

Music and Shape

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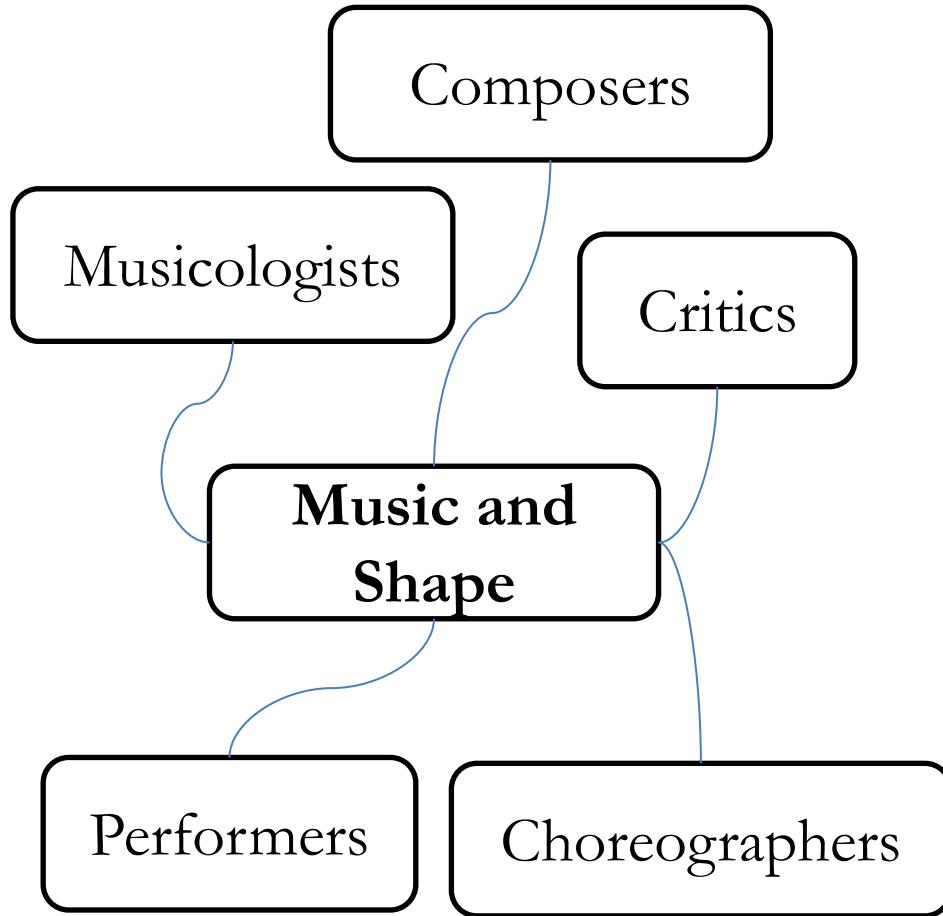
What do we want to know?

1. Do performing musicians use the idea of ‘shape’ or ‘shaping’ music?
2. How do they use these ideas?
3. Do the ways in which these ideas are used differ between different musicians?
4. Which aspects of music generate a sense of shape?
5. What mechanisms underlie the music/shape association?

Our approaches

- Documentary evidence
- Questionnaire study
- Interview study
- Experiments
- Theoretical approaches

