

Why we listen: The psychological functions of music

Agenda

- Definition of music
- What is a psychological function? Brains as goal-seeking systems
- Why we listen: how individuals use music for their own purposes
- Social psychology of music: its social functions
- Mass psychology of music

Context

- Contextualists vs. details people (two kinds of people in this world)
- We are setting the context for our investigation of musical structure
- What is a psychological function? Brains as goal-seeking systems
- Why we listen: how we use music in our lives, why do we find it useful?
- The question to be answered (to paraphrase Warren McCulloch):

What is music such that it has its manifold effects on the human mind, and how does the human mind function, such that music has its manifold effects?

Music: a provisional definition

Randy Newman
Ragtime

What makes sound musical? It's how we use it. (functional definition)

A functional relation between sound and listener, not simply the sound itself

Deliberate organization of sound for pleasure.

Deliberate organization of sound sequences for pleasure.

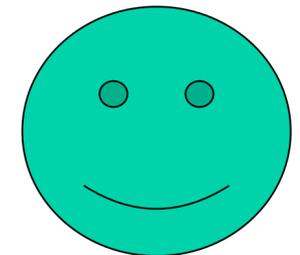
Deliberate organization of extended auditory experiences for pleasure.

"Organization" can involve composition or performance or selection of sounds or even selective attention to sounds (Cage's silences)

"Pleasure" is similarly very broadly construed, and can mean psychological reward or interest of any sort.



Source: IMSLP.org



My provisional definition:

Sequences of sonic events designed or selected to produce desired psychological effects not related to explicit communication

Music consists of sequences of sonic events that produce perceptual contrasts.

Primarily, these contrasts involve
tonality (pitch: melody & harmony)

Gasparyan
A cool wind is blowing

rhythm (relative timings of events (rhythm))

Image removed due to copyright restrictions.
Still image from "Mbire, Otabuna mukaire - olumbe wamanyi, Balikowa Centurio, Peter Kabodha and David Kasata." *JVC / Smithsonian Folkways Video Anthology of Music and Dance of Africa*, Vol. 1 (Egypt, Uganda and Senegal).

timbre (especially in electronic music).

Mickey Hart
Udu Chant

Stockhausen
Kontakte

Brian Eno
On Land

Music vs. speech

Music is somewhat distinct from acoustic communication in which component sounds are symbolic vehicles through which encoded messages are conveyed (e.g. speech, Morse code), **because their functions are different**

Speech sounds not part of a coded message system can be musical

Kurt Schwitters
Ur sonata (excerpt)

Musical sequences can also be used as symbols in communication (bugle calls)

Charles Amirkhanyan
Dutiful Ducks

Speech also has rhythmic aspects that are musical (lexical music, poetry)

Of course, music and speech do come together in vocal music, where speech is made musical without destroying its communicative aspects.

Borderline cases:

Sound selection: Naturally occurring sounds regarded aesthetically, as in “found art”,

Ambient music: sounds that might not be readily recognized as music

Extremely minimalist music (Tibetan singing bowl)

John Cage’s silences (4’ 33”)

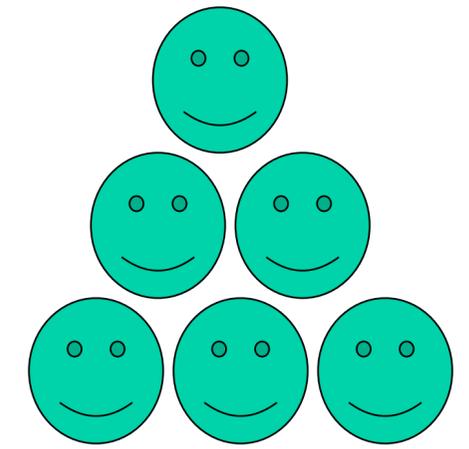
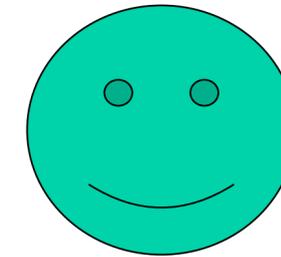


Marcel Duchamp. "Fountain", 1917. Photo by Alfred Steiglitz.

Music as stimulus, idea, action, and private experience



relation



Psychology of music examines relations between music and mind.

Music is half of this relation.

