkages between practices, concepts and processes. Sometimes, naming can form part of the process of meaning-making, when creative exploration of sonic ideas through the language used to describe them forms a key part of the artistic process, and later, part of the dissemination process of that work.

Palaeontologist Jack Horner makes some observations about naming culture in scientific research practice that have correlations in artistic research practice. In his influential research, Horner investigated the skeletons of twelve primary dinosaur species. Examination of relatively minor differences between species demonstrated that dinosaurs previously understood as different species (and named as such) were in fact the same species at different stages of growth. Horner found that only seven primary species of dinosaur had existed and as a result, five of the twelve previously accepted species names became redundant.[23] Horner comments that the 'over-naming' may be in part due to science research culture, which encourages the naming of discoveries as a way of staking a claim on new knowledge. New music practice is perhaps at a similar crossroad, however for different reasons.

Thus, examining the language that has evolved within and around current practice can assist in evaluating how useful these terms are in different contexts. The work of anthropologist Tim Ingold is helpful here, particularly his writing about lines, traces, threads and meshworks.[24] Ingold's discussion of meshworks of connected materials in a state of constant exchange and change is a useful way to conceptualize the terms and practices in new music in relation to one another, and has been pointed to by artist-scholars such as Liza Lim.[25] Rather than thinking of various terms or practices as distinct from one another, the notion of meshworks facilitates conceptualization of these practices through their ongoing engagement and exchange with one another. The notion of the meshwork is also applicable to the multisensory performance experience resulting from the musical use of a range of interdependent sonic, visual and gestural materials to realize creative ideas.[26]

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[22] Nicholas Cook, *Music: A Very Short Introduction* (Oxford: Oxford University Press, 1998).

[23] Jack Horner, *Where are the Baby Dinosaurs?* Vancouver: TEDxVancouver, 2011, www.ted.com/talks/jack_horner_where_are_the_baby_dinosaurs?language=en (accessed 11 November 2020).

[24] Tim Ingold, *Being Alive: Essays on Movement, Knowledge and Description* (London: Routledge, 2011); Tim Ingold, *Lines: A Brief History* (London: Routledge, 2007).

[25] Liza Lim, 'A Mycelial Model for Understanding Distributed Creativity: Collaborative Partnership in the Making of 'Axis Mundi' (2013) for Solo Bassoon', in Performance Studies Network Second International Conference, 4–7 April 2013. Cambridge, UK, www.cmpcp.ac.uk/PSN2/PSN2013_Lim.pdf.

[26] Monika Voithofer, 'That It's Not Too Late For Us to Have Bodies: Notes on Extended Performance Practices in Contemporary Music, *Music & Practice*, 6 (2019), DOI: 10.32063/0602.

Instrumentality and technique transferral

Frequently, a first step in making musical work intersecting with practices surrounding instrumental sculpture, infrastructure or scores, is exploring the instrumentality of various materials and tools. This is the first of the recurring themes at play in a number of the terms listed at the beginning of this article. Instrumentality is a much more useful term in the context of this work than 'instrument', because there is no contemporary agreement on what a musical instrument actually is, particularly when we encompass the wide range of digital interfaces currently used in musical practice. Drawing and building on definitions offered by Hardjowirogo and also by Stene,[27] instrumentality relates to the sonic or musical potential of an object or material, as it is drawn out and used in performance. The construction of the term 'instrumentality' can be considered as a portmanteau – a combination of 'instrumental' and 'identity'. Hardjowirogo notes that instrumentality is not a static, fixed characteristic or property that an object or material either does or doesn't have. It is instead a 'graduable, dynamic term',[28] and crucial to the concept of instrumentality is the intent and artistic practice of the performer who is drawing it out: whether they intend to use an object or material musically, and the skills and gestures they use to do so.

