Free Improvisation
Researching the Acoustic Space

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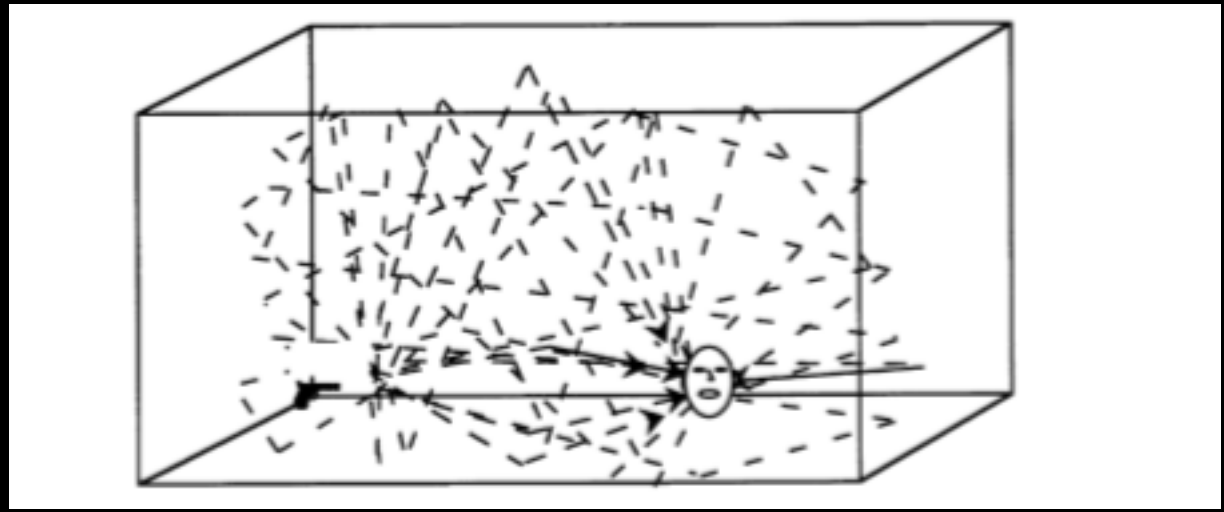
How can the acoustic conditions of the performance space be integrated into known aspects for creating free improvisations?

Aspects of Improvisation

- ❑ Musical Language
- ❑ Real Time Processes (Feedback Loops, Real Time Decision Making)
- ❑ Relationship (Instrument, Ensemble, Performance Space)

Acoustic Context (Le Quan Ninh)

- Room Acoustics
  - –Reverberation Time
    - –Frequency Response
      - –Room Modes