Mind has different aspects:

1st person experience (introspection)

3rd person overt behavior (behavior)

Underlying neural physical activity

My definition of “mind” is the

functional organization of informational processes in the brain (a.k.a. mental processes)

Psychological functions

Organisms are goal-seeking systems (homeostasis, survival, reproduction)

Nervous systems evolved to coordinate behavior of motile animals

Functionalities of nervous systems

- Sense the internal state of the organism and the state of the world

- Choose behaviors appropriate to sensed conditions

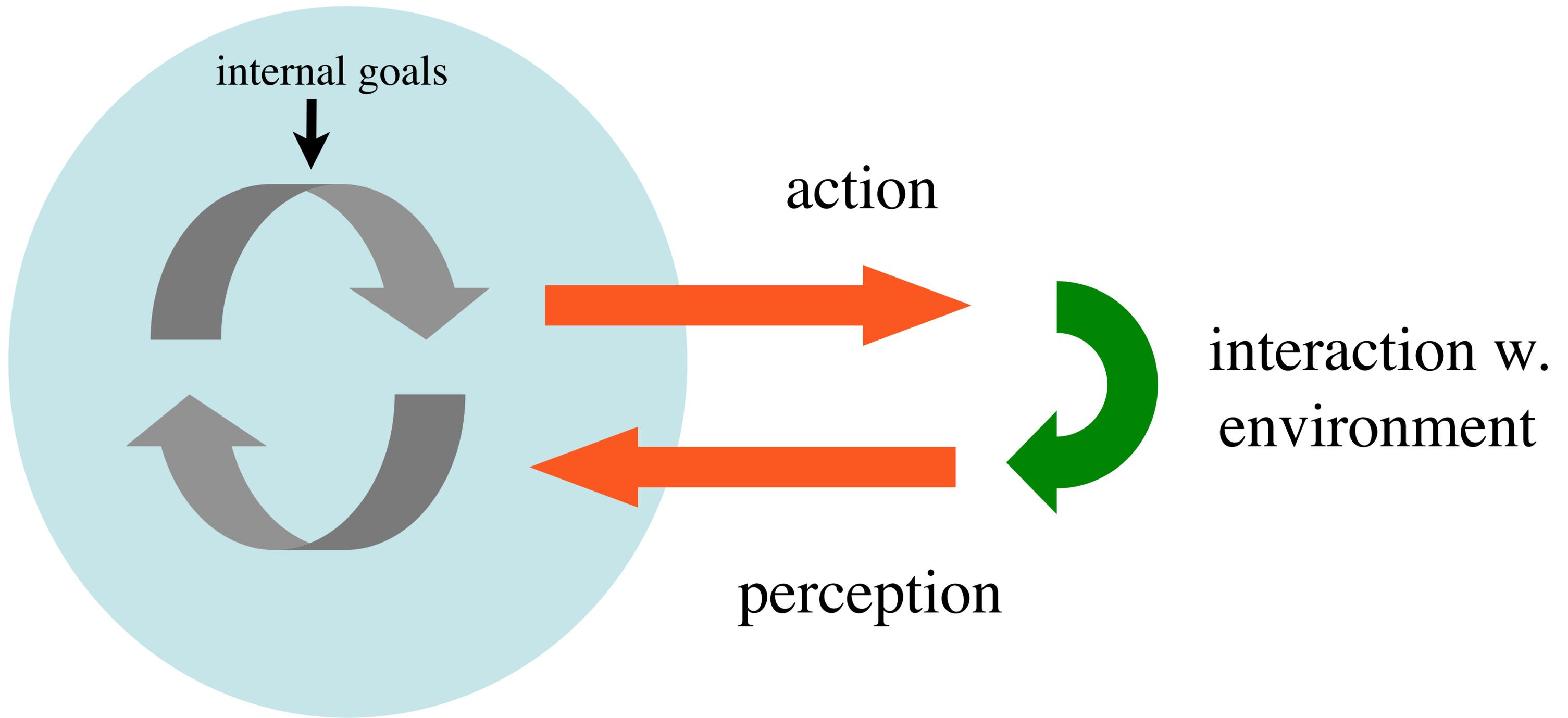
- Implement actions through effectors

- Embedded goal-states that steer behavior

- Sets of drives and motivations (sometimes mutually competing)

- Maslow's hierarchy of needs

We will assume for the moment that a psychological function is fulfilled when a goal state is achieved and the corresponding drive is reduced.



steering: percept-action coordinations

Cybernetics, c. 1950-1960: adaptive. goal-seeking devices

Ashby's homeostat "maintain homeostasis"

Photo of the homeostat removed due to copyright restrictions.
See http://www.vintagecomputer.net/electronic_brain/homeostat.jpg.

