



Chapter 8

Sound and Meaning

OVERVIEW

Classical Conditioning

Sonic Archetypes

Semiotic Theory

Phenomenology & Embodied Cognition

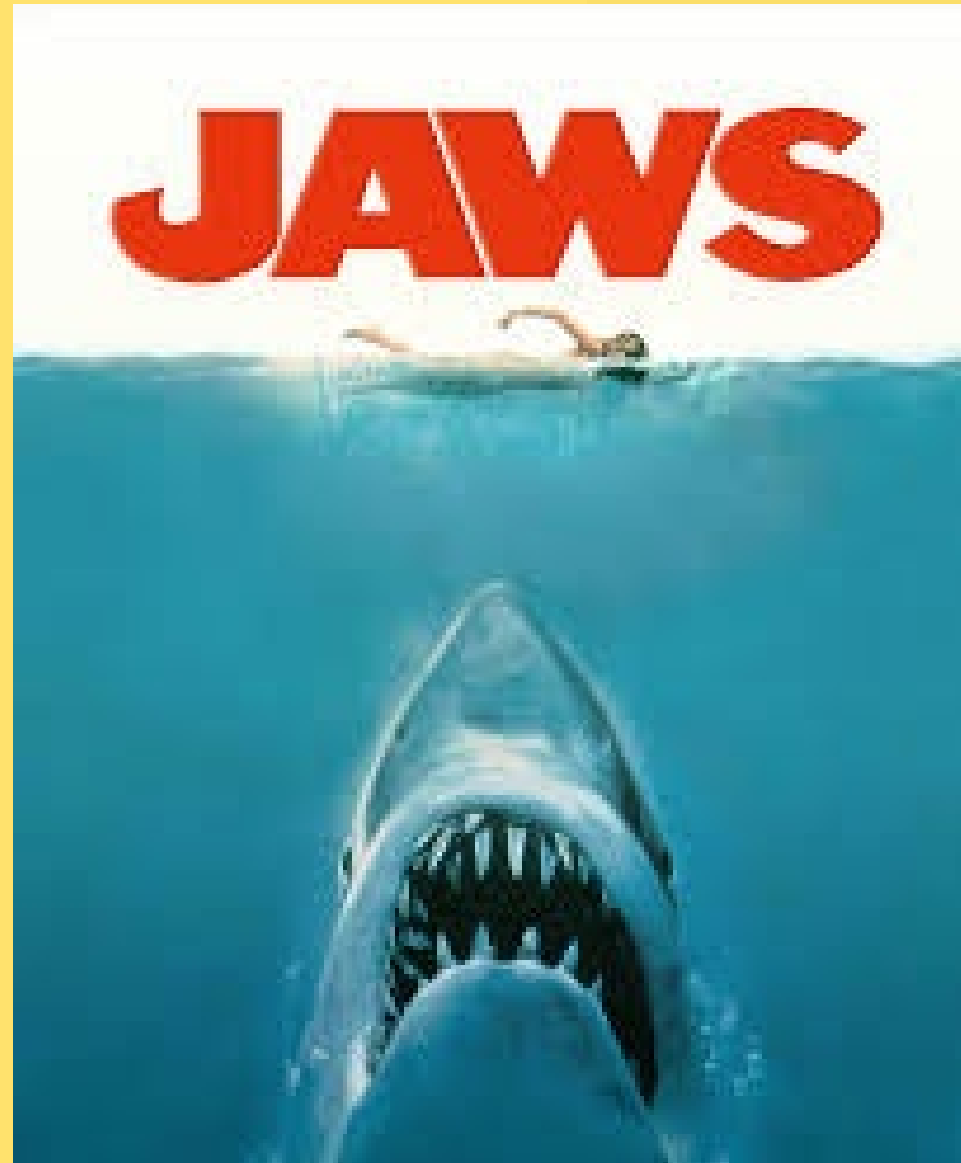
