

# Kinesthetic Analysis and Performance Practice in Post-Tonal Composition for Guitar

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The long-lamented and apparently continuing rift between theory and practice in music finds its most direct practical manifestation in the lack of rapport between analyses and performances of the same musical texts. Most of the debate regarding the lack of relevance of the analyst's findings to the performer has dealt with music from past eras of Western art music, where the analyst is attempting to retrieve vital aspects of tonal musical structure, and their associated projection through performance, that were presumably known to past performers. This article explores the proposition that the issue of performance-oriented analysis is just as relevant in the generation and subsequent realisation of new music, and is complicated both by the influences of continuing performance traditions from past eras and by the sheer diversity of recent post-tonal compositional styles. The following analyses are thus aimed to develop systematic links between composers' texts and performers' responses to them through the literal 'incorporation' of a directly performer-oriented variable, that of musical kinesthesia, into an instrument-specific analytical framework which is relevant to both the generation and realisation of new music for guitar.

The term 'incorporation' is here used not only in its figural or metaphorical sense of 'inclusion' or 'bringing together into some identifiable whole,' but also more deliberately in an expanded conception of the literal sense of its root meaning as 'bringing within the human body.' This conception recognises that music is made by human bodies, and not simply by human intellects interacting via agreed codes and texts within and across conceptual spaces of varying degrees of clarity or opacity. This recognition has been prompted both by recent developments in musical thought, including attempts to deconstruct the assumed primacy of the musical text, and by the enrichment of that thought through the expansion of the traditionally limited purview of Western musicology to include the musics of non-Western cultures and the experimental musics which have entailed a proliferation of new musical concepts and styles since the Second World War.

Ethnomusicologists have in recent decades worked on the assumption that no aspect of musical performance should be arbitrarily filtered out of analytical processes, especially where the filtering criteria originate in the analyst's own musical culture. They have thus found that certain fundamental aspects of instrumental performance are generated and shaped just as much by the physical constraints and modes of bodily interaction with the instruments as by

*a priori* adherence to abstract systems of musical organisation, such as melodic or rhythmic modes.<sup>1</sup> A corresponding focus on the physicality of performance has characterised much recent experimental instrumental music by Western composers who have consciously written their works into the uncompromising inner 'grain' of their chosen instruments rather than accepting their received traditions of homogenised and refined performance practices which have evolved from past musical eras.<sup>2</sup> For example, the composer Brian Ferneyhough, an excerpt of whose guitar work will be discussed later in this article, has described some of his instrumental works as 'a theatre of the human body,' wherein the very physical demands of realising complex superimpositions of contrasting material become themselves essential aspects of the intended meaning of the work.<sup>3</sup>

In semiological terms, this seeking to reincorporate the body into musical analysis requires the postulation of a level of intrinsic meaning which lies somewhere between the neutral-level trace of the musical text and its *esthesis* as perceived sounds. The term *kinesthesia* is here used to denote that level of meaning which derives from the mediation of sound-producing movements through the performer's body, and corresponds to the so-called *kinesthetic* or 'sixth sense' whereby the body knows what its constituent parts are doing without necessarily referring to other sense modalities. The term 'kinesthetic analysis' thus refers to an analytical methodology which systematically incorporates this sense as a major component of the performer's predetermined or variable response to a given musical text in the form of sound-producing patterns of bodily movement.

Rather than abandoning the notated text as an unrealistically abstract artefact, this type of analysis is based on the premise that the specific requirements of musical performance can indeed be derived from the systematic analysis of composers' symbolic representations of their intentions. However, it seeks to go beyond the more static synchronic analysis of large-scale structural features to demonstrate the proposition that analytical findings which are of most direct use to both performers and composers can best be determined through a much more dynamic diachronic analysis of the performer's fine-scale physical responses within the spatio-temporal constraints of the chosen instrumental medium. The prime analytical variables employed are thus those which preserve both the temporal contiguity of sequences of sound events and the mapping of corresponding sound-producing movements within instrument-specific spatial configurations.