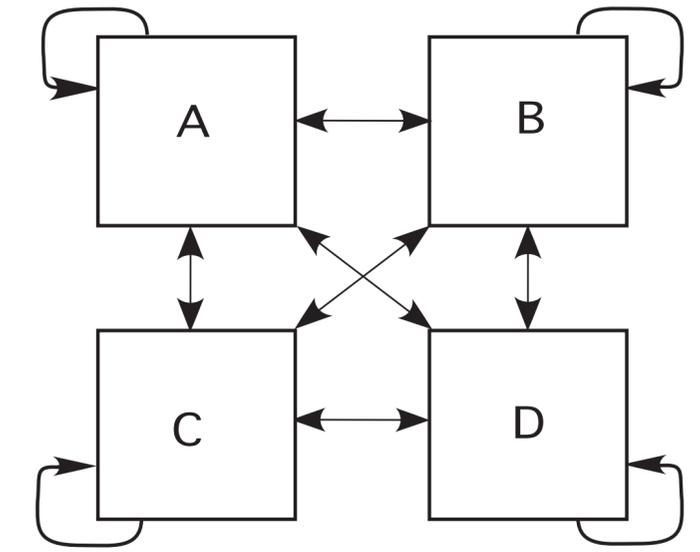
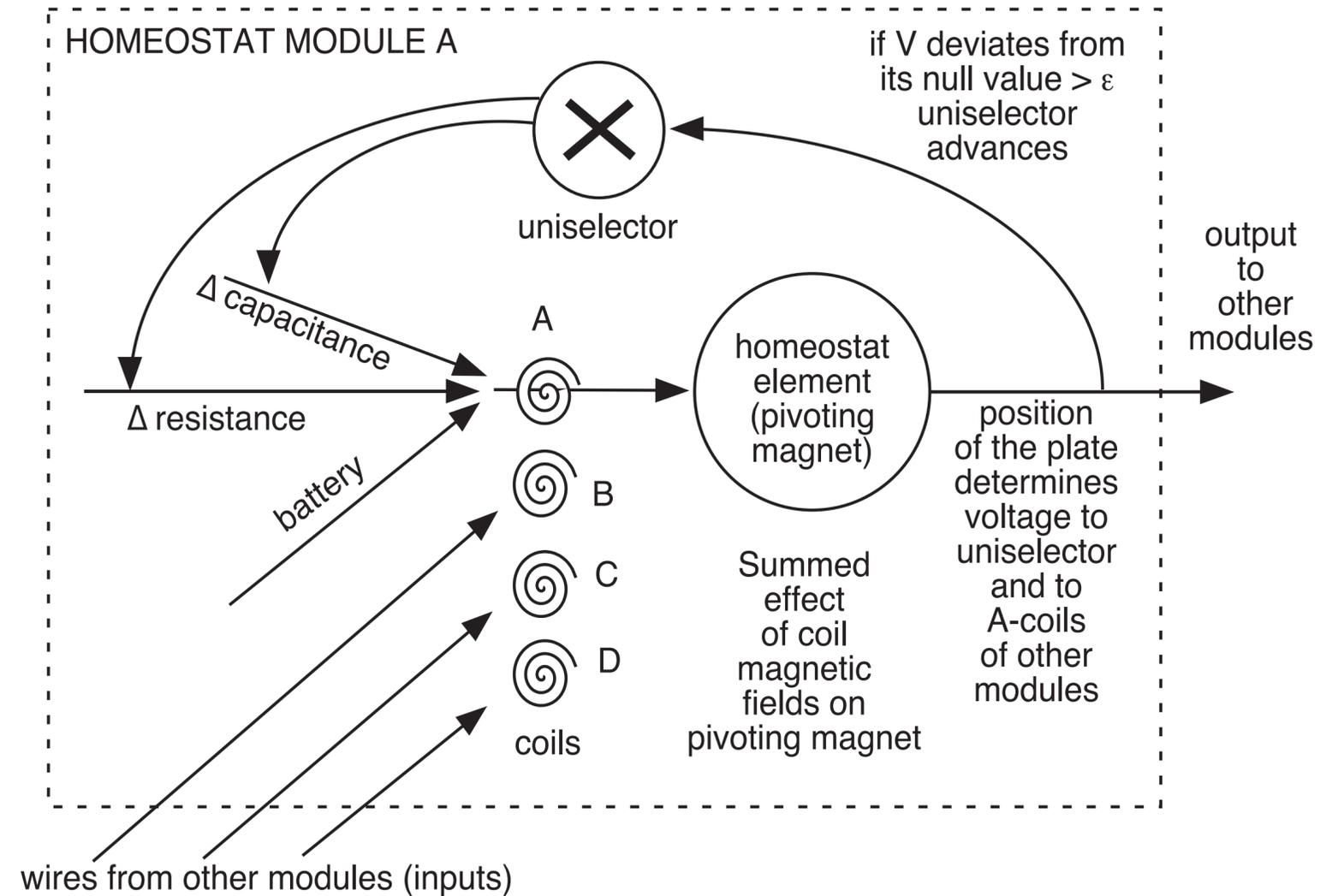