The ability to rapidly discover and extract the sonic potential or instrumentality from a vast range of materials, and to be able to use whatever sounds are found reliably in performance is a hallmark of two musical practices that came of age during the twentieth century: contemporary percussion and electronic music. Percussive practice in particular is instrumentally and technically omnivorous: not focused on the application of specific techniques to specific instruments, but rather, on the ability to transfer, develop and apply existing techniques to any material. A common point of departure in the formative years of the discipline was the transferral of traditional percussive stick techniques to strike various urban objects; however, the range of implements and techniques has grown substantially since then, to include everyday objects as well as specialist items, and striking is now only one of many options.[29] For example, household objects such as electric toothbrushes, vibrators, kitchen timers and cappuccino frothers – and the everyday movements associated with using them – are frequently applied for musical use. Further, many objects and materials that are used as percussive instruments have associations with other art forms, or other uses entirely. Stene demonstrates that it is possible to operate under the label of percussionist 'without using any instruments commonly regarded as percussion and without using traditional percussive

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[27] See Sarah-Indriyati Hardjowirogo, 'Instrumentality: On the Construction of Instrumental Identity', in *Musical Instruments in the 21st Century: Identities, Configurations, Practices*, ed. Till Bovermann, Alberto de Campo, Hauke Egermann, Sarah-Indriyati Hardjowirogo and Stefan Weinzierl (Singapore: Springer, 2017), 9–24; Stene, *This is Not a Drum*.

[28] Hardjowirogo, 'Instrumentality', 17.

[29] Christian Dierstein, Michel Roth and Jens Ruland, *The Techniques of Percussion Playing: Mallets, Implements and Applications* (Basel: Bärenreiter, 2018).

techniques', noting that flexible application of musical skills that are 'rarely repeated across different works' is required to do so.[30] In a study of the use of microphones and loudspeakers as musical instruments, van Eck observes similar approaches of technique transferral, stating that although musicians and sound artists have long approached new electronic and digital technologies with an instrumental sensibility, these technologies 'never manage to behave entirely like conventional instruments' and that an adjustment of technique is required.[31] However, this practice of technique transferral is no longer exclusive to the domain of percussive and electronic music practices. It is becoming increasingly common in new music more broadly and has become standard practice amongst some practitioners. The presence of material requiring some element of technique transferral in performance is the second recurring theme of practice found in the terms listed at the beginning of this article. Recent examples of works that require technique transferral include Liza Lim's *Sex Magic* for contrabass flute, electronics and kinetic percussion, where the concept of 'flute-as-drum' is central,[32] and Simon Løffler's *Monodactyl* (2018), composed for five musicians sounding a range of objects and musical devices including a tuning fork and metronome.[33]

The third recurring theme can be found in works that demonstrate plural uses of sonic and non-sonic materials. A popular example is the use of lights as instrumental material. Using lights as instruments allows musical material to be perceived both aurally and visually simultaneously, as in Damien Ricketson's *Rendition Clinic* (2015) for percussion and amplified, hacked strobe lights.[34] Here, as the amplified strobe lights are performed rhythmically, they fulfil the dual role of sound-producing musical instrument with a built-in lighting design. More ambitious works go further, using instrumental materials to fulfil a plurality of roles, appearing simultaneously as instrument, infrastructure, set, notation, sculpture, mallet or prop. In a number of percussive works, the distinction between instrumental object and implement (or mallet) is also blurred, and it is not always clear which material is being sounded and which is doing the sounding. The results of these explorations are works featuring what I will refer to as instrumental sculptures, instrumental infrastructure and instrumental scores.

Instrumental sculpture, instrumental infrastructure and instrumental scores

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[30] Stene, *This is Not a Drum*, 11.

[31] Cathy van Eck, *Between Air and Electricity: Microphones and Loudspeakers as Musical Instruments* (New York: Bloomsbury 2017), 145.

[32] Liza Lim, *Sex Magic* (2020).

[33] Simon Løffler, *Monodactyl* (2018). For a video of performance by Ensemble Adapter, see www.youtube.com/watch?v=C4X_6_qc6Uc (accessed 29 August 2021).

[34] Damian Ricketson, *Rendition Clinic* (2015). For a video of a performance by Speak Percussion, see https://vimeo.com/149828738 (Accessed 29 August 2021).