Instead of simply demonstrating the results of hands-on experimentation, as occurs within the long and continuing traditional role of the performer-composer, the works here analysed are deliberately chosen to isolate the nexus between movement complexity and desired compositional texture within the creative imagination of the non-performing composer, or, more succinctly, of the composer as meta-performer. This restriction is designed to demonstrate that musical kinesthesia is not simply a low-level byproduct of the performer's physical movements, but can exist as a vital meta-kinesthetic component of the composer's generative

<sup>1</sup> John Bailey, 'Music Structure and Human Movement,' *Musical Structure and Cognition*, ed. Peter Howell, Ian Cross & Robert West (London: Academic Press, 1985) 237–258. See also Patrick Halliwell, 'The "Rokudan Cadence" in Japanese *Koto* Music: A Semiotic Approach to Interpretation,' *Music Analysis* 13.1 (March 1994): 73–98.

<sup>2</sup> Daryl Buckley, 'Elision: Philosophy Defining a Performance Practice,' *Sounds Australian* 15.50 (1997): 6–8.

<sup>3</sup> Brian Ferneyhough, 'Shattering the Vessels of Received Wisdom: Brian Ferneyhough in conversation with James Boros,' *Perspectives of New Music* 28.2 (Summer 1990): 6–50.

processes, whereby sound combinations are co-conceived both as sonic objects and as physical gestures requiring specific patterns of preconceived movement in performance. This inseparability of sound and gesture, which normally constitutes the performer's first practical experience of a new work during performance preparation, can then be developed and refined by concurrent analyses of abstract pitch structures so that individual gestures and more continuous large-scale textures can be kinesthetically integrated within the work's broader structure features and possible extra-musical meanings.

The tablature-based graphic methods used are here illustrated with a comparison between conventional neutral-level pitch-class set and kinesthetic analyses of a relatively simple texture in guitar music, that of reiterated chords. The opening of Luciano Berio's *Sequenza XI*, written in 1988, is marked *come preluendo* and suggests some attempt at the exposition of the work's fundamental pitch materials in its successive addition of dissonant tritones to a relatively consonant background of open-string sonorities (see Figure 1A).

Figure 1: Comparison of Neutral-Level and Kinesthetic Analyses: *Come preluendo*, Introduction to *Sequenza XI* (1988) by Luciano Berio.

[A] Original Notation

$\text{♩} = 50$  *ma liberamente, come preluendo*

1/1 *p pp p pp p 5*

1/2 *(p) dolcemente*

[B] Neutral-Level Pitch Analysis

1/1

adds C $\sharp$ -F $\sharp$  tritone 6-33 6-Z19 6-Z48 T 5-35 6-33

5-35 7-35 adds E $\flat$  E $\flat$ -A $\flat$  tritone 5

8-26 = 5-35 + C $\sharp$  + F $\sharp$  + E $\flat$  (= dim. triad)

1/2

7-25 4-16 4-21 4-16 4-21 4-16 4-16 4-21 3-2 adds F $\sharp$  9-7 (no C $\sharp$ , G $\sharp$  or B $\flat$ ) (added in next section)

## [C] Kinesthetic Analysis

1/1-  
1/2 (open)

III → VIII → XI → III → VI → VIII → VI → VIII → XI → VIII → XI → I → VII

□ = tritone

Moving tritones with same LH shape

An analysis which identifies the chords themselves as the fundamental elements of compositional structure produces a series of hexachords with their tetrachord subsets, which gradually exhaust nine pitch classes (see Figure 1B), but a kinesthetic analysis, showing the performer's required responses, necessarily emphasises the movements *between* the chords which generate the required texture and the indicated phrasing. The kinesthetic graph in Figure 1C shows rhythmically reduced versions of the chords above their spatial mapping onto a six-line tablature stave which allocates required sounds to open or stopped strings with open and closed noteheads, and which also shows the frequency and direction of left-hand movements as changes in the conventional Roman numeral position markers above the stave system.

