



## **SOUND and PERCEPTION**

# LISTENING MODES

# Reduced

**Reduced** = listening to a sound without regard to its source or meaning.

Sound for sound's sake.

Meditative (simply listening), or flipping through a sound library.

# Causal

**Causal** = listening for a cause-and-effect relationship of sound and source.

Adheres to the logic of the narrative, diegesis, synched, on-screen or off.

We have varying levels of specifics:  
John's voice vs. a man's voice, a VW engine vs. something vaguely mechanical.

# Semantic

**Semantic** = speech and other codes.

Proof that sound, especially the human voice, is so complex that we may never fully understand its nuances.

# Referential

**Referential** = symbolic or highly meaningful sounds, usually recognized immediately.

Universal, cultural, or specific to a certain film's reality (lightsabers in *Star Wars*).

# HEARING vs. LISTENING

# Listening

Hearing is passive, listening is active.

Our ears receive all sonic information that comes in, but our brains have to select, categorize, and tell our bodies to react.

As designers, our job is to be as clear and concise as we can.

# Listening

Less is more.

Bigger impact with fewer figure sounds in a simpler background.

Audience can then fill in the gaps.

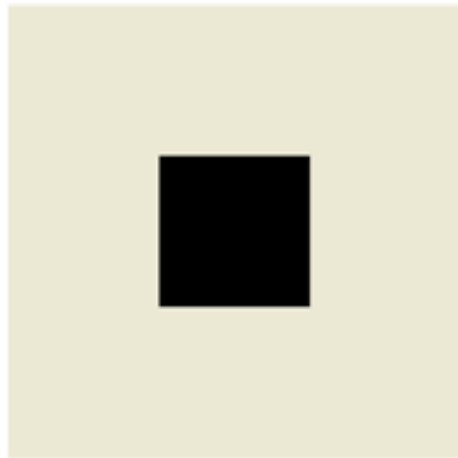
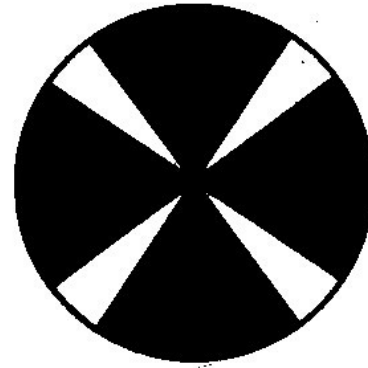
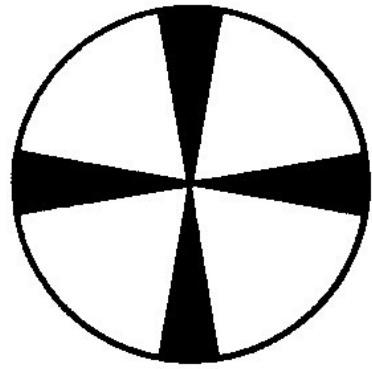
**GESTALT**

# Gestalt

A pattern or the whole cannot be understood from the combination of its individual elements.

The whole is greater than the sum of its parts.

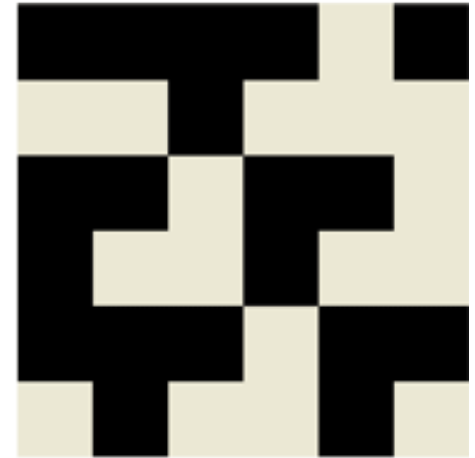
# Figure/Ground



Stable



Reversible



Ambiguous

# Figure/Ground

Figures can pop out amid a jumble of competing sounds.

A favorite song breaking through the din, a friend's voice across campus.

# Figure/Ground

We “dial in” our attention, often unconsciously.

Sound quality can influence what gets noticed.

Contrast, novelty, strong timbre can “pop” a background sound into a figure.