An example of instrumental sculpture using lighting can be found in Simon Løffler's *e* (2015) for amplified and modulated fluorescent tubes, which is performed using a triangular tessellation of fluorescent tubes, mounted on a lightweight aluminium frame with a large orchestral triangle suspended in the centre.[35] This tessellation is an instrumental sculpture producing both light and sound with each gesture: it is both musical instrument and electrical sculpture (see Figure 1). Its activation depends on both human and elemental energy. The tubes are amplified, and additional energy and electricity is added by the three performers connected to each other by thin copper wires, which are half-hidden when the performers are seated behind the structure. The musicians perform interlocking rhythmic material on the tubes via a small set of mounted plastic keys, with each key wired to a different tube. The frequencies of the tubes provide the instrumental sound source, and they are carefully tuned and modulated by each other as they are switched on and off in intricate patterns. These patterns are perceived aurally as an interlocking *moto perpetuo* of continuous quintuplets. Simultaneously, the same patterns produce a visual result, as combinations of large and small tubes either light up in unison, or create the illusion of chasing one another around the triangular frame at speed. It is a multisensorial performance experience, however just at the moment the light and sound threatens to overwhelm entirely, the rhythmic pace abruptly slows and the orchestral triangle is sounded. At this point, we are reminded this is an instrumental ensemble performance with roots in the western art music tradition.

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[35] Simon Løffler, *e* (2015). For a video of a performance by Speak Percussion, see https://vimeo.com/149828741 (accessed 29 August 2021).
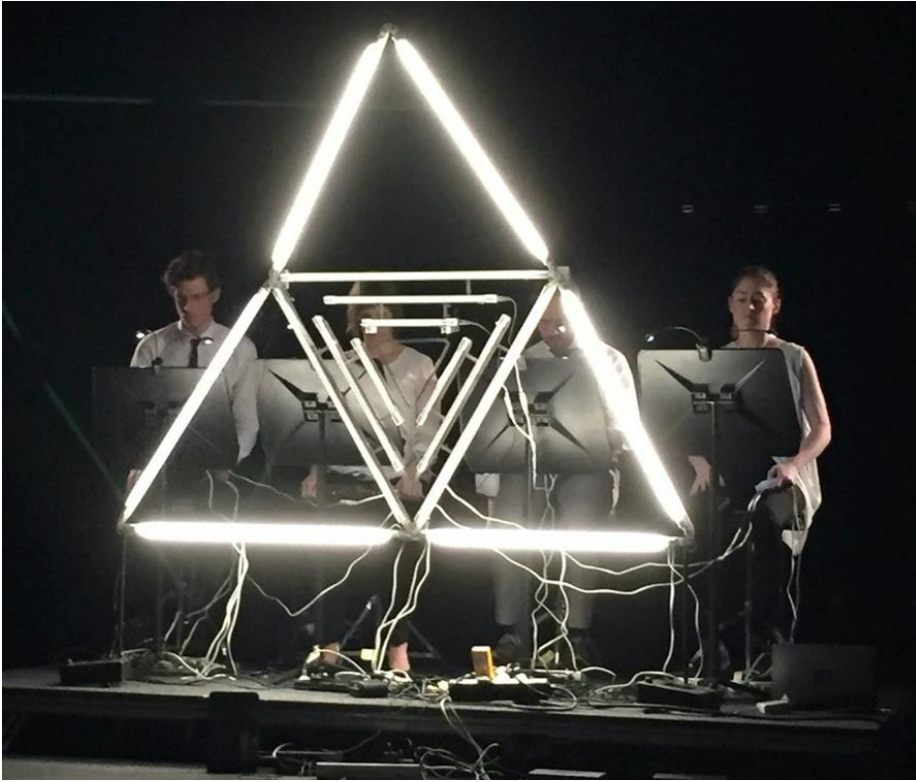
Figure 1. Speak Percussion performing Simon Løffler's *e* (2015) for amplified and modulated fluorescent tubes. L–R: Matthias Schack-Arnott, Leah Scholes, Eugene Ughetti, Louise Devenish.

Another example is Fabrizio di Salvo and reConvert's *(ex)tension* (2020).[36] This work takes the concept of the light-sound instrumental sculpture off the concert stage and distributes it around a performance space. Two performers sit within concentric circles of small, lit, metal strips, that are activated by solenoid motors via MIDI keyboards. This work can be viewed as existing in the liminal space between instrumental sculpture and instrumental infrastructure.

