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Structuring Processes in
Electroacoustic Composition

Volume II:
Figures

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City University
Music Department

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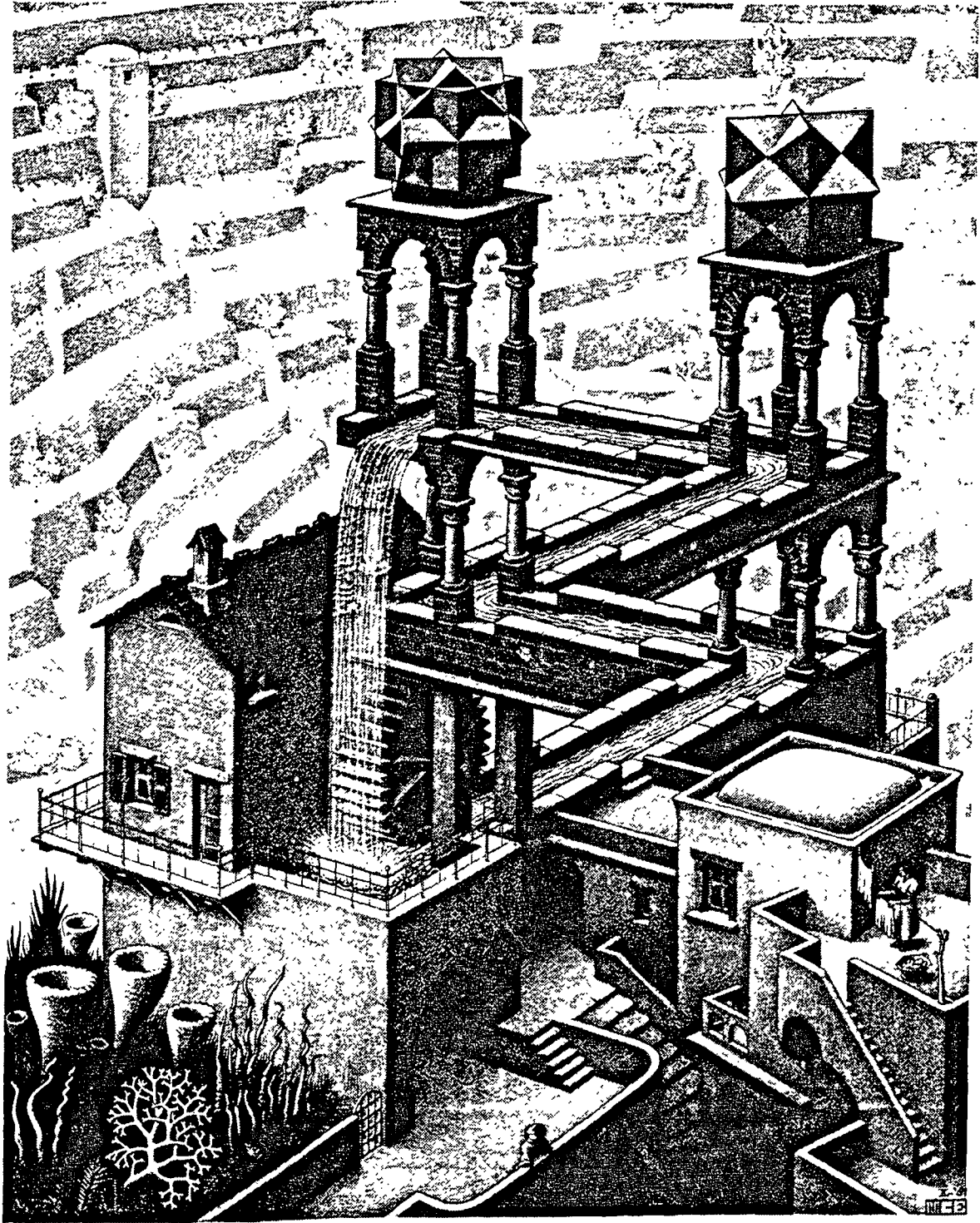


Figure 1.1 'Waterfall', (Lithograph 1961, Escher 1989: plate 76)
Example of a visual paradox.