Any analysis which stops at either the specification of generalised compositional principles, such as the above twelve-tone completion, or which ends by identifying abstract structural elements, such as the above vertically-segmented chordal pitch-class collections, fails to address the performer's sources of body-mediated information. In this case they are the repeated use of the moving tritone cell, with its constant left-hand two-finger shape, and the associated use of unconventional chord formations, which invert the conventional performance practice of allocating closely-spaced intervals to the upper strings and isolated single notes to single lower open strings. Thus the performer may perceive the passage not only as a chord sequence which gradually accumulates, and reflects upon, basic compositional materials, but as a pattern of moving physical configurations which entail unconventional dispositions of both hands (such as those with left-hand finger extensions indicated by arrows attached to the tablature noteheads). The performer's analysis of the passage may indeed forego any attempt at analysing evolving pitch structures, but the necessary pre-performance identification of bodily configurations and movement patterns is also analytical, in the sense that it discovers and then recreates the composer's allocation of desired unconventional sonorities to the spatial constraints of the instrument's pitch-determining possibilities.

The performer's identification of the moving tritone cell as the prime means of realising the passage in real time is a type of 'hands-on' analysis of the passage which allows forward conceptual links to the rest of the work, such as the much more complex distribution of tritones, and the completion of the remaining three unused pitch classes at various points within the ensuing, more vigorous passage of rapidly repeated chords, marked *improvvisamente violento* (see Figure 2A). This passage exploits the guitar's capacity to project many different chord formations with varying degrees of dissonance by forming tritones and other dissonant intervals (minor 2nds and their compound larger intervals) with open strings. The unused pitch classes B-flat and C-sharp are introduced as high-register stopped notes combined with

open E and G respectively, while the final G-sharp appears as a low-register minor 2nd with the open A, with these twelve-tone completion pitches being emphasised through their reiteration within longer rhythmic values.

Figure 2: Twelve-Tone Completion and Tritone Elaboration: *Improvvisamente violento* Passage in *Sequenza XI* (1988) by Luciano Berio.

[A] Original Notation

$\text{♩} = 60$  improvvisamente violento

The original notation consists of four staves of music. The first staff is in 1/3 time, the second in 1/4, the third in 1/5, and the fourth in 1/6. The music is written in a complex, rhythmic style with many beamed notes and rests. Dynamic markings include *ff* and *p*. Performance instructions include *RH* and *3<sup>n</sup>*. The score is marked with various rhythmic values and accents.

[B] Kinesthetic Analysis

□ = tt II → I → III → V → VIII → V → I → II → VIII → III → ...

1/3-4

Number of iterations = 4 8 4 4 8 4 4 8 4 4 4 4 8 8 12

--- II → I → IV → VI → I → VI → IV → I → II → III → III → IV → V → III

1/4-6

Number of iterations = 4 8 10 8 8 12 4 5 9 5 12 4 8 9 10 8 1

The kinesthetic analysis shows the rhythmic patterns and iteration counts for different time signatures. The first section is in 1/3-4 time, and the second is in 1/4-6 time. The analysis includes a sequence of Roman numerals (II, I, III, V, VIII, V, I, II, VIII, III) and a sequence of iteration counts (4, 8, 4, 4, 8, 4, 4, 8, 4, 4, 4, 4, 8, 8, 12). The analysis also includes a sequence of Roman numerals (II, I, IV, VI, I, VI, IV, I, II, III, III, IV, V, III) and a sequence of iteration counts (4, 8, 10, 8, 8, 12, 4, 5, 9, 5, 12, 4, 8, 9, 10, 8, 1).

The rapid alternation of the passage's twenty-six different chords produces a constantly changing pattern of left-hand configurations whose consistent factor is the almost continuous presence of one or more tritones (see bracketed note pairs in Figure 2B). The performer's kinesthetic analysis of the passage may simply identify all such configurations and reproduce them as discrete and harmonically unrelated sonorities, or it may draw upon the tritone 'signature' introduced in the above prelude section and note how it reappears in its original form on two adjacent stopped strings or as new expanded forms in widespaced configurations in combination with open strings. Thus the increased complexity of movement, in combination with the denser texture and higher dynamic level, corresponds with the composer's development of relatively simple pitch materials within a highly instrument-specific construction of chordal sonorities.

It is also possible for the composer to use a movement pattern to highlight a more complex chordal compositional element by making it emerge from a primarily movement-generated flow of sound. The strummed-chord climax of Elliott Carter's *Changes* (1983) features a reiteration and textural intensification of the work's prime pitch collection, the 6-Z17 all-trichord hexachord (see Figure 3A). This passage draws upon conventional performance practice in its use of rapid *rasgueado* chords. Instead of constructing functionally related chord progressions, however, it continually refers to this single hexachord within a movement-generated matrix of transitional sonorities. The composer has devised a simple 'prime' performable configuration of the desired hexachord as three stopped notes on lower strings combined with three open upper strings which is labelled P in the kinesthetic analysis (see Figure 3B).