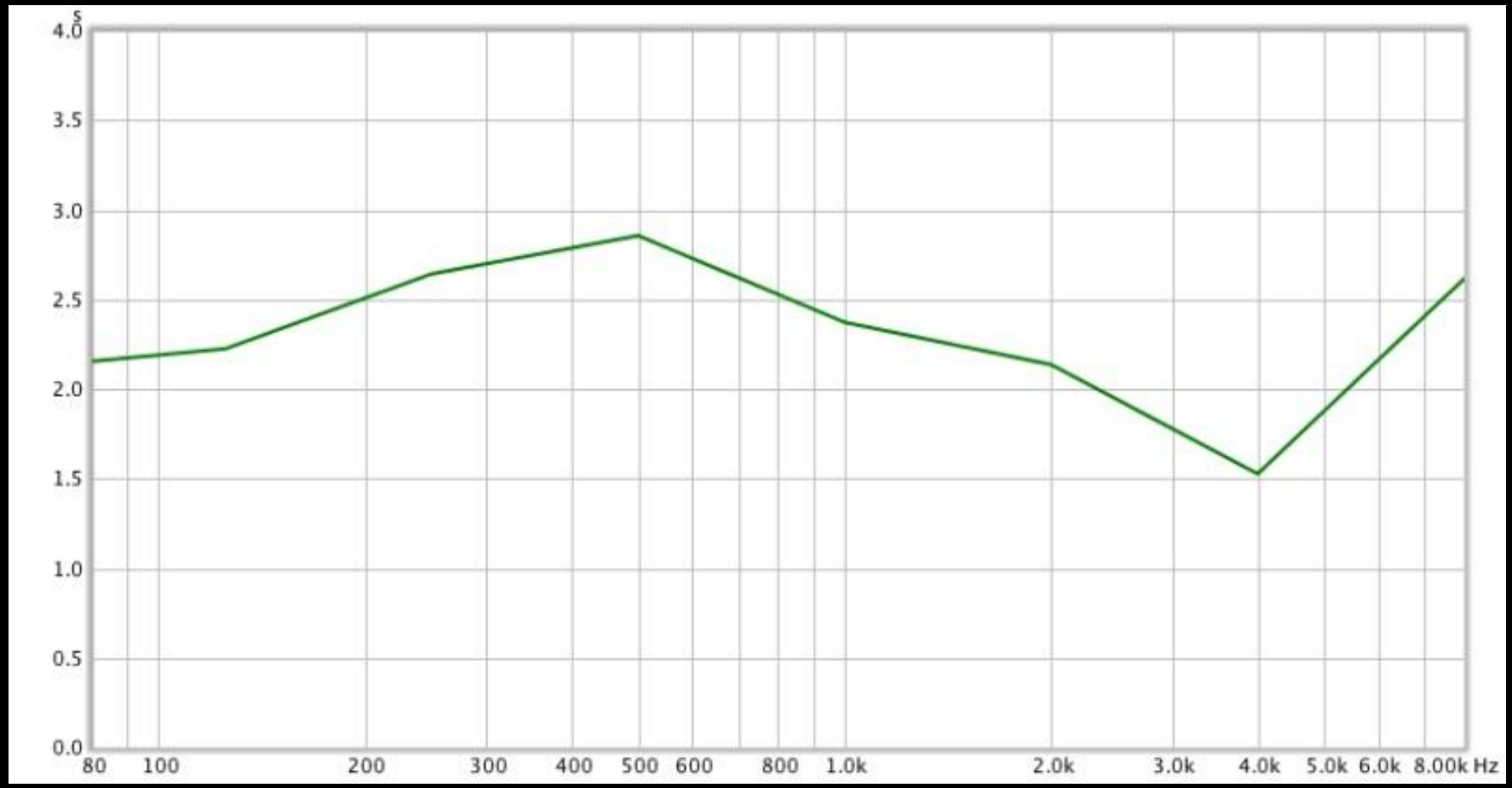
- Soundscape
  - –Background
  - –Foreground

Acoustic Context and Improvisation Aspects

- Acoustic Context and Musical Language?
- What Processes can incorporate the Acoustic Context?
- How to relate to an Acoustic Context?

Case Study I: Estonian Museum of Design

Acoustic Data



Musical Language: Sound Transformation

Short Sounds → Long Sounds

Quiet Sounds → Louder

	Disproportionate duration Macro-objects No temporal unity		Measured duration Temporal unity Reduced duration Micro-objects			Disproportionate duration Macro-objects No temporal unity		
	Unpredictatble facture	Non-existent facture				Non-existent facture	Unpredictatble facture	
			Formed sustainment	Impulse	Formed iteration			
Definite pitch	En	Tn	N	N'	N''	Zn	An	Definite pitch
Complex pitch	Ex	Tx	X	X'	X''	Zx	Ax	Complex pitch
Slightly variable pitch	Ey	Ty	Y	Y'	Y''	Zy	Ay	Slightly variable pitch
	Causal unity				Multiple causes		Multiple causes	
Unpredictable variation of mass	E	T	W	F	K	O	A	Unpredictable variation of mass
			<— Held sounds		Iterative sounds —>			

Balanced objects	Redundant or short objects	Eccentric objects
N: Tonic mass	T: Drones	E: Eccentric
X: Complex mass	Z: Iterative redundant sounds	A: Accumulation
Y: Variable mass	F: Fragment	O: Ostinato
': Impulse	K: Cell	W: Large note
'': Iteration		

- Balanced/Unbalanced
- Mass (Pitch, Spectrum, Bandwidth)
- Facture (Change over time)