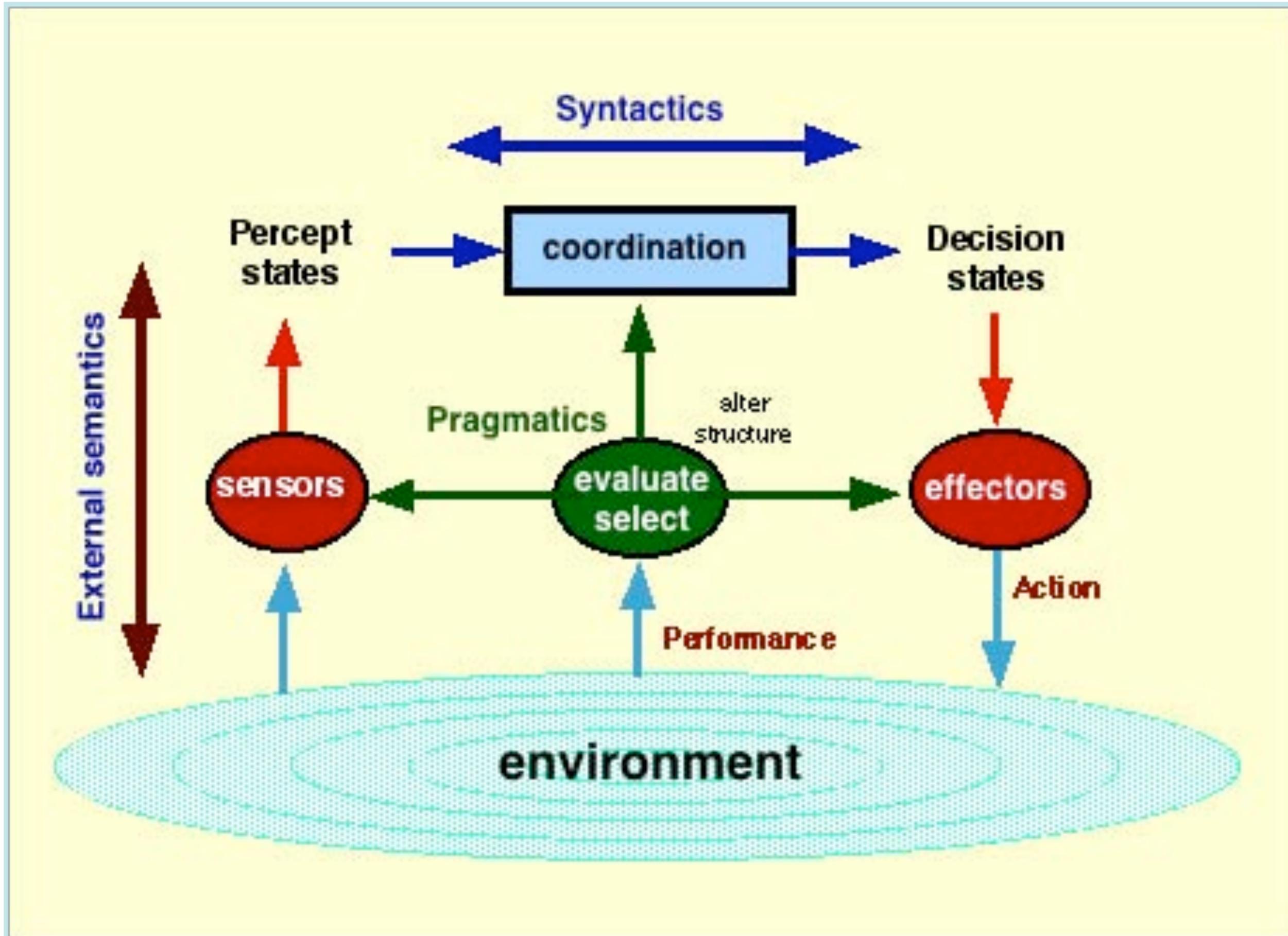