Instrumental infrastructure takes the notion of instrumental sculpture one step further, and generally dominates an entire performance space, whether that is a stage, gallery or room. It can manifest in two ways: abstract infrastructure, or representational infrastructure. Ashley Fure's (composer) and Adam Fure's (architect) *The Force of Things: An Opera for Objects* (2017) is an example of abstract instrumental infrastructure.[37] Rather than separating performance and audience by a single staged area or a seated area, materials are distributed throughout the space, occupied by both performers and audience. Suspended sheets of materials contribute as sound and set, rustling as they vibrate. Long lengths of aircraft cables are tensioned across halved spheres of polystyrene, serving to divide the space until they are bowed and revealed as musical instruments. Studio loudspeakers are used not

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[36] Fabrizio di Salvo and reconvert, *(ex)tension* (2020).

[37] Ashley Fure and Adam Fure, *The Force of Things: An Opera of Objects* (2016), www.ashleyfure.com/force.

merely to amplify instrumental sound, but to create it as they emit ultra-low frequencies that cause small objects and sheets of material to tremor, adding both visual and sonic texture to the room. Another example of instrumental infrastructure can be found in Louise Devenish, Stuart James and Erin Coates' *Alluvial Gold* (2021) shown in Figure 2. In this work, an oyster-shell curtain embedded with sensors serves simultaneously as set, projection surface and instrument, used in one or more ways at various times throughout the work.[38]

Figure 2. The oyster-shell curtain, an example of instrumental infrastructure created for Louise Devenish, Stuart James and Erin Coates, *Alluvial Gold* (2021). Oyster-shell, brass wire, electronic sensors.

An example of representational instrumental infrastructure can be found in Kate Neal's *Never Tilt Your Chair* (2017), which takes western dining table etiquette as a point of departure, using

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[38] Louise Devenish, Stuart James and Erin Coates, *Alluvial Gold* (2021).

cutlery, dining ware and western table manners as the instrumental materials.[39] *Never Tilt Your Chair* opens to a familiar domestic scene of three people, dressed deliberately in everyday clothing, seated around a carefully laid dining-room table. Each place setting comprises two forks, two knives and two glasses. The dining room 'walls' are formed by three large racks of cutlery: teaspoons, ladles, dessert forks, soup spoons, butter knives. The three people begin to rock back and forth on their chairs with increasing vigour, disregarding dining table etiquette to rhythmically wipe cutlery on their sleeves, strike their forks on the table and lick their knives. Shown below in Figure 3, a chandelier above the table is switched on, and as it starts to vibrate, one sees and hears that it is hung with antique cutlery and serving ware, arranged in microtonal pairs. On the table below, the glasses are sounded with serrated knives, producing a delicate melodic counterpoint before the performers move to the 'walls' to strike the cutlery, unmistakably following musical conventions. The cutlery is part theatrical set and part instrumental setup, they are both narrative and sound.
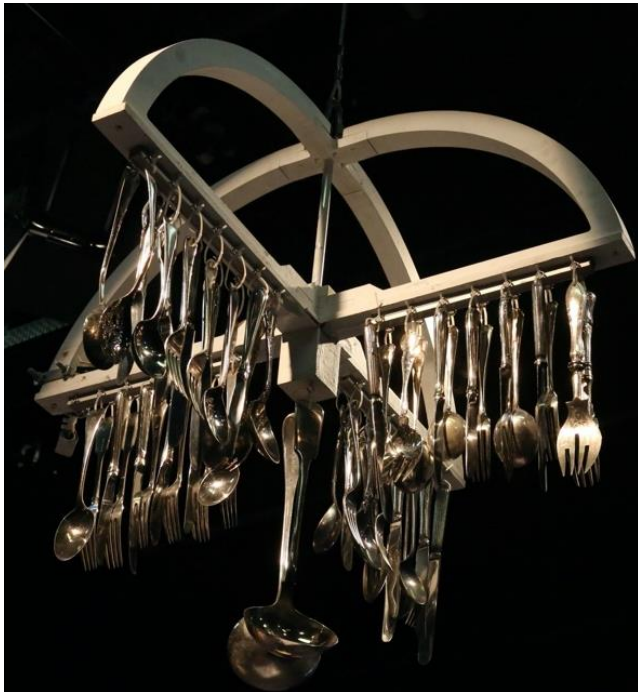

Figure 3. The motorised cutlery chandelier, part of the instrumental infrastructure featured in Kate Neal's Never Tilt Your Chair (2017), performed by The Sound Collectors. Antique silver and EPNS cutlery, LED lights, aluminium and electric motor.