Figure 3: Kinesthetic Realisation of Structurally Important Pitch Collections: Strummed-Chord Climax of *Changes* (1983) by Elliott Carter.

[A] Original Notation (bars 110–113)

The musical score for bars 110-113 of Elliott Carter's *Changes* (1983) is presented in three systems. The first system (bar 110) begins with a tempo marking of ca. 125 and includes dynamics such as *meno f* and *ff*. The second system (bar 111) features a *gliss.* marking. The third system (bar 112) includes a *string.* marking. The notation is dense, with many slurs, accents, and dynamic markings, characteristic of Carter's complex rhythmic and textural language.

tomando a tempo

meno *f*

113

espr. vibr. *f* *mf* *p* *ff* *marcatiss.*

$\text{♩} = \text{ca. } 100$

[B] Kinesthetic Analysis

110-111

III → II → V → III → II → I → IX → II

6-Z12 6-Z17 6-Z17 5-26 4-14 P 6-Z17 6-Z17 A 6-Z17

(upbeat figure)

Invariant moving LH shape

111-112

IV → BV → V → IV → V → IV → BV → V → VI → VII → BVII → VII

5-35 6-Z19 5-35 6-Z19 5-35 B 6-Z17 6-Z19 4-22 C 6-18 6-18

Resumes invariant LH moving shape

112

VI → BVII → VII → VIII → IX → X → XI

4-22 C 6-18 5-29 5-27 6-31 D 6-Z17 6-31 D 6-Z17 6-31 5-35

[Invariant LH shape continues]

112-113

XII XIII XIV XV Or-BX

P P A 6-Z17 6-Z17 A A 6-Z17 P 6-Z17 4-14 5-20 6-Z17 6-Z17

Climactic reiteration of prime all-trichord hexachord in one position

[Invariant LH shape continues]

Four further variant configurations, labelled A to D above, use different stopping patterns on the upper strings but all retain the original pattern on the lower three strings. This allows this lower-string pattern to be shifted up the fingerboard into higher registers while occasionally employing one or other variant configuration to inject high-register accented notes. The maximum resonance of all six strings is maintained while reserving the highest-pitched sounds to highlight the desired hexachord sonority. An analysis which attempts to relate the connecting chords to overall pitch organisation fails to realise that these chords are simply the byproducts of shifting the simple opening patterns of lower stopped notes through intervening positions while sounding the remaining upper open strings.

The performer accents those chords which reinforce the work's prime harmonic feature and embeds them into a continuous texture of maximum resonance while passing through the intervening chords as necessary connecting material. This material has a kinesthetic function in forming the overall movement *Gestalt* of the passage, that of a continually intensifying upward movement into the more physically demanding regions of the instrument's fingerboard, but has no analytical significance for the development of the work's pitch organisation. By separating the musical 'figure' from its sonic 'ground,' the performer is able to distinguish points of rhetorical emphasis within a high-energy climactic passage, which might otherwise be projected as an undifferentiated continuum of idiomatic guitar texture.

The above examples by Berio and Carter illustrate a kinesthetic concept of instrument-specific composition whereby clearly identifiable elements of each work's pitch structure can be directly related to some repetitive movement pattern. There are naturally a very large number of possible kinesthetic correspondences between pitch structures and both repetitive and non-repetitive movement patterns, with the range here being further illustrated with three examples which all make extreme demands on the performer. The first example combines a relatively simple pitch structure with a complex expansion of conventional string damping techniques, the second presents a complex but largely hidden quasi-tonal structure within rapidly arpeggiated figures, while the third presents an overtly complex polyphonic texture with a correspondingly complex set of necessarily preplanned fingerboard configurations.