Classical Conditioning

Pavlov's Dog: 1890s

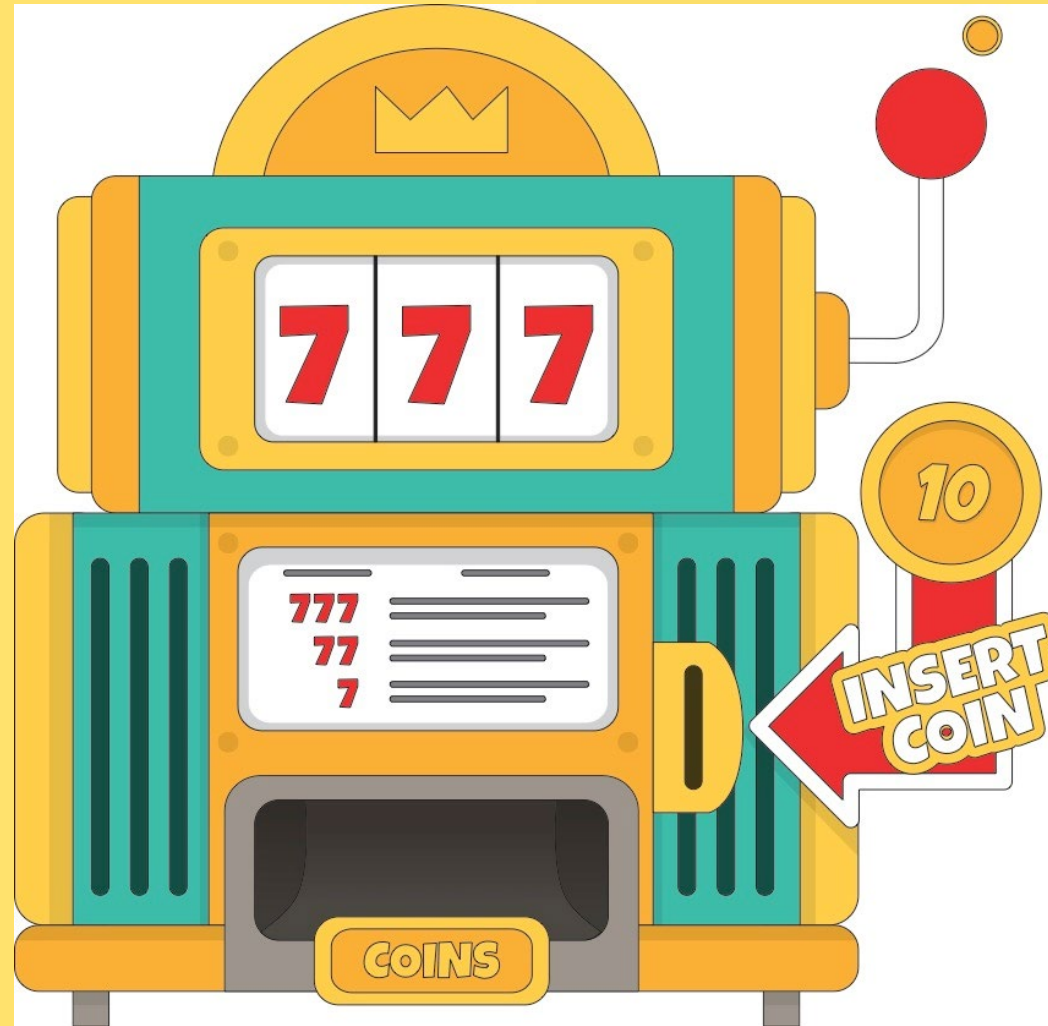
- Stimulus: stimulates senses
 - Induces a Response
- **Conditioned:** learned response