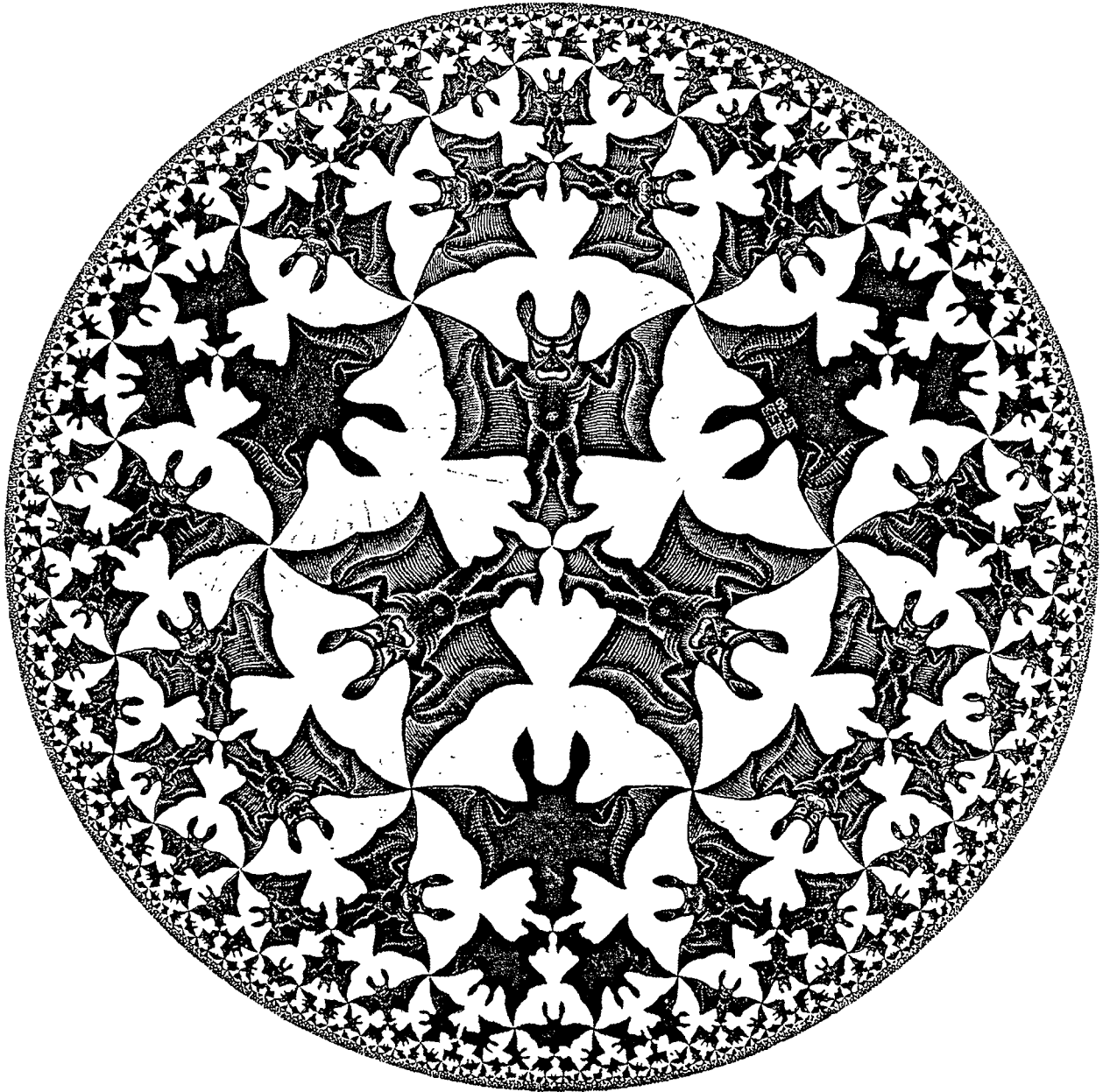


Figure 1.2 'Circle Limit IV', (woodcut print 1960, Escher 1989: plate 25).
Example of a periodic drawing.

