

absolute threshold

afterimage

Adaptation

amplitude

additive color mixing

auditory nerve

aerial perspective

autokinetic illusion

sensory experience that occurs after a visual experience has been removed; when eyes adjust to stimulation (or lack of) but they do not completely adjust/adapt

minimal amount of energy required to produce any sensation; taste-1 g salt and 500 L of water, smell-one drop perfume in a three room apartment, touch-wing of the bee at 1 cm, hearing-pick of the watch 20 feet in a quiet room, vision-candle flame 30 miles on a clear night

the magnitude of the way; combined with frequency, it determines loudness; measured in decibels

process by which our senses adjust to different levels of stimulation; in addition there are two types-light and dark; the sensitivity of rods and cones change accord how much light is available

bundle of axons from the organ of Corti to the brain

mixing light waves to create new hues (primary colors)

illusion of apparent movement; when a stationary object is perceived to move

binocular cue; just distance and depth; distant objects appear hazy and blurred

basilar membrane

bipolar cells

binaural cues

blind spot

binocular cues

brightness

binoculars cues

brightness constancy

specialize neuron
located in the eye; as
one dendrite and one
axon; connects
rods/cones to ganglion
cells

part of the inner ear; divides the
cochlea lengthwise; stiff near the
oval window but becomes flexible
by the other end; as the fluid in the
cochlea begins to move, the basilar
membrane ripples in response

place on the retina out where
the ganglion cells axons leads
the eye; no receptors (no rods/
cones) are located here

cues sound location that
requires both ears

how bright or dark a
color is; based on the
strength of light
entering your eyes

visual messages/cues
that only require one
eye

tendency to see an
object

visual messages/cues
that require the use of
two eyes

cochlea

convergence

color constancy

Cornea

colorblindness

dark adaptation

Cones

decibel (dB)

binoculars cue; visual depth cue; muscles controlling eye movement as the eyes turned inward to view a nearby stimulus

snail-shaped structure in the inner ear; contains fluid that vibrate; attach the oval window and basilar membrane

transparent protective coating over the front of the eye

tendency to perceive familiar objects as a color despite changes in sensory information; example-blue under fluorescent lights but not so blue and natural light--> it is still blue

process by which rods and cones become more sensitive to light in lower levels of light; maximum sensitivity is achieved in 30 minutes; in dark, there is not enough energy to see colors, therefore only see black, white, gray

inability to see certain color combinations: red-green or blue-yellow; 10% are male and 1% are female

unit of measurement; measures loudness

visual receptor cells; located in retina; 8 million in each eye; works best in bright light; chiefly responsible for viewing color; greatest density in the fovea

dichromats

figure/ground

difference threshold

Fovea

elevation

frequency

feature detectors

ganglion cells

a gestalt-like illusion; an illusion where a figure of merges from the background (ground) using perceptual cues

people who only see two of the three primary colors; blind to red-green or blue-yellow; colorblind individuals

located on retina, directly behind lens; is a depressed spot; Center a visual field; images are sharpest here; contains mostly cones

Just Noticeable Difference (JND); the smallest change in stimulation that you can detect 50% of the time; differs from one person to the other (and from moment to moment); tells us the flexibility of sensory systems

the number of cycles per second in a soundwaves; the primary determinant of pitch; expressed in hertz (Hz) unit

suggestion of depth because one object is appreciatively smaller; vestibular

neurons that connect the bipolar cells to the optic nerve; an interneuron; one million in each eye; summarizes and organizes data from rods/cones and sends it to the brain

specialized brain cells that respond to particular elements such as movement or lines; discovered by David Hubel and Torsten Weisel

gate control theory

hue

golgi tendon organs

Iris

Hammer, anvil, and
stirrup

kinesthetic senses

Hertz (Hz)

Lens

color, or aspects of colors; most people can name 150

theory of pain sensitivity; suggest that there is a "neurological gate" in spinal cord that controls transmission of pain impulses to the brain; individual differences vary the control of the gate

the color part of the eye; made of muscle that contracts/relaxes to control the size of the pupil allowing light to enter the eye

works with kinesthetic senses; specialized nerve endings attached to tendon (attaches muscles and bones) and sense movement

sense of muscle movement, posture, and strain on muscles/joints; provides information on speed and direction of movement; works with vestibular sense

middle ear; free tiniest bones in the body; quivering of eardrum causes these bones to vibrate in sequence and carry vibrations to the oval window

transparent part of the eye behind the iris; focuses light on the retina; change shape to focus on objects; -if object is close, muscles attach to the lens contract to make lens round, -if object is far away, the muscles pull to flatten the lens

unit that measures frequency a soundwaves or cycles per second

light

monochromats

light adaptation

motion parallax

linear perspective

olfactory bulb

monaural cues

olfactory epithelium

individuals who see no color at all; respond only to shades of light and dark; very rare

electromagnetic energy; eyes are sensitive to this energy

binocular distance cubed; objects close to you seem to move in the direction opposite from the way in which your head is moving; objects far away seem to move in the same direction; example-when you're driving in the car

process by which rods and cones become less sensitive to light in increased levels of light; takes approximately 1 minute to adjust

axons of olfactory epithelium connects to olfactory bulb, which is considered the smell center of the brain; olfactory bulb records messages and send them to the temporal lobe and brain core

binocular cue; used to cue distance in depth by allowing two parallel lines to come together at a horizon

patch of tissue in nasal cavity that contains receptor cells

cues sound location that requires just one ear

opponent-process
theory

ossicles

optic chiasm

oval window

optic nerve

overtones

organ of Corti

papillae

the middle ear; contains the hammer, anvil, and stirrup which are the smallest three bones the body; when the eardrum quivers it causes the hammer, anvil, and stirrup to hit each other in sequence, then carry the vibrations to the inner ear; stirrup catch the oval window