Neutral stimulus:
doesn't in itself
produce response
until learned

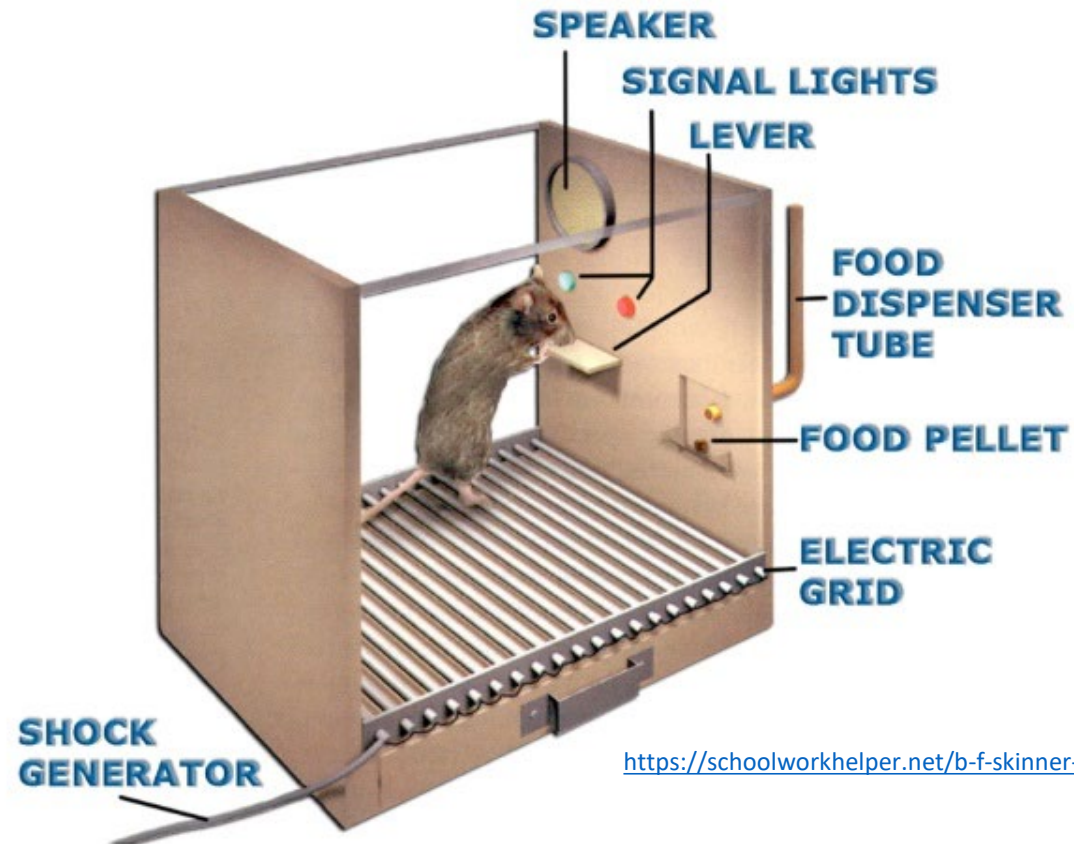


Conditioning: Reward sounds



Operant conditioning (BF Skinner, 1938)

Operant Conditioning: The Skinner Box



<https://schoolworkhelper.net/b-f-skinner-operant-conditioning-skinner-box-baby-tender/>

Operant conditioning: reinforcement

Behaviours have consequences : neutral operants, reinforcers and punishers

Positive Reinforcement : gives rewards e.g. in a game

Negative Reinforcement : reward is take away something bad (e seatbelt sound).

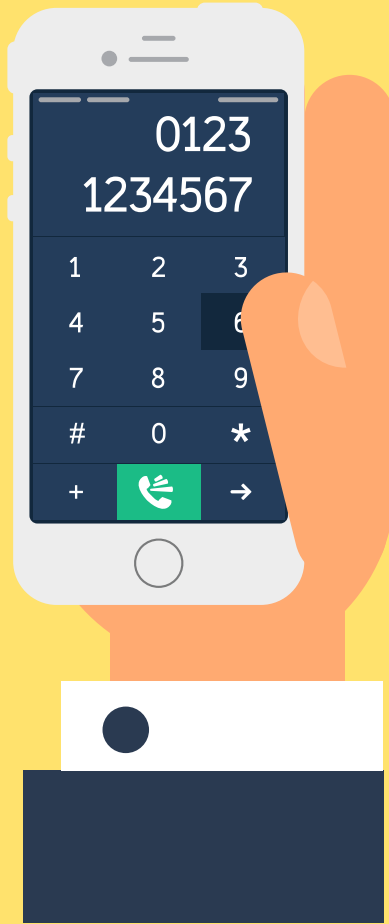


Operant conditioning : punishment

Positive Punishment : attempts to **add** something bad to decrease behaviour -> slam door in argument

Negative Punishment : take away something good to decrease behavior -> e.g remove sound from slot machine

Universal vs. Conventional Sounds



Anamnesis



Basic Semiotic Theory: Signs

SIGN = anything that has meaning other than itself



This sign (a road sign) carries the meaning “no horns”.



This sign (the M) carries the meaning “McDonald’s”.