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W.Ross Ashby, Warren McCulloch, Grey Walter, and Norbert Wiener at a meeting in Paris. See <http://www.rutherfordjournal.org/article020101.html>





Limbic & other reward systems: evaluation, emotion & motivation

Some basic system goals:

Maintain homeostasis

Reproduce

Seek pleasure

Avoid pain

Reduce stress

Self-regulate, self-determine

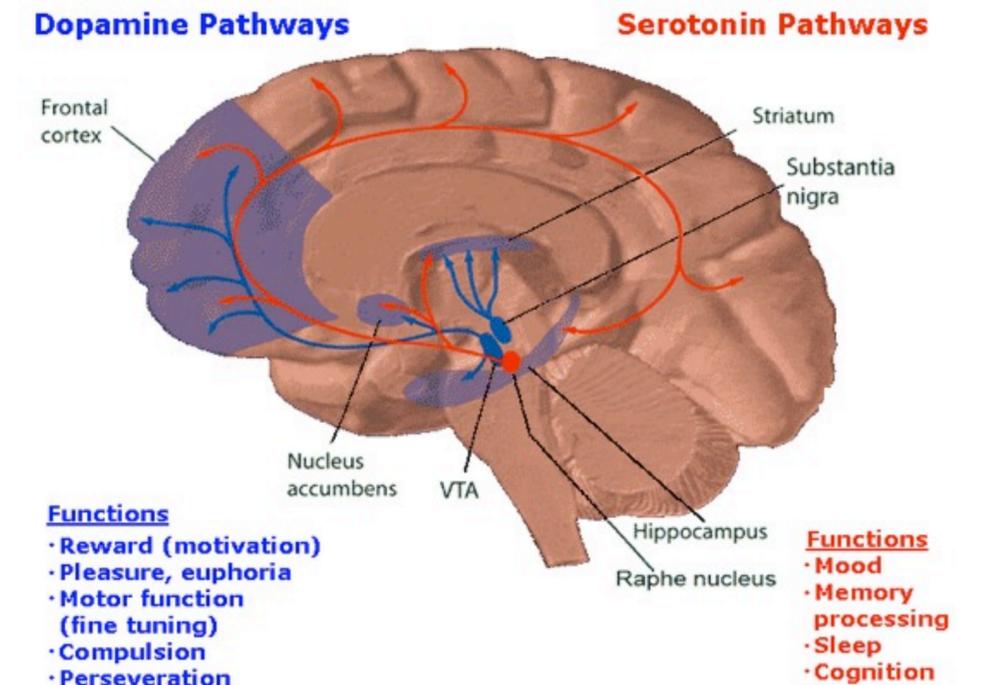
Relieve boredom

Self-affirm

Explore

Play

Image of limbic system removed due to copyright restrictions.



Source: US NIH

Maslow's Hierarchy of needs

• Where might music fit in?

- (Diagram from Wikipedia)