If a kinesthetic analysis shows the exact types and sequences of movements required in performance, it may be seen to determine performance practice for relatively simple compositional textures. There may be other apparently simple textures for which performers must devise their own suitable practices, particularly in relation to pitch-modifying rather than pitch-determining movements, such as those required to observe faster tempos and indicated patterns of articulation. A rapid passage of arpeggiated texture in the Sven-David



Sandström's *Away from...*, composed in 1980 (see Figure 4A), features a continuously applied *detached* articulation where the widespaced nature of the figuration would normally be associated with *sustained* articulation in conventional guitar performance practice.

The relative simplicity of its pitch structure is shown by its continuous scattering of the open-string pitches E, A, D, G and B across all instrumental registers, and the gradual addition of equally dispersed non-open-string pitches, beginning with F-sharp and B-flat, as circled in the upper stave of the kinesthetic analysis (see Figure 4B).

**Figure 4:** Structural Simplicity with Kinesthetic Complexity: Control of Continuous Staccato Articulation in *Away from...* (1980) by Sven-David Sandström.

[A] Original Score (bars 318–325)

Ritmico ♩ = 108 sempre

318

320

322

324

*fff*

[B] Kinesthetic Analysis

III → IX → III → XI → XV → XI → IX → XII → VII →

316- [sempre  
317 staccato]

[rhp]

The image displays three systems of musical notation for guitar. Each system consists of a melodic line on a treble clef staff and a right-hand pedal point (rhp) line on a bass clef staff. Above the systems are diagrams of fretboard positions with arrows indicating movement between frets.

- System 1 (Measures 318-319):** The fretboard diagram shows positions at frets XII, X, XII, II, XII, III, and VIII. The melodic line includes notes with circled letters 'c', 'e', 'b', and 'd'. The rhp line is marked with [rhp].
- System 2 (Measures 320-321):** The fretboard diagram shows positions at frets V, XII, XV, XIII, XI, IX, XI, VI, VIII, VII, and XIV. The melodic line includes notes with circled letters 'c', 'b', 'd', 'a', 'b', and 'c'. The rhp line is marked with [rhp] and ((rhp)).
- System 3 (Measures 324-325):** The fretboard diagram shows positions at frets X, I, VIII, X, II, III, XIV, and X. The melodic line includes notes with circled letters 'a', 'e', 'b', 'b', 'a', and 'b'. The rhp line is marked with ((rhp)).

The kinesthetic complexity for the performer arises firstly from the necessity for the left hand to move constantly between extreme instrumental registers, and also through the need to adopt five different types of damping techniques for both hands (marked a to e above) to ensure that the normal sustain of the necessary open strings is damped to achieve the constant *staccato* articulation. Thus the rapid unfolding of a structurally simple uniform texture requires a degree of movement complexity and performative difficulty which here corresponds to the work's intended portrayal of the processes of dispersal and disintegration. The performer's movements are thus a direct analogue of the work's intended meaning, such that kinesthetic factors here become the prime focus of a valid performance-based analysis.

It is also possible that similarly repetitive textures and movement patterns can contain more deeply hidden features of pitch structure, such as an indirect reference to the instrument's predominantly tonal traditions. A passage of rapid arpeggiation in Franco Donatoni's *Algo* (1977) is comprised of successive short phrases which always contain one of four transformations of the same pentachord, but two features of its construction suggest a more complex pitch structure extending across phrase boundaries and also across the loud punctuating C octaves (see Figure 5A). Firstly, the transformations are almost always a fifth

apart, and secondly, the successive groups become increasingly shorter and fragmented as the passage progresses. By making the elementary instrument-specific separation into open-string and stopped-string sounds, the notes in each phrase decompose into a stopped tonal triad in combination with a descending pattern of two adjacent open strings (see Figure 5B). This practise, rather than a desire to use the same pentachord with its fixed interval content, probably accounts for the apparent harmonic uniformity of the passage.

The stopped triads fall into short backward fifth progressions and are interrupted by linking 'progressions' of minor thirds. This suggests some form of hidden ironic reference to tonal processes directly related to the tuning of the guitar, with its tonic-dominant pairs or thirds between adjacent open strings. In addition, these progressions are embedded within evolving processes of twelve-tone completion. where the punctuating C octaves eventually represent the only pitch class missing in the later shorter sequences of arpeggiated phrases. It appears as if the composer is making ironic juxtapositions of tonal and non-tonal principles where the tonal elements are moving in the wrong direction, and the twelve-tone completions are loud interruptions rather than texturally integrated. In this context the gradual fragmentation and eventual disintegration of the prevailing texture itself suggests a type of concealed negative commentary on the instrument and its pervasive tonal traditions.