Documentary evidence



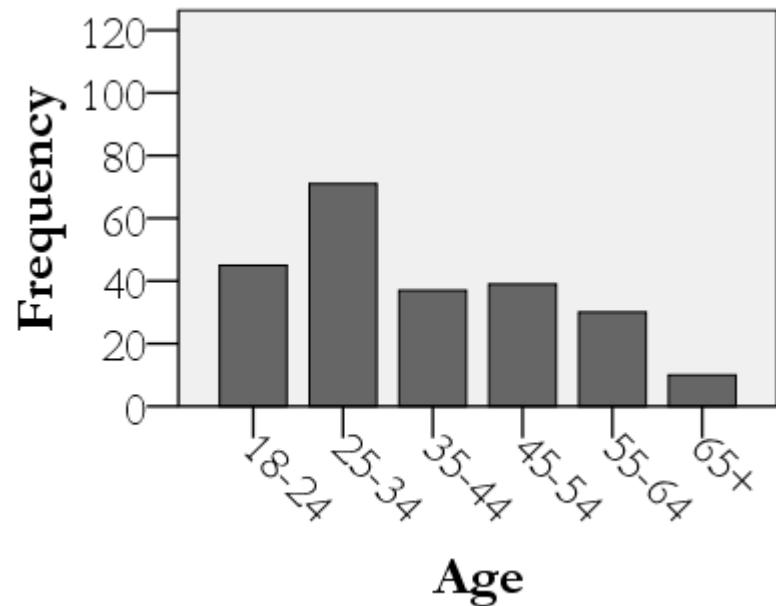
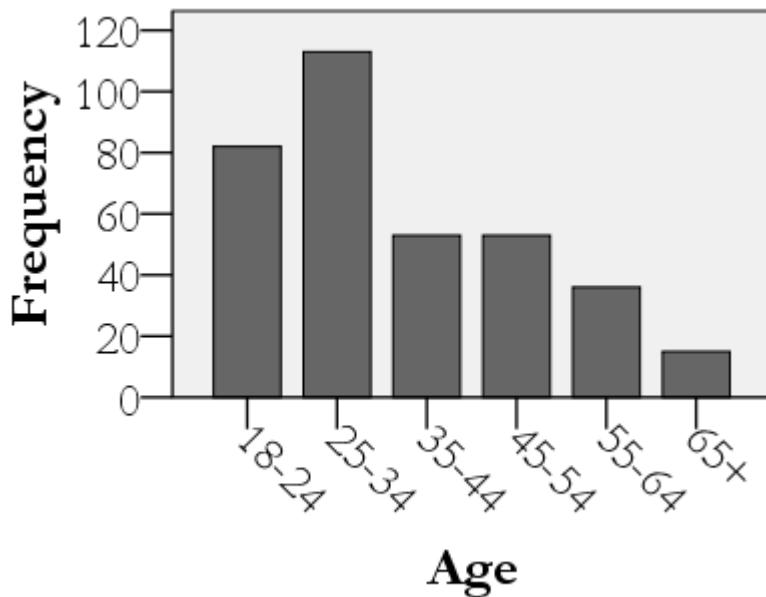
- Written and AV materials
- Findings:
 - Spontaneous references to the term ‘shape’ and to the idea of shape
 - Links between music and movement
 - Shape in relation musical form/structure
 - Shape in relation to expression

Questionnaire study

- Materials:
 - Open-ended and closed-response questions
 - Administered via Survey Monkey
- Participants:
 - Snowballing via personal and professional contacts
 - Targeting of educational institutions
 - Targeting of specific genres after initial results