created by Edward Hering; alternative theory used to explain after images; suggest that the retina contains three pairs color receptors or cones-yellow-blue, red-green, black-white; pairs work in opposition

membrane between the middle and inner ear; attach to stirrup of middle ear and cochlea of the inner ear; since vibrations to the cochlea

located near the base of the brain; point where some the fibers in the optic nerve crossover to the other side of the brain

tones that result from soundwaves that are multiples of the basic town; primary determinant of timbre; created by musical instruments

bundle of axons from ganglion cells that carries no messages from the eye to the brain

small bulbs on tongue that contain taste buds; the eye and replace every seven days

part of the inner ear; structure on service and basilar membrane that connects thousands of tiny hair cells (receptor cells) for hearing; each hair is taught by fibers that push and pull the vibrations of the basilar membrane and brain pools the information

perception

phi phenomenon

perceptual constancy

physical illusion

perceptual illusion

Pitch

pheromones

Place theory

illusion of apparent movement; caused by flashing lights in the sequence; example- neon lights

the mental process of sorting, identifying, and arranging raw sensory data into meaningful patterns; Ex. how we distinguish between music and crying, how we take light and form a tree

optical phenomenon; illusion produced by reflection of light into hot air; example-mirage

tendency to see/perceive objects as stable and unchanging; example-a white house is still white no matter the elimination or angle

auditory experience corresponding to the frequency of sound vibrations, resulting in a higher or lower tone; humans respond to 20 Hz to 20,000 Hz

illusion due to misleading cues in stimuli; inaccurate or impossible perceptions

one onto basic views of pitch discrimination; brain determines pitch by the place on the basilar membrane with the messages strongest; the highest frequency sounds cause the greatest vibrations at the stiff base of the basilar membrane

often considered a nonfunctional relic of human past; in animals, it provides information about another animal's identity or status (i.e. stress); secreted by glands or in urine that has effects on other animals' behavior; stimulates vomeronasal organ (VNO); colorless molecules

placebo effect

Rods

Pupil

round window

Retina

saturation

retinal disparity

semicircular canals

visual receptor cell; located in retina; 120 million in each eye; respond to varying degrees of light and dark; chiefly responsible for night vision and perception of brightness

pain relief that occurs when a person believes that a pill or procedure will reduce pain; most likely caused by endorphin release

located just below the oval window; equalize pressure in the inner ear

small opening in the center of the iris; color part of the eye

how rich or vivid a color is, deep/saturated

the light-sensitive inner lining of the back of the eyeball; contains receptor cells

three circular-like canals attached to the cochlea their relays messages about speed and direction of body rotation (vestibular sense)

binocular distance cue; based on the overlay of two retinal fields when both eyes focus on one object

Sensation

sound

shadowing

soundwaves

shape constancy

stereoscopic vision

size constancy

stretch receptors

brains interpretation to changes in air pressure purposely soundwaves) as it passes through the ear

the raw data of experience; sensory stimulation; example are eyes only register light energy and ears only register wave energy

changes in air pressure caused when the molecules of air or fluid collide with one another and move apart again

illusion that gives depth to spherical objects to give it a three-dimensional quality

combination of two retinal images to give a 3-D perceptual experience

tendency to see an object as the same shape no matter the angle it is viewed from; example- closed door collusion

works with kinesthetic senses; specialized nerve endings that are attached to muscle fibers that sense of muscle stretches and contractions

the perception of an object as the same size regardless of the distance from which it is viewed; example someone height

stroboscopic motion

texture gradient

subtractive color
mixing

Timbre

superposition

trichromatic theory

taste buds

trichromats

binocular cue; judges distance and depth in the objects in the foreground are large and clear but distant objects are smooth and less textured

illusion of apparent movement; result from flashing a series of still pictures in rapid succession; example-motion picture

the quality or texture of sound; caused by overtones

mixing of pigments to create hues; depending on the pigment, light may be absorbed or reflected

created by Hermann von Helmholtz; theory of color vision based on additive color mixing; suggest that the retina contains three types of color receptors, cones: red, green, blue

an object appears closer because the images superimposed on the top of the other image; example-one card laying on top of another card

individuals with normal color vision

receptor cells on sides, depth, and back of tongue; pairs with smell to determine flavors; recognizes for basic taste qualities: sweet, sour, salty, and bitter; adults have 10,000 but they decrease with age; research looking at umami<-- sensitivity to MSG and proteins

vestibular sacs

vomeronasal organ
(VNO)

vestibular sense

wavelengths

visual acuity

Weber's law

volley principle

located in the root of the nasal cavity; stimulated by pheromones; sends messages to a second olfactory bulb (and animals) that is designed to enter their mobile communication; activates hypothalamus and amygdala; dismissed as nonfunctional in humans

two sacks in the inner ear by the semicircular canals that since gravitation forward, backward, and vertical movement

physical energy

sense of equilibrium-orientation and/or position in space; originates in inner ear-movement of fluid in the semicircular canals relays messages about speed and direction of body rotation

developed the 1930s by Ernst Weber; the principle that accounts for how one notices JND for any cents by noticing a fraction or proportion of a stimulus; change necessary for JND-hearing 0.3%, taste 20%, weight 2%

the ability to distinguish fine details; acuity-Greek word for sharp

a modified or refined frequency theory; suggest that the auditory neurons fire in the sequence increasing to a rapid series of impulses; the complete pattern corresponds to the frequency of a soundwave