The performer may of course realise the passage with no analytical knowledge of these hidden processes through a simple physical assimilation of the rapid movements required, and an observation of the marked phrase boundaries. In performance the pentachords pass as rapid groups of texturally homogenous but discrete figures, with the performer's primary concern being the movements required to damp unwanted sustain between the marked phrases. The very rapid tempo and uniform arpeggiated texture here largely obviate the question as to whether knowledge of the composer's mechanisms of pitch organisation would influence the performer's responses. The composer, while adhering to structural mechanisms, presents the performer only with a relatively undifferentiated surface within which they cannot realistically be given aural salience.

**Figure 5:** Structural Complexity within Kinesthetic Simplicity: Rapid Repeated Pentachord Arpeggiation in *Algo* (1977) by Franco Donatoni.

[A] Original Notation with Pentachord Identification

The image shows two staves of musical notation for guitar. The first staff is in 11/4 time and begins with an 'open' circle symbol. It contains six measures of music, each with a pentachord label above it: 5-21 T4I, 5-21 T7I, 5-21 T2I, 5-21 T9I, 5-21 T4I, and 5-21 T7I. The notes are arpeggiated and connected by dashed lines. Dynamic markings include 'sf' and 'f sempre'. A '12-tone set' is indicated in the first measure. The second staff is in 11/5 time and begins with a 'pont.' (ponticello) marking. It contains five measures with pentachord labels: 5-21 T2I, 5-21 T9I, 5-21 T4I, and 5-21 T7I. Dynamic markings include 'ff' and 'f sempre'.

11/6 5-21 T2I 5-21 T9I 5-21 T4I 5-21 T7I 5-21 T2I 5-21 T9I

11/7 5-21 T4I 5-21 T7I 5-21 T2I 5-21 T9I pont.

11/8 3-4 5-21 T7I 5-21 T2I 5-21 T9I pont. f sempre sf

12/1 5-21 T7I 5-21 T2I 5-21 T9I pont. 3-3 5-21 T2I f sempre sf

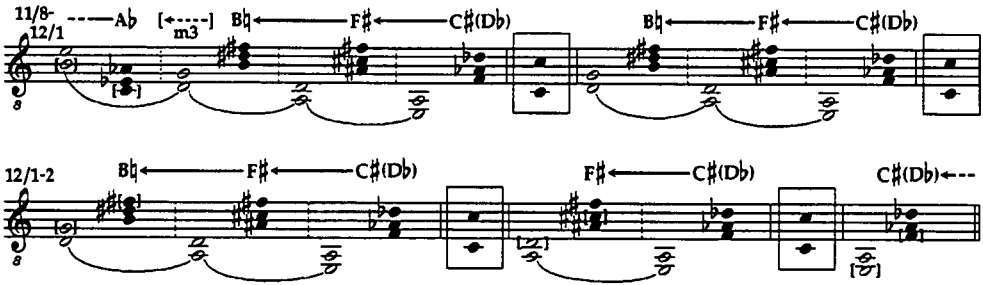
12/2 5-21 T9I pont. 3-3 5-21 T9I pont. 3-4 f sf

[B] Implied Tonal Processes

11/4-5 [end] ← Ab [m3] Bb ← F# ← C#(Db) ← Ab [m3] Bb

11/5-6 F# ← C#(Db) ← Ab [m3] Bb ← F# ← C#(Db) ← Ab

11/6-7 [m3] Bb ← F# ← C#(Db) ← Ab [m3] Bb ← F# ← C#(Db)