Overview of respondents

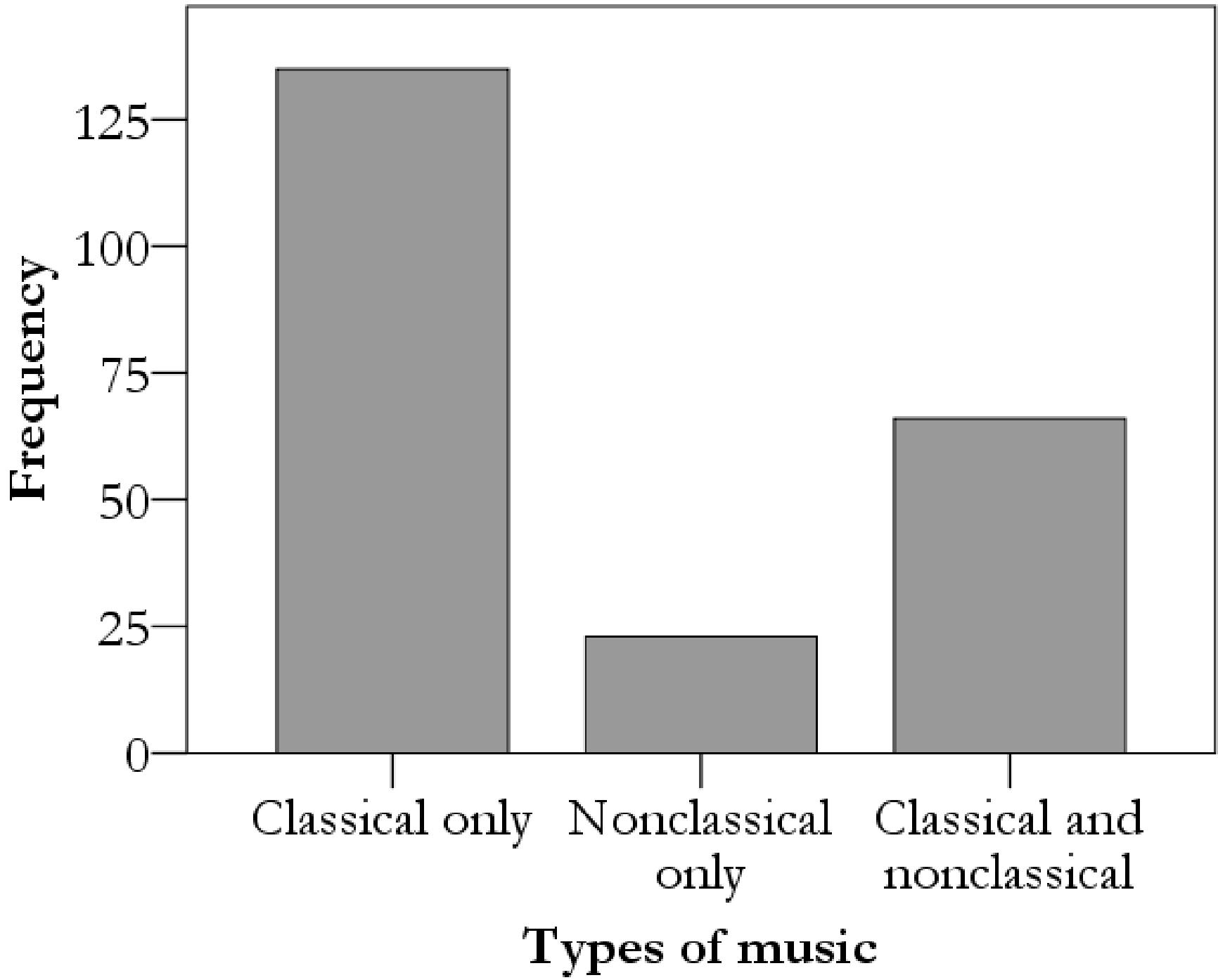
- 370 ($m = 164$; $f = 186$; 20 undisclosed) starters
- 231 ($m = 105$; $f = 126$) completers (62.4%)
- Modal age group = 25 to 34 years
- Bar charts of starters and completers