This sign (smoke) carries the meaning “something is burning”.

“CAT” This sign (the word cat) carries the meaning “cat”.

Semiotic Theory: How many signs??



Basic Semiotic Theory: Signifier & signified

- Signifier: phone ringing
- Signified: someone is calling us (happy? anxiety?)



- Denotation: literal meaning: someone is calling us
- Connotation: associations: happy, anxiety, etc.

Signifier and Signified, Connotation & Denotation

What is the signifier and signified?

What is the connotation and denotation(s)?

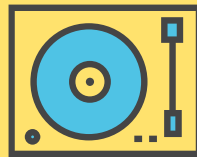
Failures of Communication

- ✓ Socio-Cultural references
- ✓ Understand symbol
- ✓ Have same interpretation



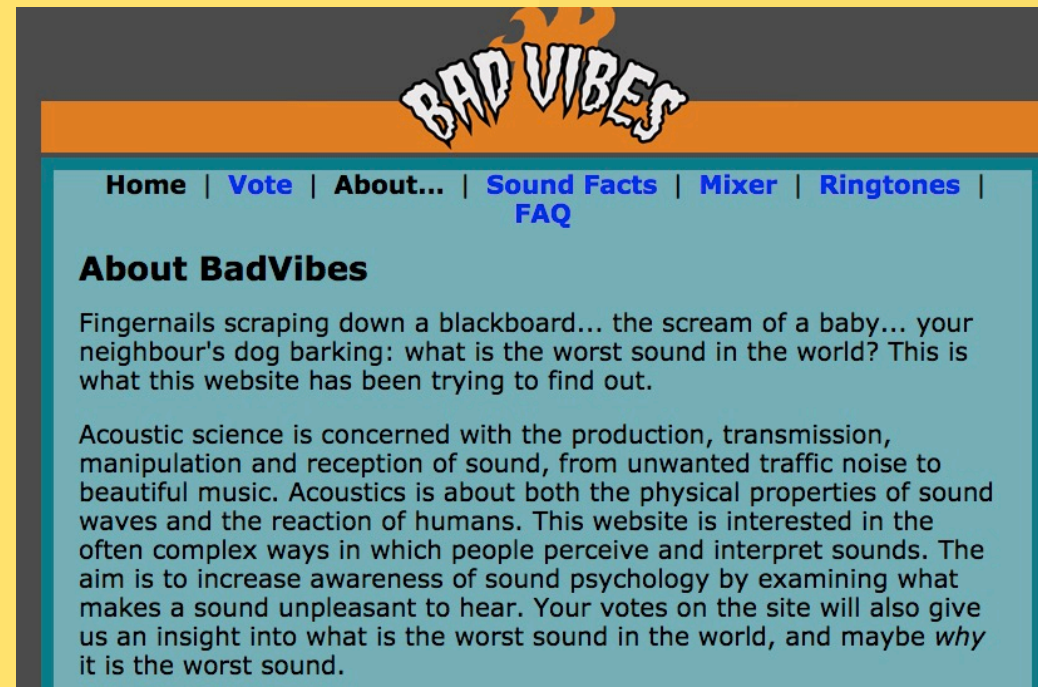
Semiotic Analysis: inter-*objective* comparison

Compare sound(s) across examples from media



Semiotic Analysis: inter-*subjective* comparison

Compare responses across users



The screenshot shows the 'Bad Vibes' website. At the top, the logo 'BAD VIBES' is written in a stylized, jagged font with orange and yellow flames above it. Below the logo is a navigation menu with links: Home | [Vote](#) | [About...](#) | [Sound Facts](#) | [Mixer](#) | [Ringtones](#) | [FAQ](#). The main content area has a light blue background and is titled 'About BadVibes'. It contains two paragraphs of text.