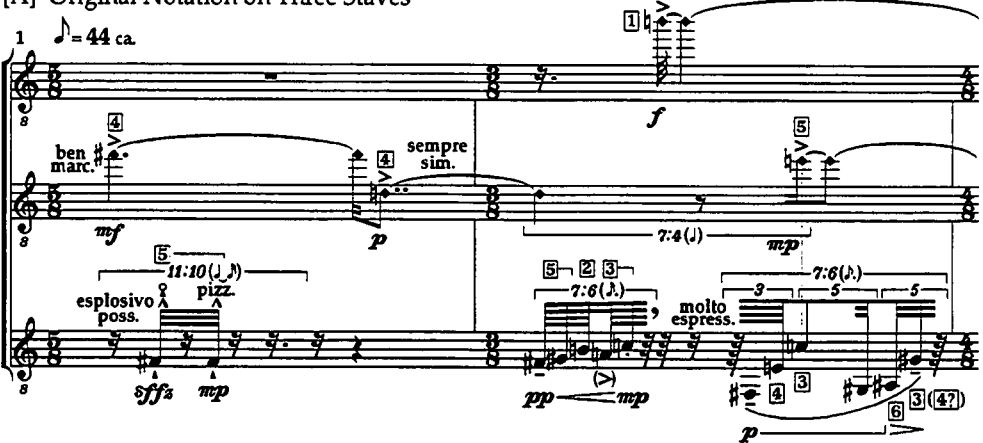


A contrasting relationship between structure and movement occurs where complex pitch structures and textures are projected onto the instrument with necessarily preplanned patterns of movement, and thus largely predetermined performance practices. The opening of the first movement of Brian Ferneyhough's *Kurze Schatten II*, completed in 1989, exemplifies a complex polyphonic texture with a corresponding kinesthetic complexity stemming from the need to identify and locate six layers of timbral and figural diversity (see Figure 6A). Two upper staves carry two superimposed layers of sustained natural harmonics while a third stave contains four different types of melodic or arpeggiated figures in separate discontinuous layers.

The maintenance of this polyphonic complexity is only possible through the composer's careful allocation of all short figures to strings other than those used for harmonics, so as not to interfere with their required sustain. The music is thus assembled from the leftover possibilities for constructing short figures after the strings sounding the harmonics have been filtered out. Kinesthetic analysis shows how the left hand moves frequently to higher registers to avoid harmonics, with the right hand having to cross strings in continually changing and unpredictable patterns (see Figure 6B). The composer has referred to this necessarily discontinuous layering of sound events as a 'polyphony of successivity.'<sup>4</sup> Here the performer

Figure 6: Structural and Kinesthetic Complexity: Six-Part Figural Polyphony in Movement I of *Kurze Schatten II* (1983–89) by Brian Ferneyhough.

[A] Original Notation on Three Staves



<sup>4</sup> Brian Ferneyhough, 'Kurze Schatten II for Solo Guitar (1990),' *Brian Ferneyhough: Collected Writings*, ed. James Boros and Richard Toop (Amsterdam: Harwood Academic Publishers GmbH, 1995) 139–152.

3

15:16

17:14

mp

f

13:8

7:6(J.)

3/4

5:4

tast.

mf dim.

15:14

p

p

mf > pp

sf-pp

mfz marc.

pp

sub.

5

3:2(J)

mf

p

ben f

mf

p

ff

pizz. & pizz.

17:15

mp

espr.

mf f

mf

p

ppp

cresc. molto

sfz sfz

sfz

p

mf

f

p

♩ = 36 ca.

5(-)

7

11:10

pp

accel.

(8)

loco

13:10

pp

quasi sf

tasto pizz.

pp

ppp

mpz

mfz

tasto

14:11

molto pont.

molto vibr.

dolce

arp.

pp

mp

pp < p > ppp

[B] Kinesthetic Analysis Identifying Two Layers of Harmonics (Layers 1 & 2) and Four Layers of Figural Polyphony (Layers 3 to 6)

The image displays three systems of musical notation, each with a treble clef staff and a corresponding kinesthetic analysis staff below it. The first system (measures 1-3) features a treble staff with notes and accidentals, and an analysis staff with a line graph and labels for Layer 1, Layer 2, Layer 3, Layer 4, and Layer 5. Above the treble staff, Roman numerals (IX, II, IV, IV, IX, I) are connected by arrows, indicating harmonic progression. A box labeled 'open pivot' is drawn around a specific note in the treble staff. The second system (measures 3-6) has a treble staff with notes and accidentals, and an analysis staff with a line graph and labels for Layer 1 through Layer 6. Above the treble staff, Roman numerals (IX, I, IV, II, I, VIII, II, I, IX, I, IV, I, IV) are connected by arrows. The third system (measures 6-8) has a treble staff with notes and accidentals, and an analysis staff with a line graph and labels for Layer 1 through Layer 6. Above the treble staff, Roman numerals (XII, I, X, III, V, II, I, V, VII, IX, VI, IX, V, I, I) are connected by arrows. The analysis staffs use a line graph to track the movement of notes across measures, with labels for each layer and 'end' markers for each layer's contribution to a measure.