# Figure/Ground

We usually can only focus on two sounds at a time.

We can notice a third if it ascends or descends from the other two.

Walter Murch (Godfather, Apocalypse Now, etc.) said “Three trees make a forest.”

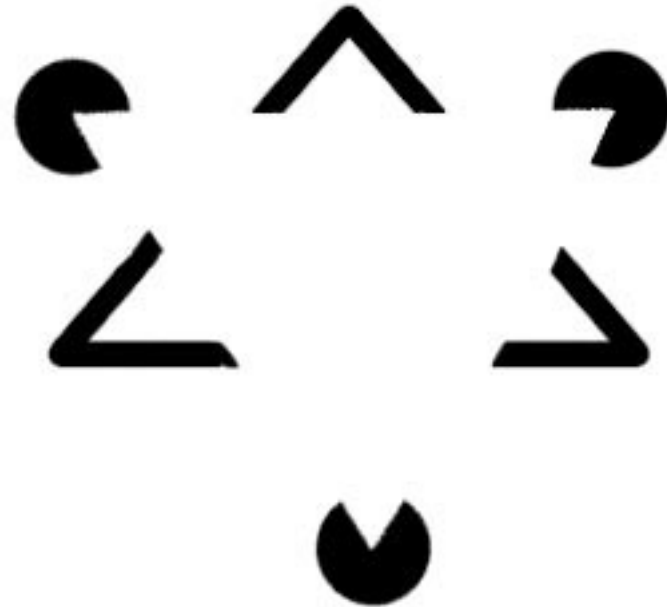
# Completeness

Our brains like to complete patterns and then move on to something else.

If a sound ends prematurely, the result is tension, conflict, drama.

Completeness gives the audience a satisfying conclusion to the narrative.

# Completeness

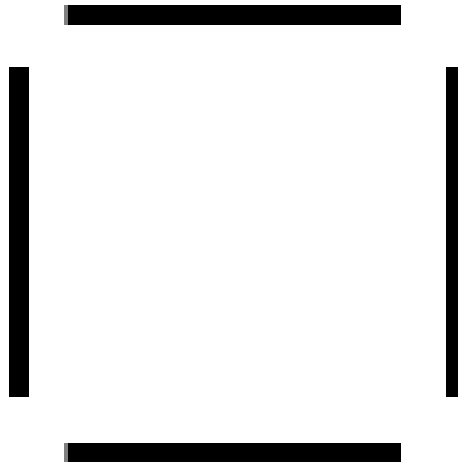


## Law of Closure:

Objects grouped together are seen as a whole.

We tend to ignore gaps and complete contour lines. In the image above, there are no triangles or circles, but our minds fill in the missing information to create familiar shapes and images.

# Good Continuation



Good continuation: we see a square, even though its corners are missing.

# Good Continuation

With sound, our brains also try to complete the pattern.

If dialogue has to be fixed, a sound effect can cover a mistake or a seam between two separate recordings.

Our brains will still connect the “lines.”

# Proximity

Our brain groups nearby objects together.

Sounds adjacent in time tend to be grouped together.

Squeak, slam, and rattle = screen door closing.

# Proximity

Rainstorm, audience clapping, café scene.

More than the sum of its parts: rainstorm is not simply just a collection of individual rain droplets.

# Similarity

Similar sounds are grouped together even if far apart in time.

Phone ringing, dog barking, gun shots.

Timbre is more important than pitch in grouping sounds.

# Similarity

Two bells at different pitch will group together, while a bell and a whistle at the same pitch will separate.

If you want your sounds to separate, make the timbres different.

# Common Fate

Individual sounds in a complex cluster are grouped together if they both undergo the same transformation.

Exterior sounds fade as a character enters an interior space.

# Belongingness

A sound is assigned to a single source.

Once we identify the sound, we should not hear it coming from something else.

# Quiz 7

1. **TRUE** or **FALSE**: Similar sounds will group together, even if far apart in time.
2. \_\_\_\_\_ = the whole is greater than the sum of its parts.

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# Credits

<http://compound-eye.org/archive/extras/old-timey-radio/>