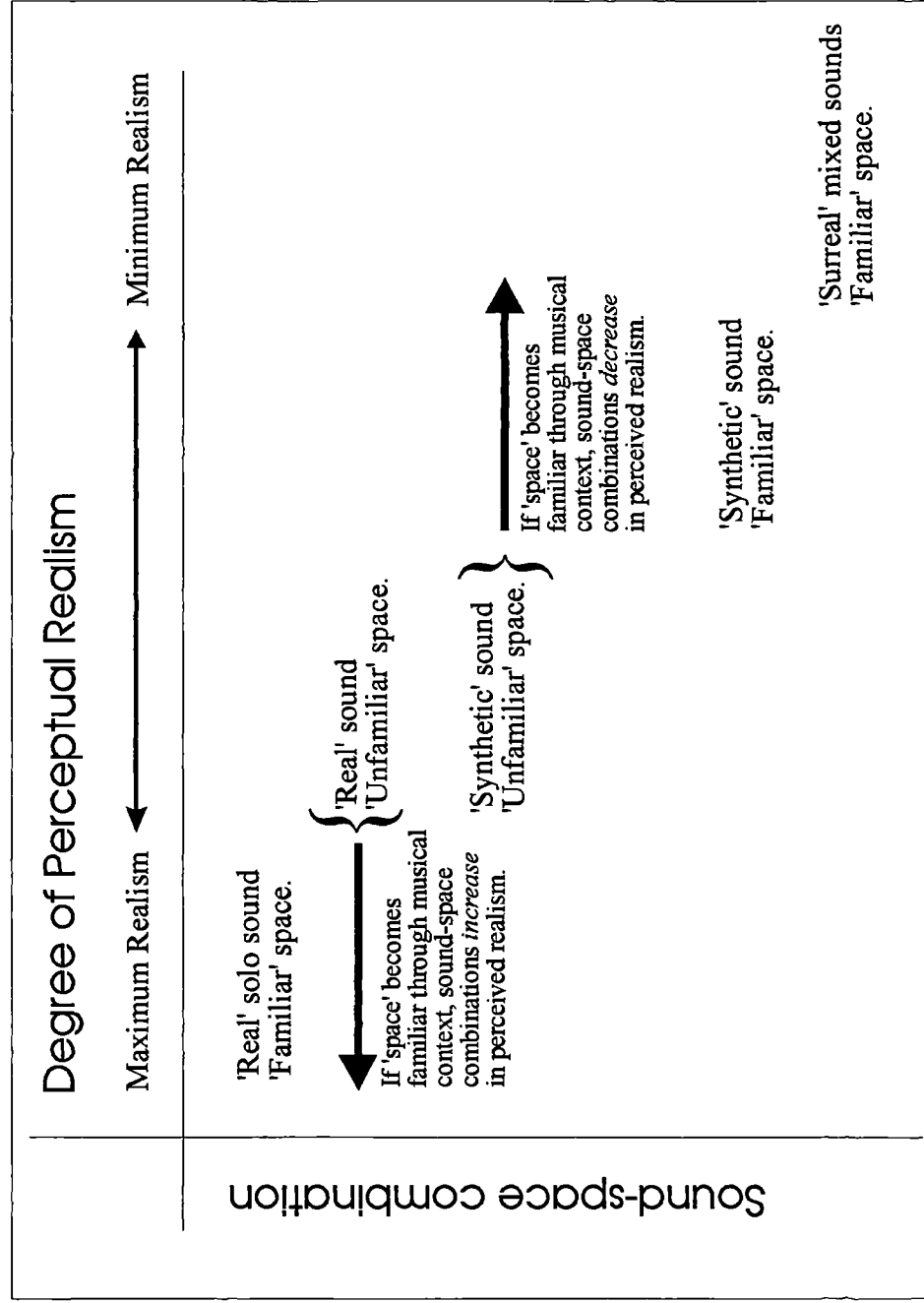


Figure 1.3. Relationships between sound and space in terms of perceptual realism.

Colour Codes

Rocks Ice	
Breath synth.	
Busker	
Synthetic	
Dustcart crash and hooter Wood Crunch	
Water	
Broken lines indicate source sound transformed into pitch material, i.e. semi-synthetic.	

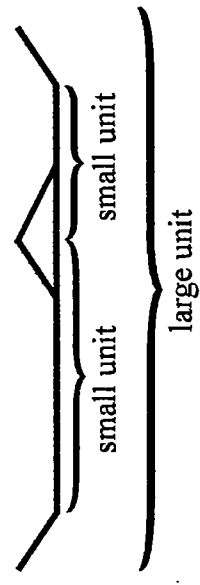
Text codes

Dog snuffle	snuffle
Door creaks	creaks
Footsetps	footsteps
Speech	text
Aural focus	position of sound in listener's aural focus

Macro-time unit demarcations

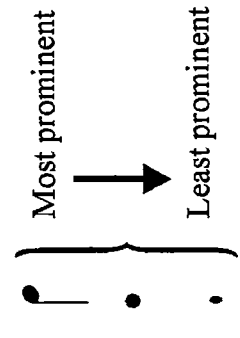
Material edited in the
September 1996 remix

4'00: -5"
Time location and
duration of edit



Pitch notation

Identified pitch in order
of prominence



Gr. . . .
Pitch material forming
a short group

Pl. . . .
Pitch material forming
a plane

Cross section reference
between materials

'Earth Haze' analysis KEY

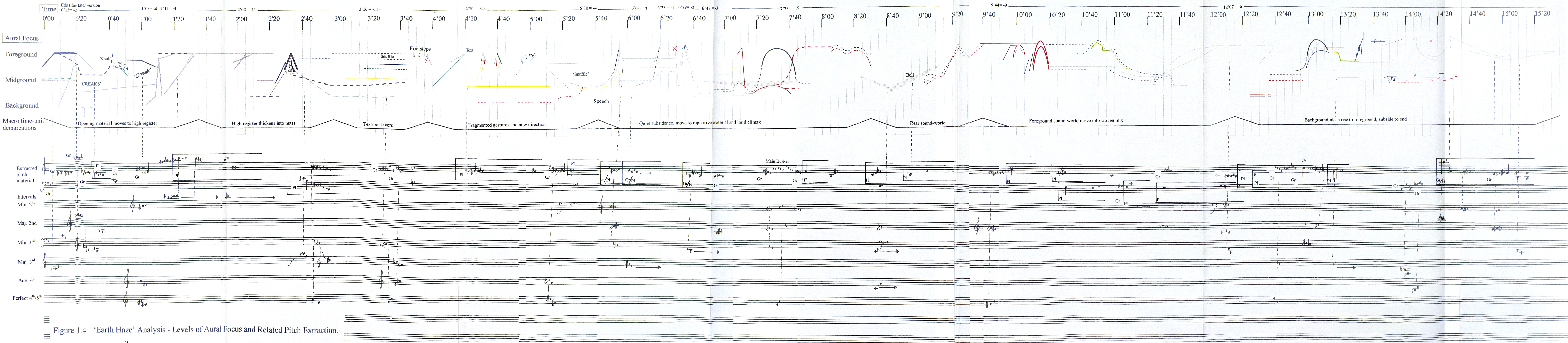


Figure 1.4 'Earth Haze' Analysis - Levels of Aural Focus and Related Pitch Extraction.

