

# Recording and Reproduction over Two Loudspeakers as Heard Live

## Part 2: Recording Concepts and Practices

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# Unanswered questions resurface:

What would it be like to use accurate monitors  
in the recording process?

Would they be as important as logic suggests?

# Learning from the monitors...

- ❖ There were fewer distractions from the music
- ❖ The stereo canvas was larger than heard before
- ❖ The limits of coincident/near-coincident and spaced microphone techniques were revealed

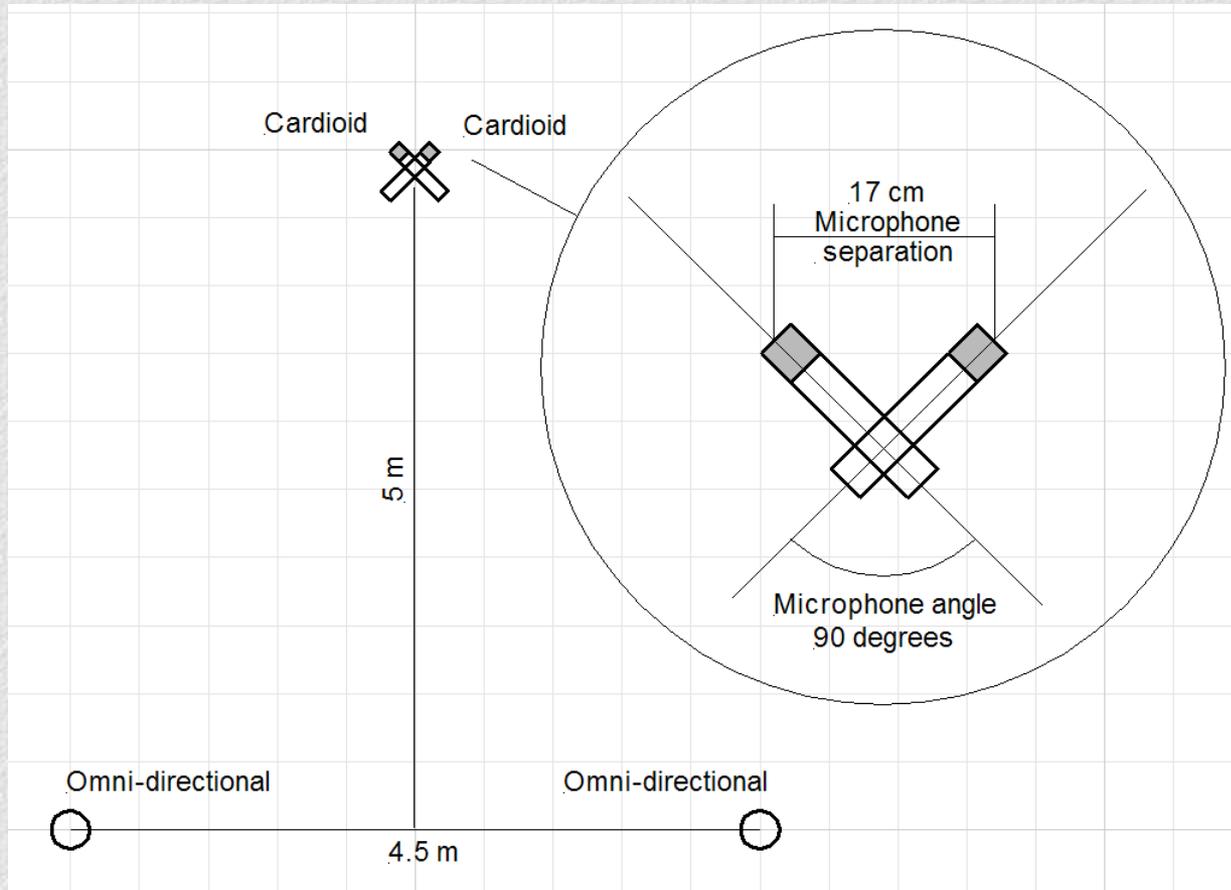
# Learning from the monitors...