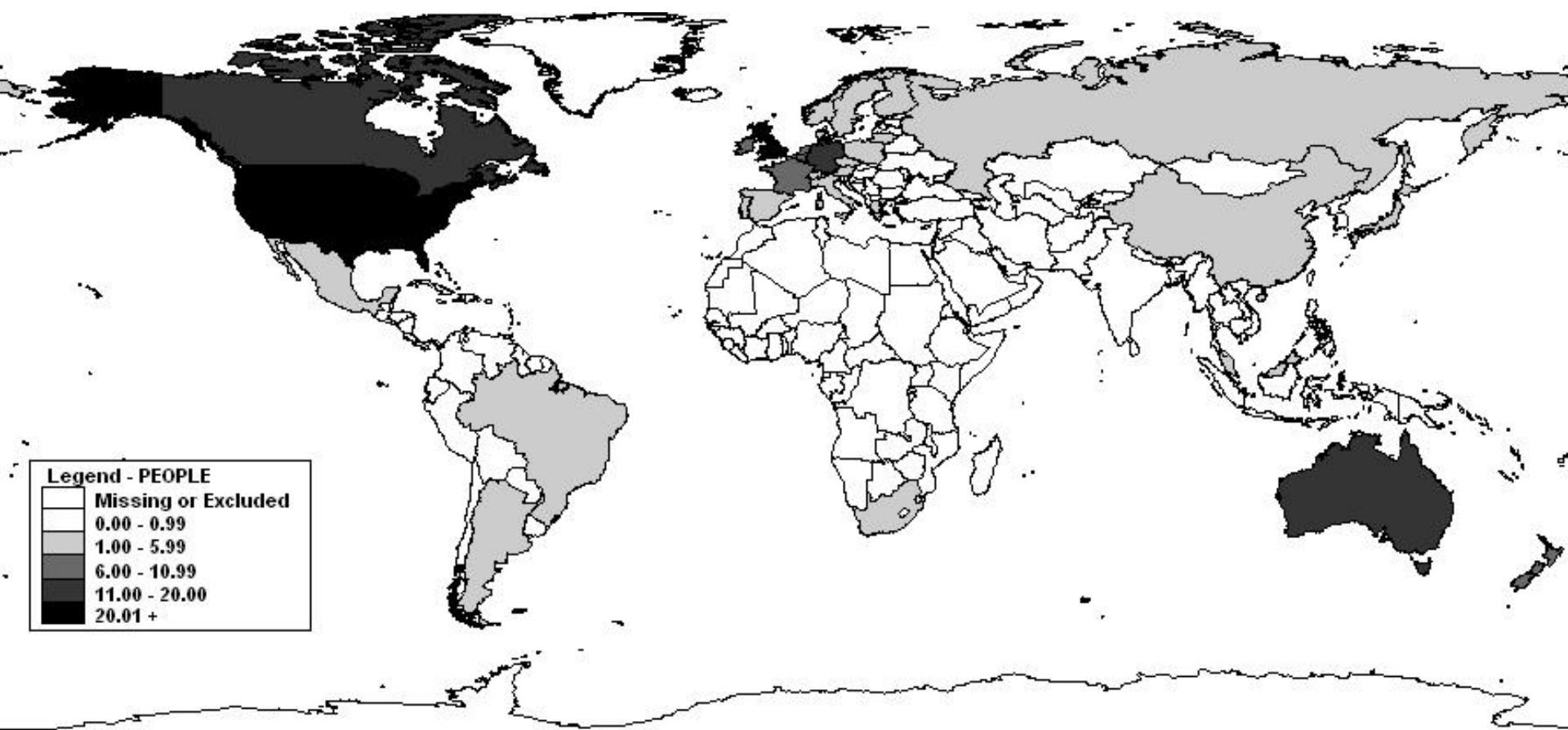
Instrument Group	Questionnaire starters		Questionnaire completers		Percentage drop out
	Frequency	%	Frequency	%	
Keyboard	112	30.3	75	32.3	33.0
Strings	82	22.2	55	23.7	32.9
Wind	55	14.9	37	15.9	32.7
Brass	20	5.4	12	5.2	40.0
Percussion	9	2.4	6	2.6	40.0
Conducting	13	3.5	6	2.6	53.8
Voice	49	13.2	35	15.1	28.5
Other	8	2.2	4	1.7	50.0
Undisclosed	22	5.9	2	0.9	90.9

Years of experience	Questionnaire starters		Questionnaire completers		% drop-out
	Frequency	%	Frequency	%	
10 years or less	31	8.4	18	7.8	41.9
Between 11 and 20 years	131	35.4	79	34.2	39.7
Between 21 and 30 years	80	21.6	52	22.5	35.0
Between 31 and 40 years	46	12.4	31	13.4	32.6
More than 40 years	62	16.8	51	22.1	17.7
Undisclosed	20	5.4	0	0	100

Performing status	Starters		Completers		% drop-out
	F	%	F	%	
Student	84	22.7	48	20.8	42.8
An amateur, intermediate-level performer (none, or a very low proportion of your income comes from performing activities; you are a capable player, but not of professional standards)	49	13.2	33	14.3	32.6
An amateur, professional-standard performer (none, or a very low proportion of your income comes from performing activities; you are a highly capable player of professional standards)	97	26.2	63	27.3	35.1
A professional performer (a substantial part of your income comes from performing activities)	137	37.0	86	37.2	37.2
An instrumental or peripatetic teacher (teaching mostly beginner or intermediate-level pupils, e.g. of up to ABRSM Grade 8 standard)	69	18.6	44	19.0	36.2
An instrumental or peripatetic teacher (teaching mostly advanced pupils, e.g. of above ABRSM Grade 8 standard)	44	11.9	32	13.9	27.2