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[39] Kate Neal, Louise Devenish, Leah Scholes and Vanessa Tomlinson, *Never Tilt Your Chair* (2017), DOI: https://doi.org/10.6084/m9.figshare.12950396.v1.

Examples of instrumental scores can be found in Enrique Tomás' *Tangible Scores* series of works (2014–2018), one of which is shown in Figure 4.[40] The *Tangible Scores* are a form of tactile digital graphic notation that is also the instrument, and can be performed in concert, or exhibited as an interactive installation. Each instrumental score is conceived from a different graphic score represented on or in paper, wood or plastic, and each has a unique palette of sounds embedded within the score. This palette is activated when touched, and the act of tracing a line on the score with a finger, is simultaneously an act of performance.
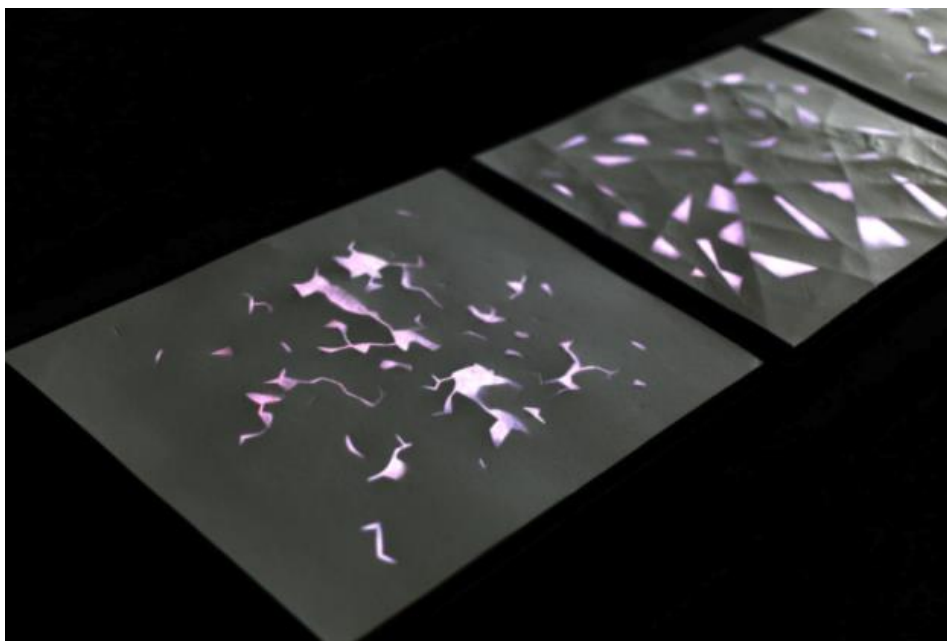

Figure 4. Some of the instrumental notation developed by Enrique Tomás for *Tangible Scores* (2014–2018). LED lights, electronic sensors and paper.

A post-instrumental practice

In the paragraphs that follow, I return to Stene's *This is Not a Drum*, before advocating the notion of post-instrumental practice as a means to gather together these discussions. As mentioned earlier, Stene introduced the term 'post-percussive' to refer to percussion repertoire that requires 'radically different technical and instrumental characteristics … that do not belong to any established technical norm other than their own'.[41] In the same thesis, he tentatively suggests post-instrumental practice as a possible term, but immediately reverts to post-percussive, maintaining his focus squarely on idiomatic percussion repertoire. Stene defines this music by its performance: the flexible application of musical skills that are 'rarely repeated

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[40] Enrique Tomás, *Tangible Scores* (2014–2018).