- ❖ Two microphones, however arrayed, cannot produce a complete recording
  - ❖ All recordings sounded artificial and incomplete to varying degrees
    - ❖ The missing quality was realism

# Reality based recording

- ❖ First, audience or podium perspective?
- ❖ Combine spaciousness and coherence

# Source + Response microphone array



# Recording plan

- ❖ Location of front pair determined by ear
- ❖ All microphones placed at ear height
- ❖ Cardioids aimed horizontally; omnis vertically
- ❖ Recorded on 4 channels while listening  
to the live performance, for later mixing

# Source microphones



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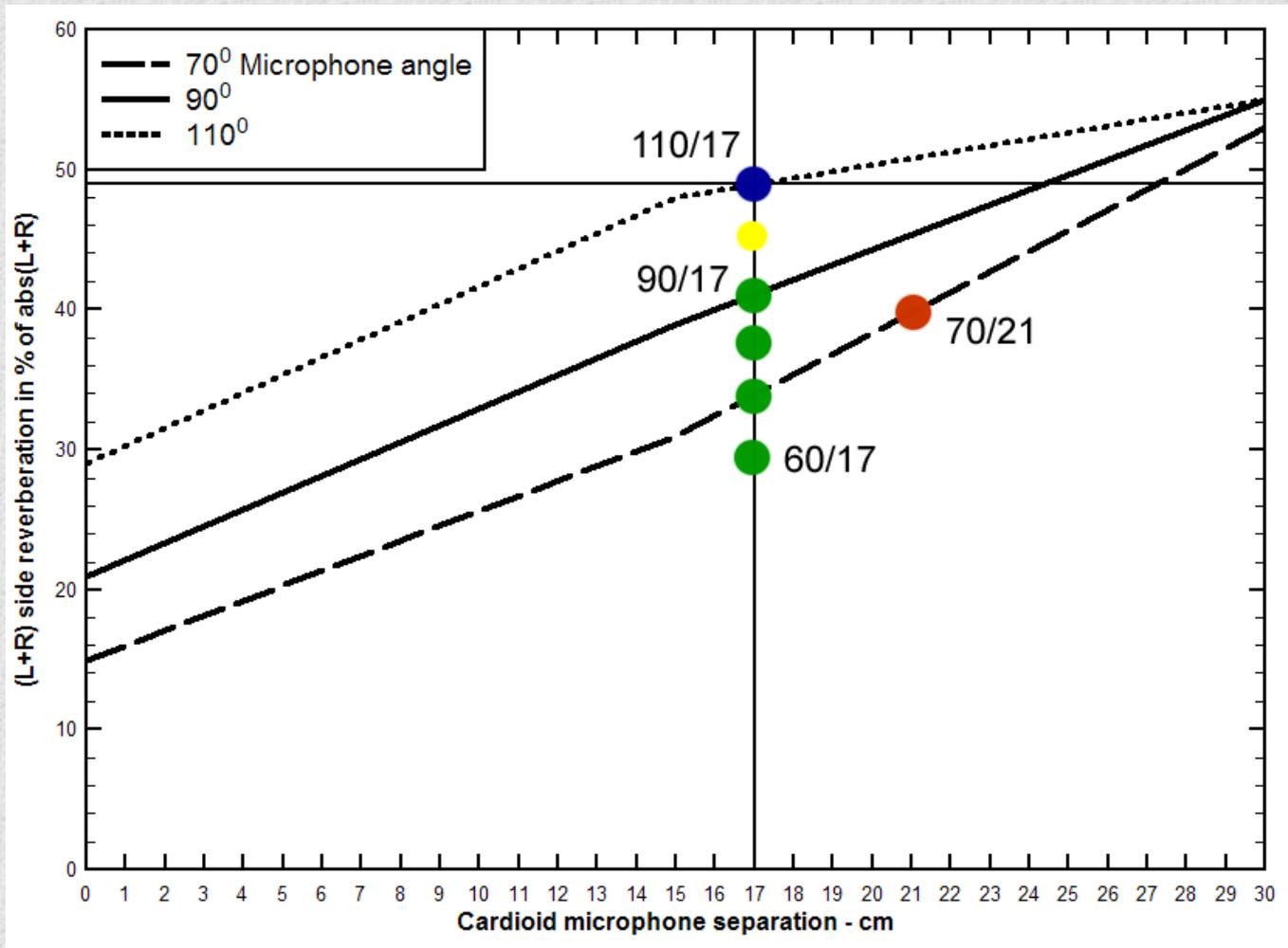
# Results