Origins of respondents



- Figure produced by Lisa Szatkowski (University of Nottingham)

Questions

- Thinking about shape when thinking or talking about music
- Links between music and shape
- Agreement statements
- Alternative words to shape
 - English
 - Other languages (for fluent speakers only)
- Using shape when listening
- Other comments

Thinking about shape when thinking or talking about music

	Do you ever think about shape when thinking about how to perform music?			Do you ever think about shape when talking with others about how to perform music?		
	Yes	No	No response	Yes	No	No response
Questionnaire starters	247 (66.8%)	40 (10.8%)	83 (22.4%)	207 (55.9%)	52 (14.1%)	111 (30%)
Questionnaire completers	208 (89.7%)	23 (9.9%)	1 (0.4%)	191 (82.3%)	32 (13.8%)	9 (3.9%)

- More students reported not thinking about shape when talking with others than other groups
 - $\chi^2 = 7.968$, df = 1, p < 0.01
- More teachers of advanced students reported thinking about shape when talking with others than other groups
 - $\chi^2 = 3.857$, df = 1, p = 0.05
- A greater number of exclusively non-classical players reported not thinking about shape when thinking about how to perform music
 - $\chi^2 = 7.370$, df = 2, p < 0.05

Thinking about shape when thinking or talking about music

- When?
 - Recent and distant past
 - No significant difference between thinking/talking
- What music?
 - Wide range of composers, from Charpentier to living composers

Thinking about shape when thinking or talking about music

- What situation?

Situation	Thinking about shape (%)	Talking about shape (%)
Private practice	61 (26.3)	0 (0)
Rehearsal	47 (20.3)	76 (32.8)
Performance	43 (18.5)	7 (3.0)
Teaching or receiving tuition	27 (11.6)	70 (30.2)
Composing or arranging	28 (12.1)	46 (19.8)
Other or unspecified	22 (9.5)	32(13.8)
Does not think about shape	4 (1.7)	1 (0.4)
Total	232 (100)	232 (100)

Thinking about shape when thinking or talking about music

- Emergent themes
 - Shape as musical structure
 - Shape as a tool for expressive performance
 - Shape as a tool for realizing the musical structure in an expressive way
 - Narrative-related uses of shape
- Specific situations
 - Using shape while improvising
 - Using shape in private and with others

Shape as musical structure

- Participant 176: 31/01/2010; On the Town; Bernstein.
I was helping my son choose some music for a concert. We discussed this piece because it had different shape to the other piece, which was contemporary and full of spiky phrases. On The Town had a more lyrical flow and longer line than the punchy Dance Macabre by Gregson. Here it was about the contrast between one style and another which was inherent in the phrases of each piece. One had technically difficult shapes to finger and remember while the other demanded long breaths to keep the shape and flow of the lyrical song line.

Shape as musical structure

- Participant 226: ... Bach solo sonatas for violin ...
Naturally one can recognize a structure in almost every piece that classical musicians play, but only with certain movements of the solo works by Bach it happens to me that the structure translates into shape. Perhaps that is because these movements are so abstract; it therefore happens not so much with the dance movements, because there is the element of gesture in them, that allows you to identify you in a less abstract way with the music ... Even when playing Bach, it is not necessary to distance yourself from the music, although it is an option, but one could also find a way to internalize that shape.

Shape as a tool for expressive performance

- Participant 87: ... Our conductor ... told us to "shape toward the quarter note" - indicating that the preceding six eighth notes (in a 9/8 bar) should feel like they're going somewhere, leading to the quarter note.
- Participant 217: I thought about the concept of shape when considering the rise and fall of dynamic phrases and the duration of a melodic phrase. I try my best to consider shape in this way whenever I play.
- Participant 89: ... what kind of expression to use in a particular phrase (colour, articulation, dynamic) and how the context of the phrase affects the choice of expression. Thinking about musical shape affects how I would practice the technique required to get that shape I want.