Sound grouping based on micro-details without considering pitch.	Sound grouping based on macro-details without considering pitch.	Macro-scale time demarcations.
0'00 'Rocks' transform into 'synthetic' material, with 'synth breath'. Implication of a large space. 'Door creaks' distanced by reverb.	0'00 'Rock' and dense 'synthetic' gestural material.	0'00
'Synthetic' character maintained along high register plane.	1'38 'Synthetic' material rise to high register plane.	1'38
2'10 'Busk' material emerges to form a noise surge, which subsides into an active, iterative texture, culminating at 3'50 in 'footsteps'.	2'30 Noisy 'busk' material emerges and then falls to a textural plane, ending in silence.	2'55
3'55 Implication of a large space. Resonant 'water' with 'rock' gesture injections. 'Crash' and 'synth breath' material die into a quiet 'synthetic' plane.	3'55 Sparse gestures injecting into a static plane. Resonant 'water' sound and implication of distant sound-world.	3'55
5'40 Very quiet speech	5'20 Thin material	5'40
5'48 Rhythmic interaction of 'rock', 'crash' and 'synth.'. Accumulates into a large attack material which subsides.	5'48 Large 'rock' attack followed by rhythmic loops, and a fast disintegration into a mixture of material, then accumulating at 7'11	
7'11 Loud 'crash' and 'busk' material fragment into iterative texture and sweeping gestures, which fade to reveal material at 8'30	7'11 'Crunch' and 'busk' noise gestures fall into 'wood' and 'rock' repetitive texture. Fast fade towards 8'30.	
8'30 Short overlap of 'synthetic' material and previous texture. Implications of large space. Vague 'rain' and 'bell' sounds accumulate into 9'40	8'30 Slow moving synthetic material.	8'30
9'35 Enclosed space with 'crunch' sounds.	9'35 'Crash' loud source.	9'35
10'14 Loud 'crash' and 'rock' injections transform into repeating gestures with rhythmic coincidence.	10'14 Surface rhythmic features fall away to end, losing spatial implications.	
11'19 Subside into ambiguous spatial implications, iteration and sudden cut.		
12'20 Sparse material with rear 'crash', 'busk', 'rock' and 'synth' sounds accumulate into loud 'busk' material.	12'20 Spectrally thin material accumulates towards 13'00.	12'20
13'12 Rhythmic accumulation and 'rock' gesture injections.	13'00 Dense layers of 'busk' and 'synthetic' material. Relaxation into gentle material.	
14'00 Decreasing 'rock' and 'crash' material. Implications of an increasing space with mainly synthetic material, descending to close.	14'28 Quiet accumulation of synthetic gestures, subside to end.	
15'30	15'30	15'30