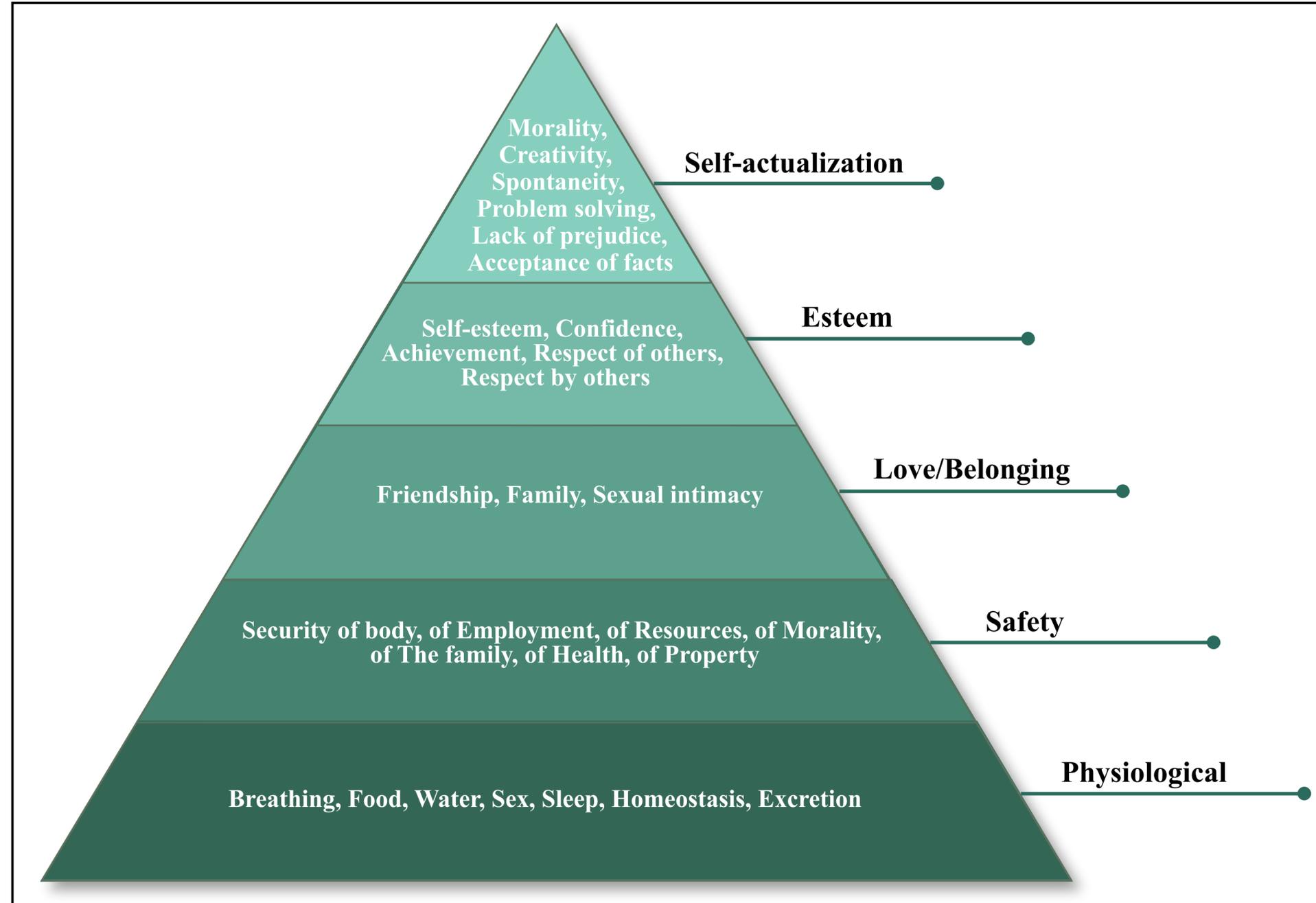


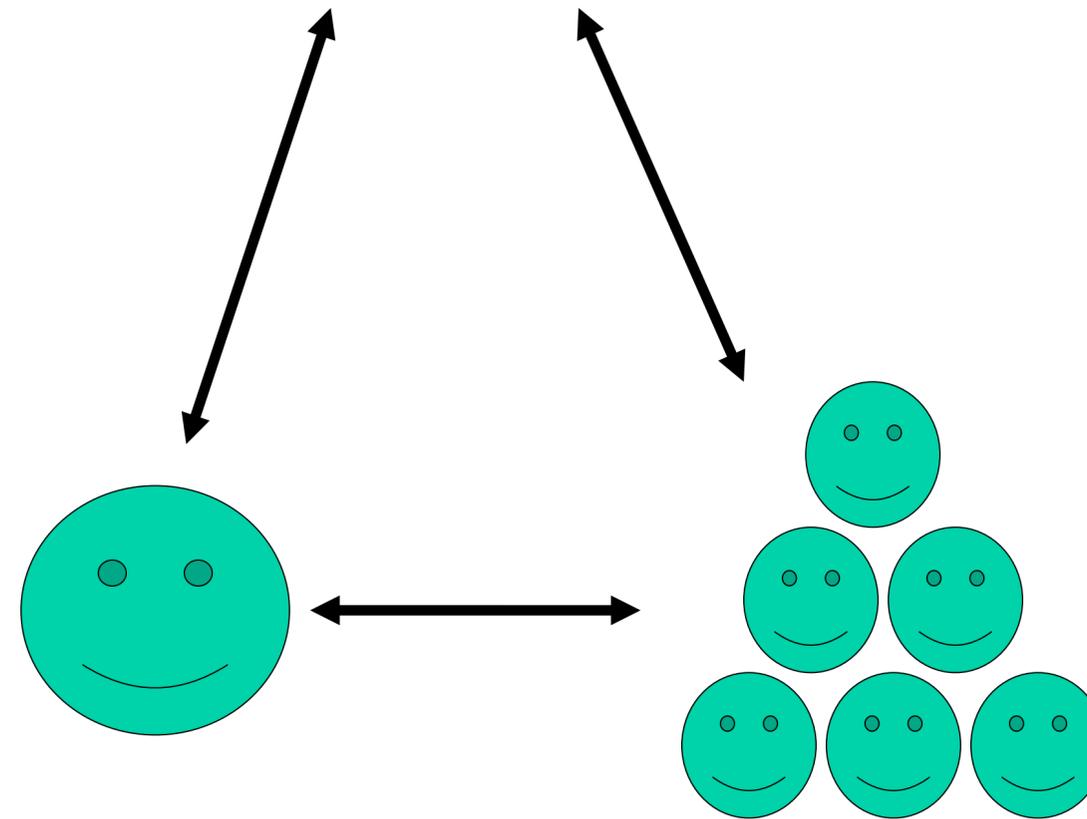
Figure by MIT OpenCourseWare.