Shape as a tool for realizing the musical structure in an expressive way

- Participant 50: ... 'All That Jazz' from Chicago for trombone solo ... A very simple piece with a much-repeated motif. I was keen to find the correct shape for this motif each time it occurred. Playing it the same every time would have been boring to listen to (and play) so I tried [to] alter the tone and shape of each phrase to match the music as it would be sung ...
- Participant 71: ... Tchaikovsky, "The Seasons", movement 1 "January". The contour of the melody in the second part of the piece has an ascending then descending line that I associated with wind. I tried to shape the line so that it felt different than the rest of the piece because it wasn't written anywhere else in the piece.
- Participant 77: ... Schumann's 'Zigeunerleben' for choir and piano ... How and where I wanted to use ritenuto ... was heavily dependent on my perception of the 'shape' of each phrase, i.e. its melodic contour and the harmonic direction. This harmonic/melodic shape was then matched up to a similar shaping in tempo, emphasising unusual chords and building up to, and away from, the peak of a melodic line.

Shape as a tool for realizing the musical structure in an expressive way

- Participant 137: February 14, 2010; Brahms Intermezzo Op. 117 no.1 in E Flat Major. I was ... rehearsing the work and experimenting with ... differing approaches to the work's overall shape. I was thinking about how I would instinctively shape the entire ABA work - with the most weight and emphasis on the middle B section. However, this overall shape can be undermined or enhanced when you start to decide how to shape each individual section, and all of the phrases and events within each section. How your audience perceives the shape of the work is in large part a result of each decision one makes at the smallest level. Here, overall shape is a result of proportional relationships in the timing of sections, as well as deciding whether to shape each small event individually (thus somewhat undermining overall shape), or deciding to minimize smaller events in the service of an overall view of the work. These decisions are historically-rooted. My instincts are to minimize local events and give a large view of the overall shape of the work, while performers 100 years ago would have enhanced and shaped each phrase and section locally.

Narrative and related uses of shape

- Participant 36: ... Singers should work towards and away from each climactic point, to assist projection of both music and text
- Participant 314: ... Whether the music is rising in spirit/intensity/energy/singleness or whether it is falling. Associated with that is where the peak or trough of the phrase comes, because that is where I'm rising to or falling away from. Musical shape for me is akin to patterns in nature - particularly the natural process of breathing in and out and also the rise and fall of wind on a windy day.
- Participant 324: ... Thinking of the shape of phrases, in terms of direction (?+dynamic/intensity of sound etc) - sense of 'mapping out' what is the natural direction for a phrase. thinking of 'highs' and 'lows' and how to get between them...where to aim towards and away from- (tension and release) - almost thinking graphically of this- (the shape of a curve of a graph) but feeling that shape physically/gesturally ...

Using shape when improvising

- Participant 110: Happens all the time; Improvised solos on all familiar chord sequences; Guitarist in jazz quintet. Elements involve a) overall shape -building from initial statement through to climax b) use of repetition, usually with continuing melodic or harmonic or rhythmic modulations
- Participant 114: 02/12/2010; Evening improvisation session. Talking about structure/shape of improvisation - trying to break away from the arch shape.
- Participant 337: 02/04/2010; Stella by Starlight; Teaching a piano student. I was describing the shape of an improvised solo that I had just played for my student to demonstrate the idea of building a solo in terms of intensity and explaining about building to a climax before gently falling away and rounding off the solo. I think describing the shape of a solo helps students to understand what they might aim for in terms of building intensity or volume or texture to achieve a successful and moving experience for both them and the listener.