[41] Stene, *This is Not a Drum*.

across different works'; but he restricts this to the sphere of contemporary percussion and associated percussive techniques. Since this passing mention in 2014, the notion of post-instrumental practice has been informally used amongst practitioners in the field, but it is not yet used consistently or accurately, nor has it been defined.[42] As a result, it is not yet well understood.

Post-instrumental practice is a useful term for addressing some of the ideas mentioned earlier in this article as they appear across new music more broadly. Analysis of recent repertoire, along with experience and analysis of contemporary collaborative practices and discourse, suggest that the key characteristics of post-instrumental practice are:

1. Instrumentality

– Continuing expansion of the definition of 'instrumental' or 'musical' material beyond sonic instrumentality.

2. Plurality

– Use of instrumental materials to fulfil a plurality of sonic and non-sonic roles in performance.

3. Transferral

– Drawing on and/or application of methods, materials and mediums from multiple artforms in the creation of new musical works.
– Utilizing 'technique transferral' as a means of exploration and execution, and subsequent development of performance practices specific to individual works, rather than individual instruments.

4. Integration

– Blending of acoustic and digital instruments, of technologies and practices, and of disciplines and artforms.
– Development of new work by communities of artists.

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[42] In an article that reworks this thesis material, Stene again uses post-percussive to discuss technique transferral in relation to percussion music. See Håkon Stene, 'Towards a Post-Percussive Practice' in *Music and Practice*, 2 (2017), DOI: 10.32063/0204.

Although it has been argued that 'post-' is a fashionable prefix in contemporary visual art or music language, it has been used in discussion of the arts for decades.[43] Prefixes are very effective in that they can define a practice by connecting to 'what it is not', in order to understand it, without inventing a new word entirely. Depending on the context, the 'post-' prefix can mean 'after' or 'past', symbolizing either the countering or rejection of a concept (such as in post-modernism). Alternatively, it can mean 'beyond', 'current' or 'additional', symbolizing growth or evolution (such as in post-gender). Where not clearly defined, these varied meanings can lead to the misunderstanding of terms; worse, it can render new terms useless. Thus, I would like to be clear that the 'post-' in post-instrumental practice does not refer to musical practice that is 'after' or 'past' instruments, but rather to practice that is 'beyond' or 'additional'. It implies not only a 'distance from', but also a 'connection to': post-instrumental practice has roots in western art music history, and is used *not* to symbolize rejection of or opposition to the use of standardized instruments. Rather it characterizes a diversification of instrumental materials and the ways in which they are used for both sonic and non-sonic properties in music performance. '-Instrumental' is useful for emphasizing this lineage, without the need to invent a new word entirely (and without adding to the already long list of terms at the beginning of this article). Further, the plurality of uses for instrumental materials in new music allows post-instrumental works to transcend the limitations of instrumental performance. As the role of the instrument is liberated, so too is the role of the instrumentalist.

Considering the key characteristics of instrumentality, plurality, transferral and integration, post-instrumental practice is therefore not a genre or style of music, but rather an approach that can be used to inform a way of thinking about making new music. It is a term that applies to all stages of the creative process towards new musical work: it is not ringfenced within composition or performance, nor is it specific only to more recent aspects of western art music such as percussion, electronic music or other subdisciplines. Although the past fifty years has seen an increasing splintering of subdisciplines within western art music, the evolution of musical practice and the nature of new music in particular is not limited to distinct communities of practice, or to specific bodies of repertoire.

Thus, I understand post-instrumental practice as an integrated meshwork of instrumental tools, media and methods engaged by communities of artists with practices connected to music. The approach that defines this post-instrumental meshwork thrives on constant exchange and transferral of ideas and techniques, towards expanding the sonic and non-sonic characters and functions of any material for musical use. As discussed above, works that utilize instrumental infrastructure, instrumental sculpture and instrumental scores are often the product of this approach – a post-instrumental approach. However, they are not the only options on the

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[43] A widely recognized example can be found in 'postmodernism'. 'Post-' has proved popular in twenty-first-century zeitgeist: post-truth, post-trust, post-gender, post-feminist and post-human are all widely recognized contemporary terms.

pathways through this practice, merely elements of another greater meshwork surrounding new music more broadly.

Acknowledgements

All photos are supplied by the artists and used with permission.