Psychological functions of music



Image removed due to copyright restrictions.

Cover of book "Musical Identities" with a photo of Johnny Rotten.



- **Perceptual & cognitive** (engaging, interesting, entertaining)
- **Psychodynamic** (e.g. Self-expression/actualization, identity)
- **Emotional** (e.g. mood control, emotional contrast, arousal)
- **Social** (e.g. membership, conformity/individuation/rebellion, ceremony, warfare, mating, social status, atmosphere of public spaces)

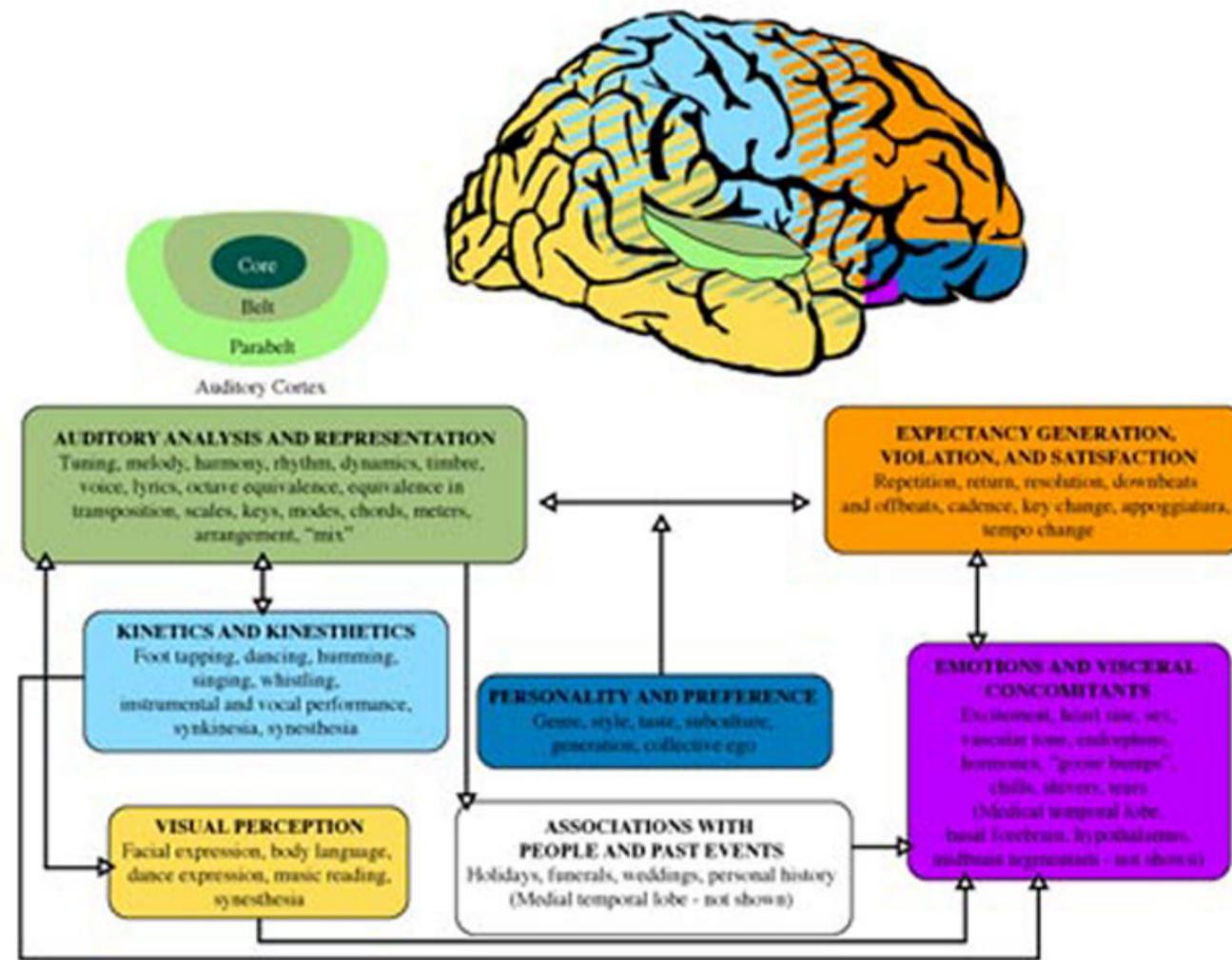


Figure by MIT OpenCourseWare. After Tramo, M. *Science* 291, no. 5501 (2001): 54-56.

Why we listen:

some psychological functions of music in everyday life

As individuals we use music to control our own mental states

functions of music for individual listeners

Social psychology of music: small groups, large groups, societies

functions of music for voluntary groups (e.g. bonding, coordination)

social functions of music (e.g. rituals, national identity, class,
economics of music production & consumption, politics)

Mass psychology of music: cultural dynamics

why do particular kinds of music become popular @ different times?

Psychohistory of music: are there larger patterns in history?

Why we listen:

some psychological functions of music in everyday life

As individuals we use music to control our mental state

for pleasure or beauty

Herbie Hancock
Maiden Voyage

Sunrise, sunset
Bright Eyes

Clocks
Coldplay

for mood control (happy, sad)

Red Hot Chili Peppers
Snow (Hey Oh)

Live your life
T.I.

I can't make you love me
Bonnie Rait

Spirits Drifting
Brian Eno

for relaxation, stress reduction, pain masking, meditation

Tibetan singing bowl
Tibetan Chakra Meditations

for distraction, arousal, to make the time go by

Autobahn
Kraftwerk

for amusement, cognitive interest, "auditory cheesecake"

Arterial
Rachel's

Piano Space
Takahashi

for self-affirmation, motivation, identity-assertion

for enhancement of spirituality, religious feeling, serene or ecstatic

El Rey de Francia
Florata

Annua gaudia
Calixtinus
Florata

Monkey chant
Whirling dervishes