- ❖ The two microphone pairs combine constructively
- ❖ The live experience was replicated in the living room
- ❖ The absence of a recording engineer was noticeable
- ❖ The stereo seat was of reduced importance
- ❖ The stereo format contains a surprising capacity that had clearly been unexploited
- ❖ Realism can be recorded and reproduced

# Refinements

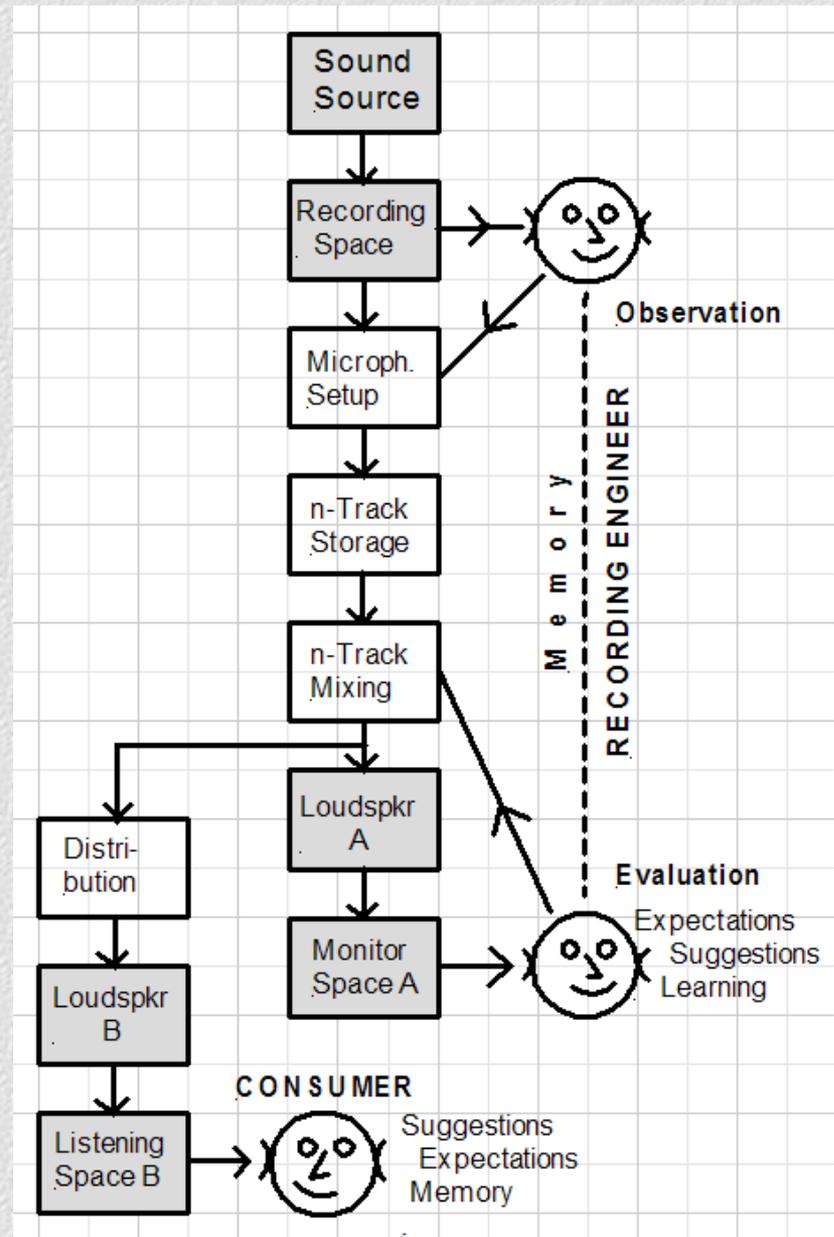
- ❖ Microphone location
- ❖ Front pair configurations

# Mono-reverb to stereo ratio



# Mix-down...

❖ Retrieving reality



# Mix-down...

- ❖ L to R balance of each pair
  - ❖ EQ of rear omnis
  - ❖ EQ of cardioids
- ❖ Balancing front and rear pairs

# Sound clips...

❖ Soloists in small concert hall 

❖ Orchestra in cathedral 

❖ Choir and orchestra in cathedral 

# In closing...

- ❖ Both coherence and spaciousness are important
- ❖ Natural hearing processes should be respected
- ❖ Accurate monitors are every bit as important  
as logic suggests they should be
  - ❖ Further experiments

**Thank you for your attention**

**QUESTIONS?**

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