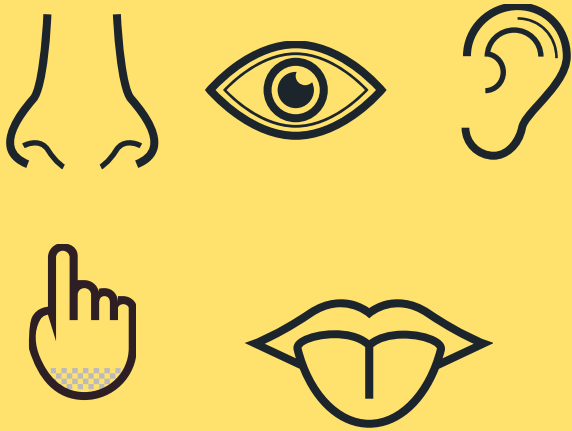
Home | [Vote](#) | [About...](#) | [Sound Facts](#) | [Mixer](#) | [Ringtones](#) | [FAQ](#)

About BadVibes

Fingernails scraping down a blackboard... the scream of a baby... your neighbour's dog barking: what is the worst sound in the world? This is what this website has been trying to find out.

Acoustic science is concerned with the production, transmission, manipulation and reception of sound, from unwanted traffic noise to beautiful music. Acoustics is about both the physical properties of sound waves and the reaction of humans. This website is interested in the often complex ways in which people perceive and interpret sounds. The aim is to increase awareness of sound psychology by examining what makes a sound unpleasant to hear. Your votes on the site will also give us an insight into what is the worst sound in the world, and maybe *why* it is the worst sound.

Phenomenology



“Family Guy” air guitar

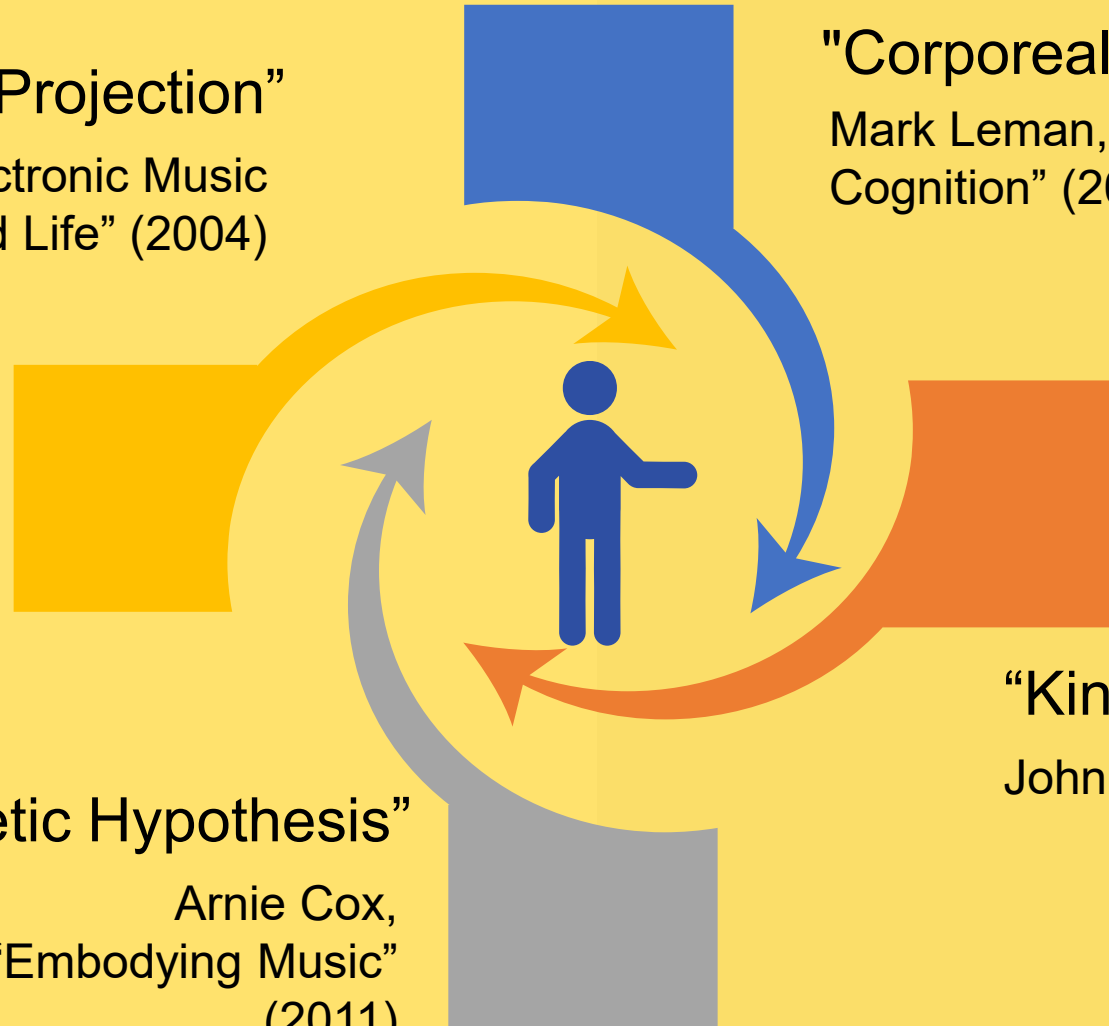
Embodied Cognition

“Anthropomorphic Projection”