and for many other reasons and activities.....

Enhancement of activities in everyday life

Movement: dance, exercise, repetitive work

Memory: music for nostalgia, music for mnemonics

Arousal: music to stay alert (driving music)

Playing music and playing music games (guitar hero)

Immersion: computer game music

Rise of Nations

Control of sleep: waking or falling asleep

Mood setting: romantic activities

Let's stay together
Al Green

Fly me to the moon
Bobby Darin

Distraction during daily routines (bathing)

Singing along (show tunes)

Avenue Q

Fear, fright, suspense

Psycho

Catharsis, alienation, channeling anger

Get low
Bright Eyes

Blue Monday
New Order

Ssltarello
Dead Can Dance

Postizo
Marc Ribot

Soul Man
Sam & Dave

Rage/Anger/Alienation

Slipknot
Before I forget

Slipknot
Psychosocial

Photo of American heavy metal band Slipknot removed due to copyright restrictions.

Political message/identity

Down & out

Brother, Can you spare a dime?
Bing Crosby

Union solidarity (folk song)

Which side are you on?
Florence Reese

US Civil rights movement (gospel)

Eyes on the Prize

We shall Overcome
The Specials

Songs of protest (folk, nuclear war)

Eve of Destruction
Barry McGuire

Poverty & despair (jazz)

Winter in America
Gil Scott-Heron

Anti-apartheid

Free Nelson Mandela
The Specials

Social-psychological functions: what does music do for social relations?

- Group bonding, identity formation, camaraderie, musical subcultures
- Group coordination (work songs)
- Nonverbal communication
- Identity formation & loyalty (nationalism, tribalism, anthems)
- Signification in rituals (weddings, funerals, public office)
- Shared culture & aesthetic frames of reference
- Pair-bonding rituals (dances, social events)
- Political movements
- Vehicle for cultural/political dissent (beats, punk, skinheads, E. Europe in the Cold War, Iran)
- Status differentiation (high vs. lowbrow, music & class)
- Economic uses (Muzak, sets tone for public spaces, music industry)

We will rock you
Queen

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Maymin
NPR

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