Using shape in private and with others

- Participant 164: ... Practising with my instrument yes, usually, but especially when "mind-working".
- Participant 90: All the time; Most pieces; Most situations. I often discuss shape with my colleagues when we are playing together. This ensures that our plan is coming from the same overall goal, both on the phrase level and on the enter piece level.
- Participant 167: ... There is sometimes disagreement about the 'shape' of a phrase, I'm not sure an ensemble are likely to play a passage together successfully unless they resolve these differences

Shape

- A tool for realizing the music expressively, whether improvising or performing from a score; or whether performing alone or with others
- Used in conjunction with ideas of expression, phrasing, narrative, climax, and direction

Alternative words to Shape: English

Word/phrase	Number of comments	Predominant groups
Form or structure	164	Strings/wind; performers of classical only
Physical shape for required sound	130	Keyboard/strings; performers of classical and nonclassical
Phrase or phrasing	112	Performers of classical only
Change over time	100	Strings; performers of classical only
Dynamics	92	Keyboard/wind
Feeling or emotion	65	
Contour	64	
Timing or pacing	63	Keyboard; performers of classical only
Direction or energy (including rubato)	59	
Specified shape	48	Keyboard/brass/percussion/conductors
Harmony or harmonic pattern	42	
Line	42	

			METRE
			MOTIVE
			SCORE
		PITCH HEIGHT OR MELODY	
		HARMONY OR HARMONIC PATTERN	
	HISTORY	WHOLE OR OVERALL OR ENTIRE (PIECE)	
	STYLE	FORM OR STRUCTURE	
	ORNAMENTATION	PROFILE	
	IMPROVISATION	PATTERN	
	EXPRESSION	OUTLINE	
	INTERPRETATION	ARCHITECTURE	
LIVE			
INSPIRATION	COMMUNICATION	LENGTH	
INTENTION	ABSTRACTION	SUBSTANCE	
APPROACH	PERSPECTIVE	COHERENCE	
	FEELING OR EMOTION	CHARACTER	
	AUTHENTIC	CONFIGURATION	
	SIGNIFICANCE	PERIODS	CONTRADICTION AND SOLUTION
	MEANING	ARRANGEMENT	MUSICALITY
	PURPOSE		IMAGINATION
	TRANSCENDENTAL		PRECISION OR EXACTNESS
BRIGHT		NARRATIVE	
TIMBRE		DEVELOPMENT	
SPECTRAL	HIGH AND LOW	TRAJECTORY	FLAT
SONIC ARRANGEMENT	EXPANSION AND CONTRACTION	JOURNEY	WAVE
SOUND	GROWTH AND DECAY	CONTOUR	LINE
ACOUSTIC DIMENSIONS	PEAKS AND TROUGHS	REPETITION	CURVE
	SWELL AND DYING AWAY		
	EBB AND FLOW		RAMP
	INCREASE AND DECREASE		ARCH
	LARGE AND SMALL		BEND
	LIGHT AND SHADE		SINE
	BACKWARDS AND FORWARDS		RIPLE
	VISUAL IMAGERY		
	EXPECTATION OR PREDICTION	PROGRESS	
	ANALOGY OR METAPHOR	BALANCE	
	ARGUMENT	MOVEMENT	
	RHETORIC	ATTACK AND RELEASE	COLOUR
NUANCE		LAYERING	CIRCULARITY
EMPHASIS	ELOQUENCE	FLOW	DEPTH
IMPACT	SONG OR SINGING	MOULDING	WARMTH
INTENSITY	SPEECH		DENSITY
DYNAMICS	ARTICULATION	CLIMAX	FLUIDITY
	LOGIC	CONTRAST	
		CURRENT	
		PHRASE OR PHRASING	
		TIMING OR PACING	
		CHANGE OVER TIME	
		RHYTHM	
		PULSE	
		GESTURE	
VARIETY	IMPETUS	DIRECTION OR ENERGY	
DIMENSION	URGE	MOMENTUM	
VARIABILITY	ANTICIPATION	GROWTH	
PARAMETER	TENSION	ENTROPY	
CONTENT	DRIVING AND FOLLOWING		
COMPLEXITY			
		PESANTE	
		FAT	
		BREATH	
		BODY	
		PHYSICAL SPACE	
		PHYSICAL SHAPE FOR REQUIRED SOUND	