Fig. 1.51 Alternative Listening Strategies in the Perception of Form

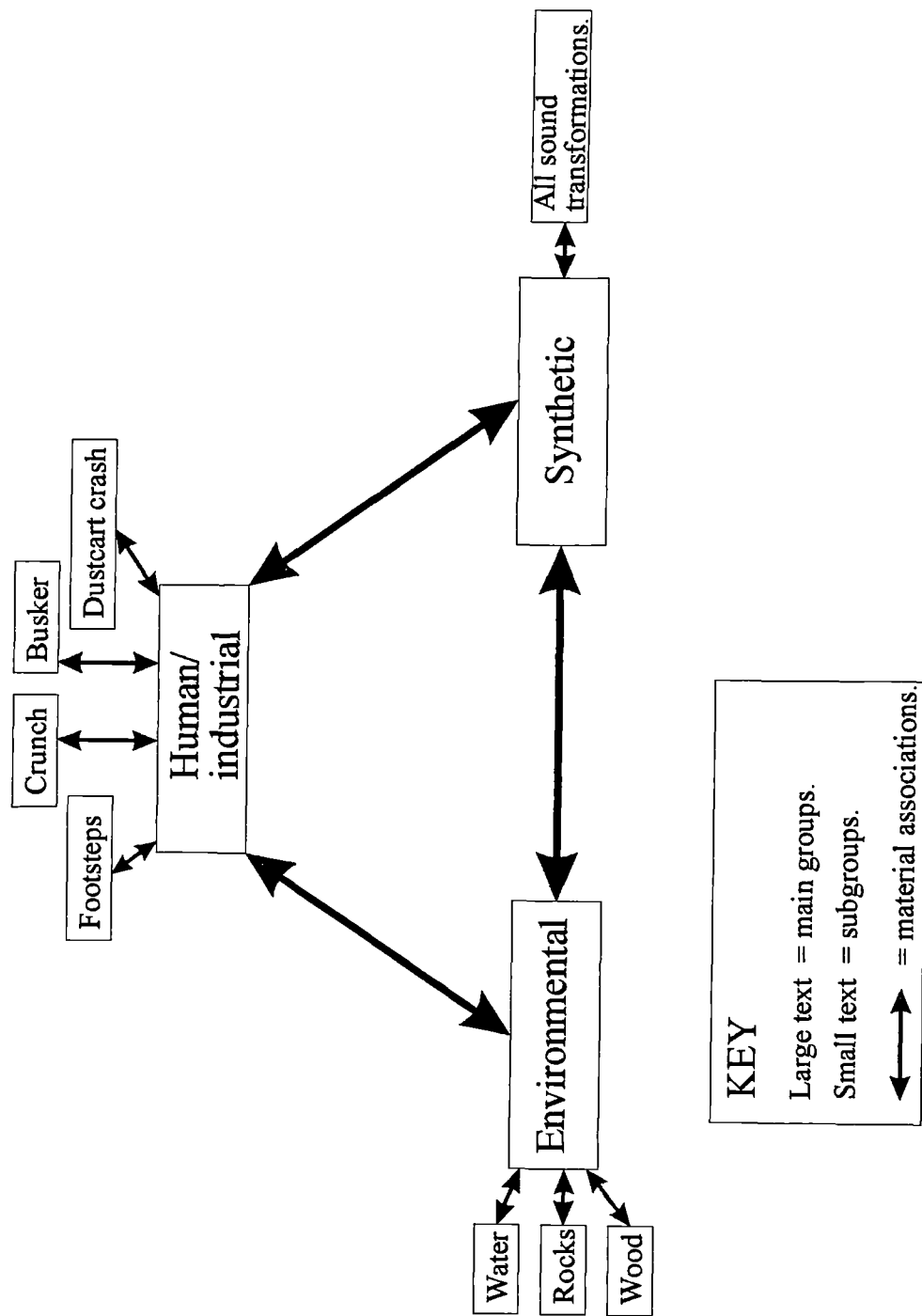


Figure 1.6 Possible Material relationships in 'Earth Haze'