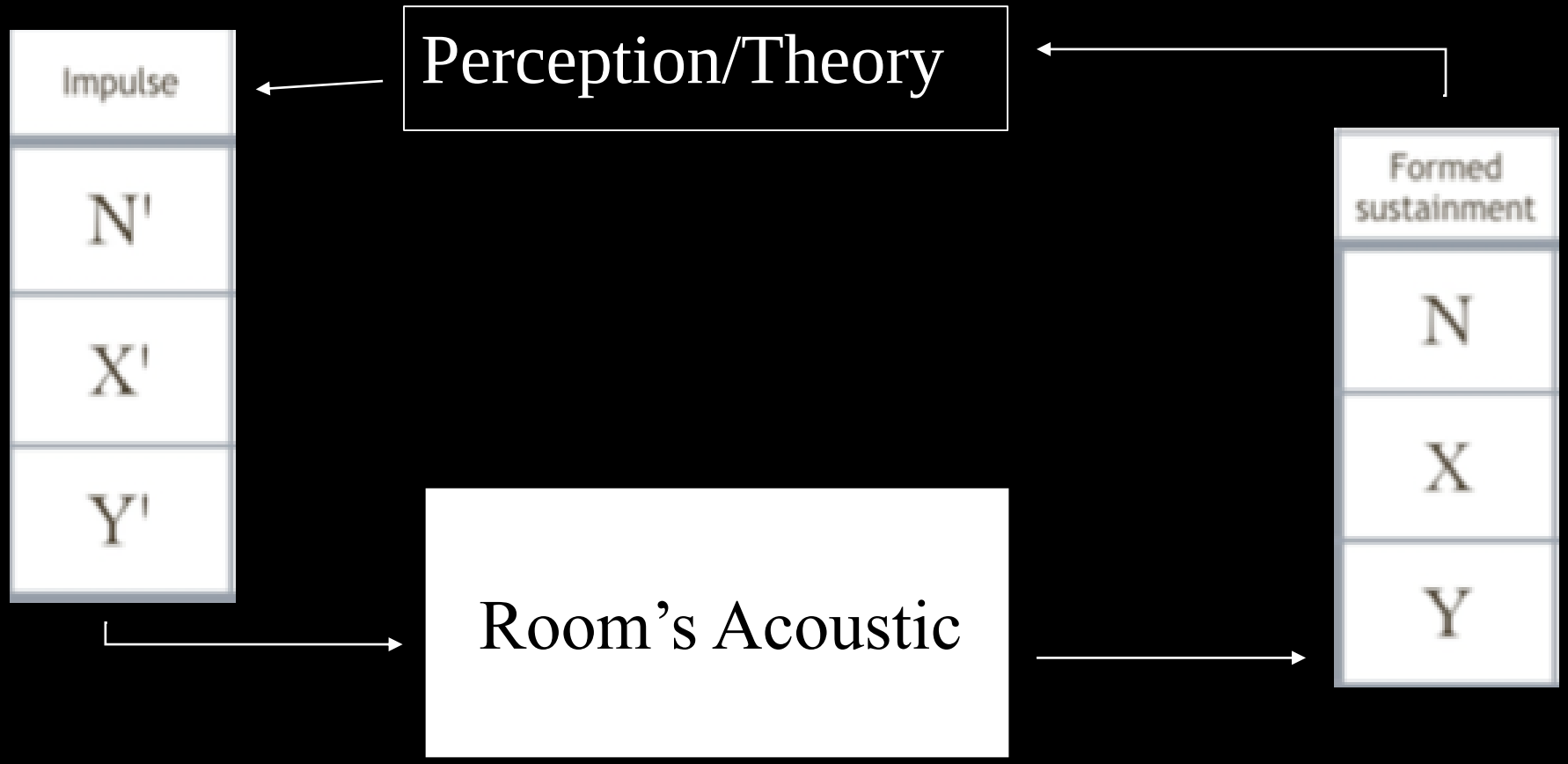
Impulse/ Formed Sustainment

N' N

Formed Iteration

Y'' Y

Process: Biofeedback (Evan Parker)



Acoustic Context as Instrument

- Perceptions treated as if part of the Instrument
- No ‘Real Time’ analysis of the Room’s Acoustic Properties
- Decisions, impulses, reactions are made in response to the perception of the instrument

Advantages/Disadvantages

- Advantages:
  - –The approach integrates room’s Acoustic Context
  - –Allows for quick, in situ choices

- Disadvantages:
  - – Long Term Formal Ideas
  - – Relies on a long Reverberation Time
  - – Sound Object Transformation may not occur.