VISUAL IMAGERY	ANALOGY OR METAPHOR	PURPOSE	FORM OR STURCTURE
LEFT TO RIGHT	CHANGE OVER TIME	DIRECTION OR ENERGY	WHOLE OR OVERALL OR ENTIRE PIECE
CIRCULARITY	VARIABILITY	MOMENTUM	OUTLINE
RIPPLE	VARIETY	URGE	ARCHITECTURE
BEND	CONTRAST	IMPETUS	PROFILE
SINE	MOULDING	IMPACT	CONTENT
CURVE	PROGRESS	IMAGINATION	CONFIGURATION
FLAT	EBB AND FLOW	INSPIRATION	COMPLEXITY
ARCH	BUILD AND RELEASE	CHARACTER	ORNAMENTATION
RAMP	IN AND OUT	INTENTION	HISTORY
WAVE	LIGHT AND SHADE	INTERPRETATION	AUTHENTIC
BALANCE	INCREASE AND DECREASE	APPROACH	PRECISION OR EXACTNESS
MOVEMENT	LARGE AND SMALL	PERSPECTIVE	ARTICULATION
GESTURE	SWELL AND DYING AWAY	IMPROVISATION	STYLE
BREATH	DRIVING AND FOLLOWING	FEELING OR EMOTION	PHRASE OR PHRASING
BODY	UP AND DOWN	EXPRESSION	LOGIC
PHYSICAL SHAPE FOR REQUIRED SOUND	ASCEND AND DESCEND	NUANCE	DIMENSION
PHYSICAL SPACE	HIGH AND LOW	MUSICALITY	SONIC ARRANGEMENT
	PEAKS AND TROUGHS	LINE	ACOUSTIC DIMENSIONS
	CREST AND TROUGH	FLOW	SPECTRAL
	GIVE AND TAKE	DYNAMICS	TIMBRE
	GROWTH AND DECAY	MEANING	BRIGHT
	GROWTH	RHETORIC	DENSITY
	EXPANSION AND CONTRACTION	ELOQUENCE	WARMTH
	STRETCHING AND RELAXING	SPEECH	SOUND
	PUSH AND EASE	SONG OR SINGING	FAT
	FAST AND SLOW	EMPHASIS	SUBSTANCE
	ATTACK AND RELEASE	PESANTE	COLOUR
	THICK AND THIN	SIGNIFICANCE	METRE
	BACKWARDS AND FORWARDS	TRANSCENDENTAL	PULSE
	CONTRADICTION AND SOLUTION	ABSTRACTION	RHYTHM
	DEPARTURE AND ARRIVAL	DEPTH	TIMING OR PACING
	ENTROPY	ANTICIPATION	PERIODS
		EXPECTATION OR PREDICTION	SCORE
		TENSION	HARMONY OR HARMONIC PATTERN
		INTENSITY	ARRANGEMENT
		LIVE	LAYERING
		COMMUNICATION	PITCH HEIGHT OR MELODY
		ARGUMENT	CONTOUR
		JOURNEY	MOTIVE
		CLIMAX	REPETITION
		TRAJECTORY	LENGTH
		DEVELOPMENT	PARAMETER
		NARRATIVE	PATTERN
		GROWTH	
		COHERENCE	
		FLUIDITY	
		CURRENT	

		Classical only	Non- classical only	Classical and non- classical	Total
	n	135	23	66	224
Visual or experiential imagery	Observed	126	30	132	288
	Expected	174	29.6	84.6	
Analogies involving change over time	Observed	200	6	76	282
	Expected	170	29.0	83.1	
Interpretative ideas	Observed	399	37	142	578
	Expected	348	59.3	170	
Technical features	Observed	466	50	198	714
	Expected	430	73.3	210	

What do we want to know?

1. Do performing musicians use the idea of ‘shape’ or ‘shaping’ music?
2. How do they use these ideas?
3. Do the ways in which these ideas are used differ between different musicians?
4. Which aspects of music generate a sense of shape?
5. What mechanisms underlie the music/shape association?

What next?

- Interview study
 - A selected, small number of performers, selected from the questionnaire respondents
 - Range of instruments
 - Range of responses