Joel Chadabe, “Electronic Music and Life” (2004)

“Corporeal Signification”

Mark Leman, “Embodied Music Cognition” (2007)



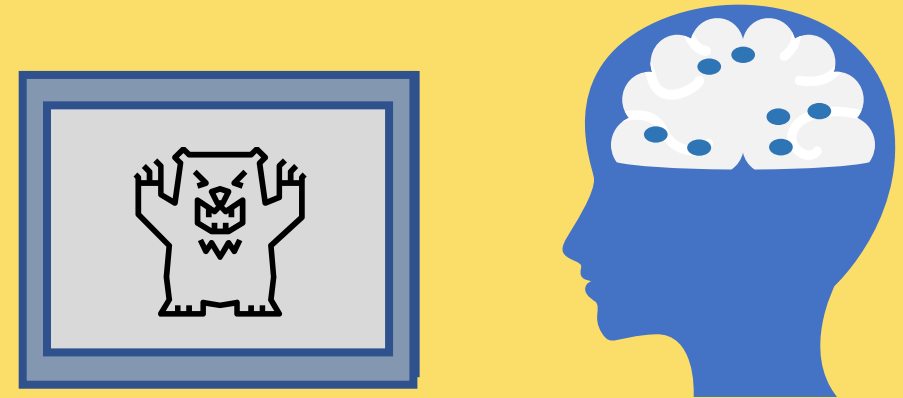
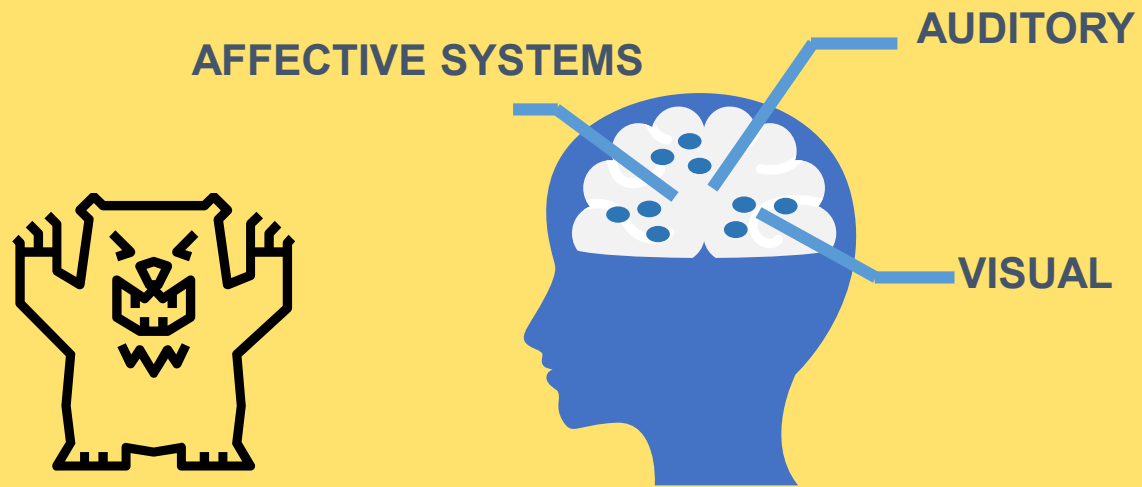
“Kinesthetic Sympathy”

John Cage (1961)

“Mimetic Hypothesis”

Arnie Cox,
“Embodying Music”
(2011)

MIRROR NEURON THEORY



*after Paula M. Niedenthal, "Embodying Emotion" 2007
Icons from thenounproject.com

INTERSENSORY INTEGRATION



Sound + Image: Bouba & Kiki