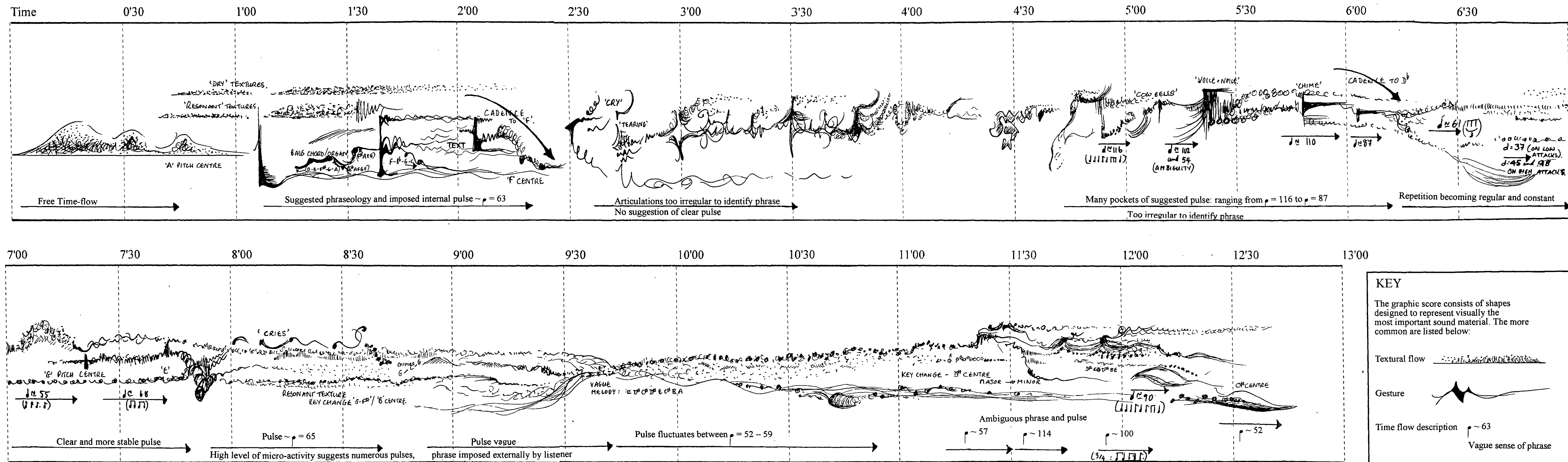


Figure 3.1 'Little Animals' graphic score

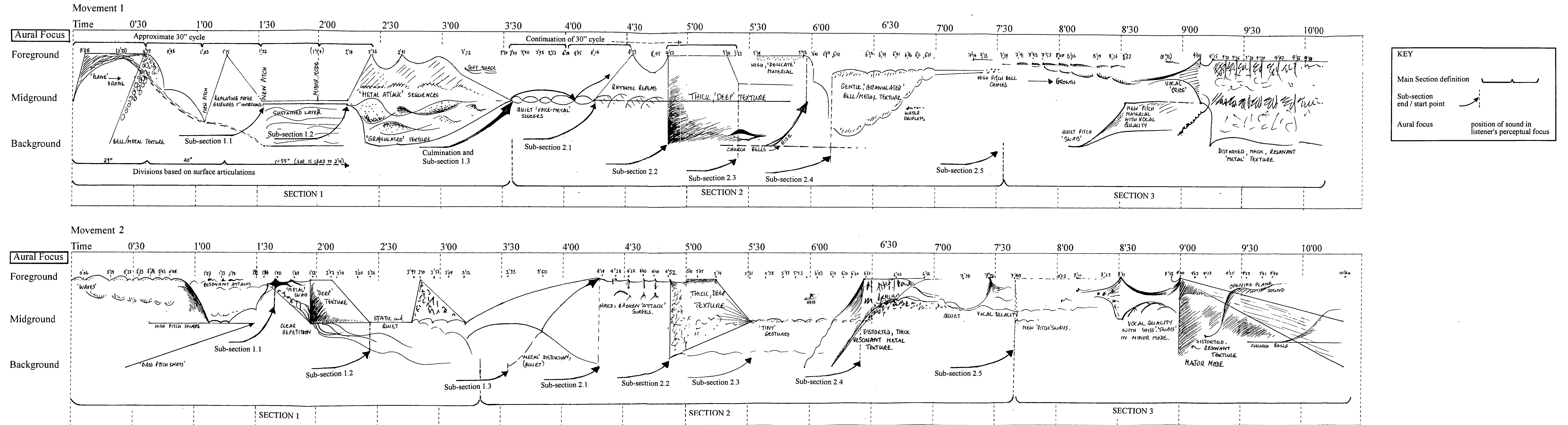


Figure 3.2 Analysis of perceptual focus and time relationships in 'Racing Unseen'.

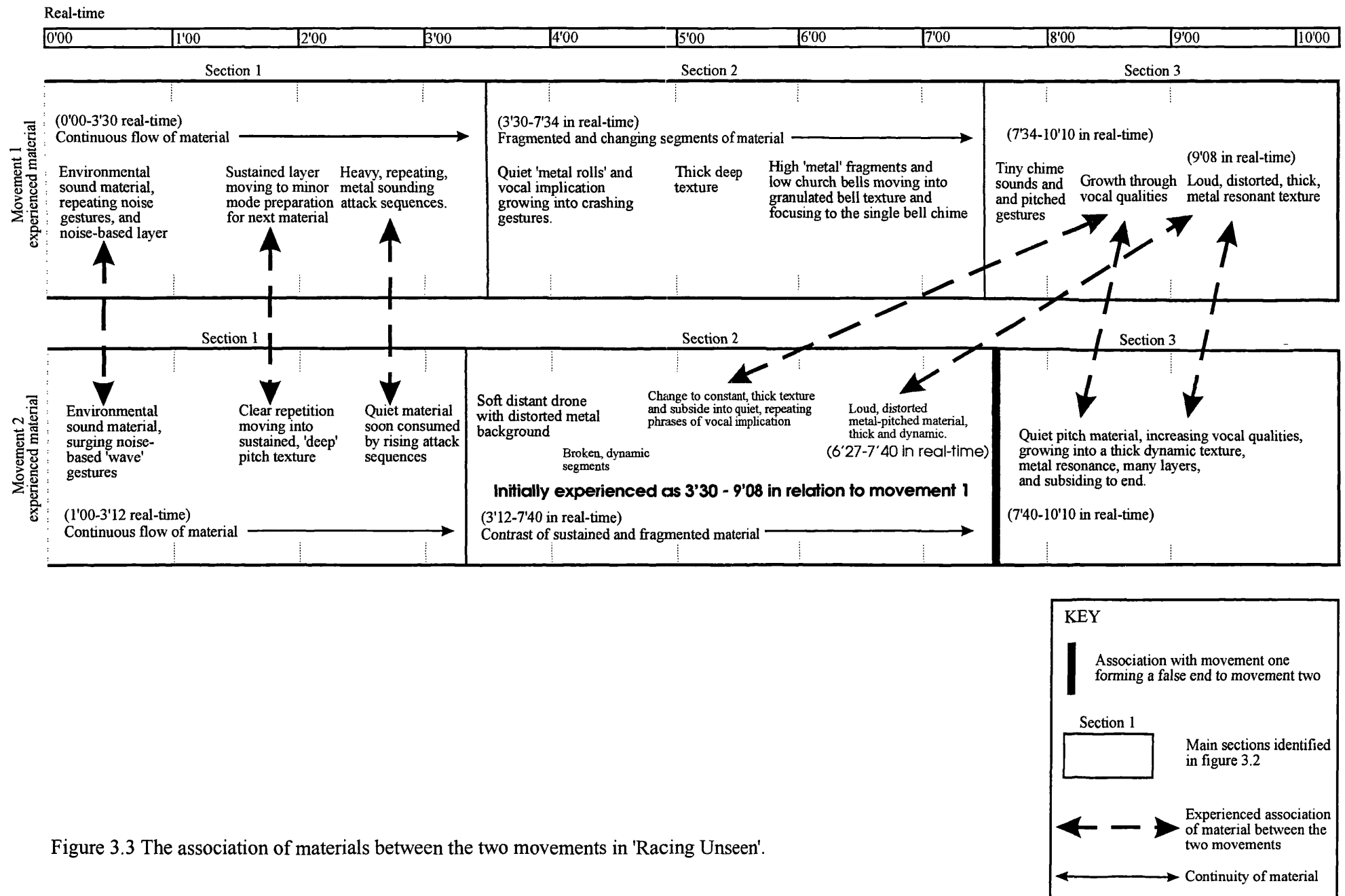
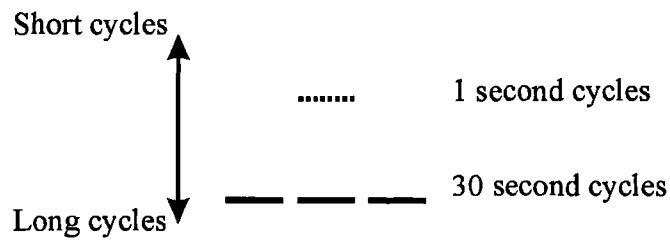
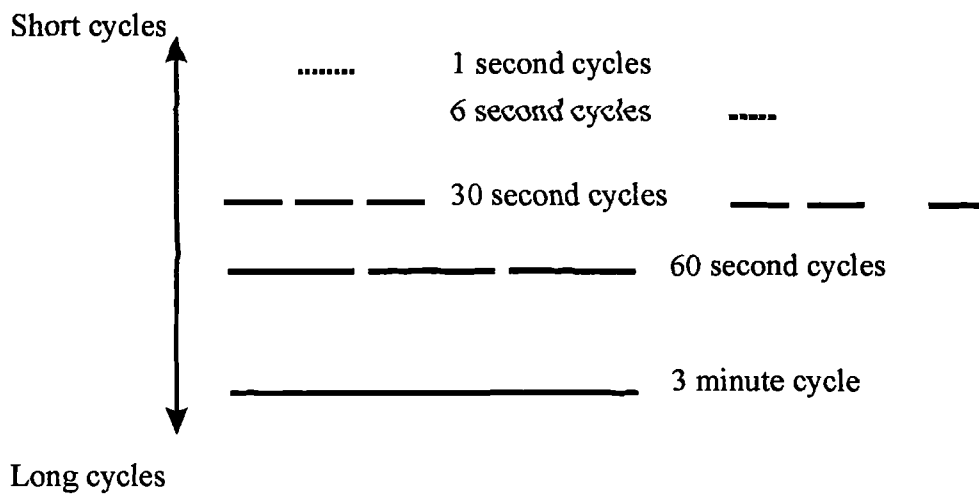