needs to differentiate successive events and corresponding movement patterns within temporally and physically non-contiguous layers to maintain the gestural continuity required to identify them. Indeed, it may only be in relation to the physical sensations of different textures and figural types that the performer would be able to project this degree of polyphonic complexity in performance.

The incorporation of body-oriented concepts of kinesthesia into the analysis of recent instrumental music is aimed at making links between theory and practice that are of direct relevance to the performers of recent works, and to the composers of new ones. It is increasingly evident that composers writing in a range of post-tonal languages and styles are using their conceptions of movement patterns in performance as part of their generative processes. Thus an analysis which focuses on the static representation of the notation is liable to be of little value in informing the performer's dynamic body-oriented analysis. Challenging new texts are realised using combinations of inherited and innovative performance practices. In this context, the study of performance practice is seen not simply as a summation of the observations of what performers do, or as the simple cataloguing of specific performance techniques, but as the investigation of the continual dialectic between what is required by the musical text and what can physically be realised in performance, sometimes from within ranges of possible alternatives.

In a recent article lamenting the continuing lack of fruitful communication between analysts and performers, Peter Johnson proposed that, through a systematic study of how music is performed and heard, the 'most productive areas of study for the scholarly analyst of the 21st century may well turn out to be the interface between score-analysis and performance-analysis.'<sup>5</sup> In response to Johnson, Jonathan Dunsby noted the dangers of oversimplification inherent in such dichotomies and emphasised that strictly 'forensic' concepts of analysis as fact-finding justification need to be expanded to confront an inevitable multiplicity of complicating factors.<sup>6</sup>

The specification and application of performance-oriented kinesthetic analysis in the above examples is one contribution to exploring this score-performance interface, in a way which deals directly with the complicating factors of bodily involvement which are of direct concern to the performer. One important outcome of this type of analysis will be the exploration and documentation of contemporary performance practices, not only with a view to describing and categorising them for the benefit of future generations of performers who may want to perform the music of the late twentieth century with stylistic fidelity, but with the intention of preserving the vital processes of experimentation that have undoubtedly operated in the music of all centuries. This may even help to counteract the apparent stasis and backward-looking stance characteristic of the more recent stages of the 'post-modern condition.'

The second important outcome is the dissipation of the notion that good composition is necessarily 'absolute' and abstractly conceived, and not concerned with practical matters of performance. The rebirth of the relationship between composer and performer has often included some element of extending the perceived boundaries of possible performance practice. The non-performer composer is in the advantageous position of not being constrained by performance habits and traditions instilled during instrumental training and widely held to be idiomatic to the instrument. That major composers are now willing to conceive and carry out compositional plans which require their immersion in questions of practicality and 'body knowledge' is not just for the purely practical reason of wanting to see the works performed

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<sup>5</sup> Peter Johnson, 'Play School: Peter Johnson Examines the Delicate Relationship between the Performer and the Analyst,' *Musical Times* 136.1828 (June 1995): 275-277.

<sup>6</sup> Jonathan Dunsby, 'Acts of Recall: Jonathan Dunsby Examines the Delicate Relationship between Music, Theory and Performance,' *Musical Times* 138.1847 (Jan. 1997): 12-17.



and disseminated. In the most challenging of recent works there is also some element of the excitement of discovering new ways of expanding traditional techniques on instruments that are already in the hands of experienced performers. The resultant generation of new compositional textures and performance practices could produce quite a bewildering variety. It remains the task of performance-oriented analysts to digest and interpret such textures and practices in order to provide guidelines for both composers and performers, a task that is the logical distillation and continuation of kinesthetic approaches to the analysis of new instrumental music.

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