Figure 3.3 The association of materials between the two movements in 'Racing Unseen'.

After 1 minute



After 4 minutes



After 10 minutes

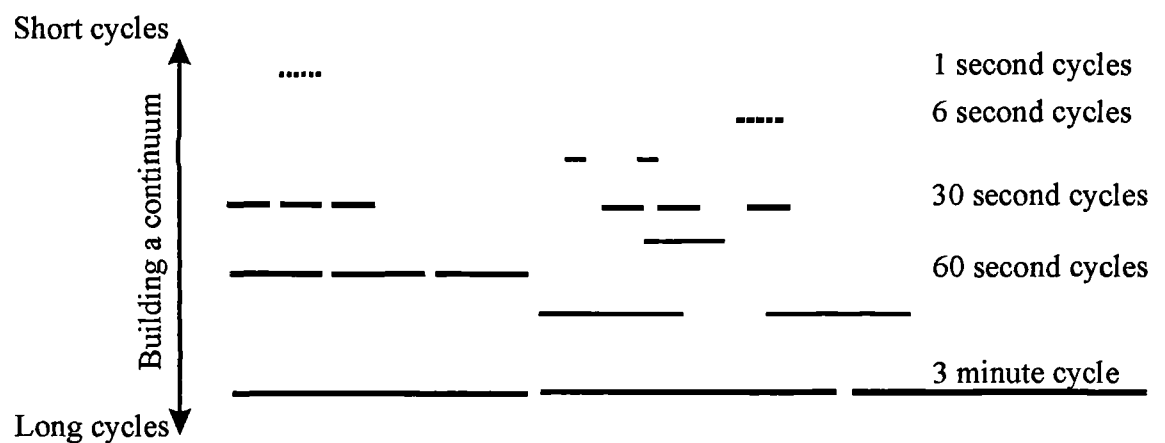


Figure 3.4 Establishing a hierarchy of repetitive cycles: a hypothetical example based on an approximation of material in 'Racing Unseen'

0'00 - 0'10
Bars 1-3

0'12 - 0'21
Bars 4 - 7

0'22 - 0'35
Bars 7 - 13

0'44 - 1'01
Bars 14 - 23

1'30 - 1'52
Bars 28 - 36

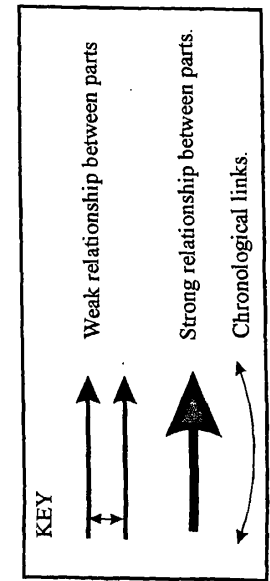
1'56 - 2'06
Bars 36 - 45

2'14 - 2'39
Bars 46 - 54

KEY
Each phrase consists of:

- Sustained material increasing in intensity.
- A detailed live instrumental texture mixed with smooth acousmatic material.
- An attack articulation serving to terminate the previous material.

Figure 4.1 Early stages of gesture and phrase expansion in 'Imago'



xiv

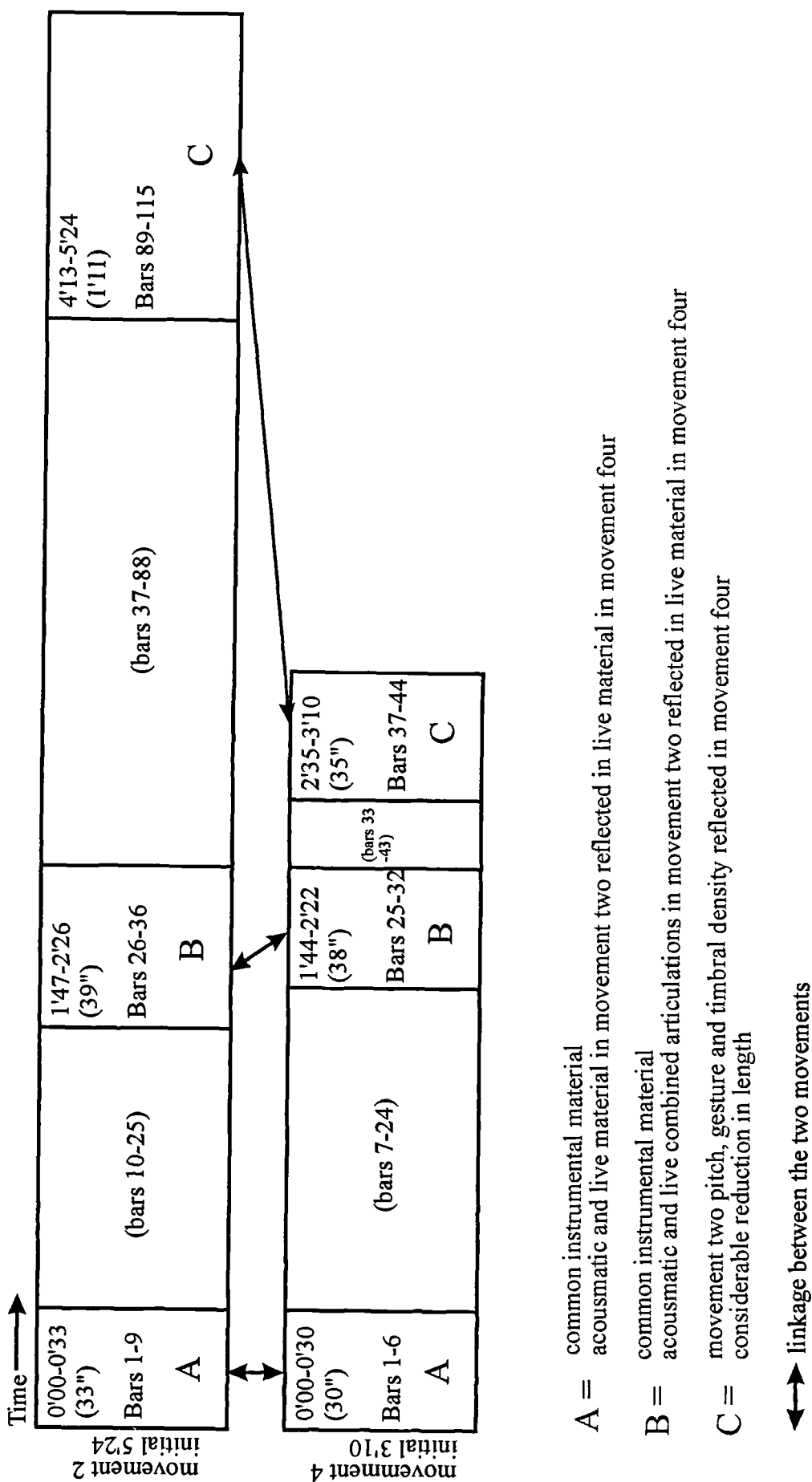


Figure 4.3 Buoyant Charm material association between movements two and four