

October 29, 2008

TASTE

sharks - picky eaters

koola - only eats eucalyptus

taste - tells us what to not swallow

we reject:

1. bitter → poisons mostly bitter

2. sour → dangerously unripe

* cravings determine what we need

what we like:

• salty → to replace sweat

• sweet → for energy

humming birds - like sugar water
caprym

• if we come across something poisonous, we tend to sway away from it

November 4, 2008

SMELL

bad smell: vomit, excrement, decomposing bodies

people → 10 million receptors of smell

dogs → around 220 million receptors of smell

sulfur compounds

→ most unpleasant ones have it

→ diffuse easily

↓
bad smelling ones more easily smelled

when we smell something, 2 parts of brain:
frontal lobe - determine the smell
limbic system - memory

* smell can trigger specific memory
→ experience can alter how we react to smell

butyric acid - found in vomit
heart racing, body sweats → when something smells unpleasant

November 5, 2008

HEARING

sound for mating

music - expressing feelings and emotions

rhythm

favorite piece of music can activate pleasure

right volume to make people get on

sacculus - ball in ear

over 90 decibels to cause damage

sense of balance related to sense of hearing

hearing in air - last sense developed

ostrich, people → only have 2 legs
takes a fraction of a second to adjust balance

rely on vision to keep balance
cerebellum - brain's balance system

November 6, 2008

TOUCH

endorphin

- chemical released when groomed → monkeys

touch receptors

pachyderms → thick-skinned

↳ scientists call elephants pachyderms

elephants

→ touch receptors concentrated in places where they interact most with the world

→ soft, delicate snout

tongue, lips, face, feet, hands

→ most sensitive areas for humans

pain

→ intensity can depend on level of expectation

SIGHT

chameleon

→ eyes can swivel independent of each other

over 100 ~~mgd~~ million cells in eyeballs

blind spot in eyes

There are more things happening in front of us.

November 11, 2008

The Human Face

more than 7000 facial expressions
face has 44 muscles and 2 bones

Mobius syndrome

- can't make facial expressions

facial expressions to communicate emotions

happiness, surprise, anger, fear, contempt, sadness, disgust
→ powerful expressions

Asperger's disease

- cannot recognize people's emotions

Idea / Opinion

1. taste tells us what to not swallow
usually rejected: bitter, sour
what we like: salty, sweet
2. cravings determine what we need
3. smell can ^{trigger} specific to memory
4. smell influence the taste of things
5. music can be used to express feelings and emotions
6. vision and hearing for balance
7. touch receptors concentrated in places where an organism most interacts with the world
8. intensity of pain can depend on level of expectation
9. more things are happening in front of us, compared to what we focus on
10. blind spot in eyes

Reaction / Judgement

1. We reject food with bad tastes. When we come across a fruit that is very sour, we perceive that the fruit is unripe. When we eat bread with molds, we taste something in the bread that makes us feel unpleasant. ✓
2. Most people like chocolates and ice cream because these are made up of sugars. The body needs sugar for energy. We also crave for salty foods to replace the lost ions in our body. ✓
3. Personally, smell does not trigger specific memories for me. But the aroma of something dictates if I will be attracted to it or not. I keep away from ~~unpleasant~~ things. ✓
4. When we cover our nose and put the foods in our mouth, we do not taste anything. How come we suddenly taste the food ~~when~~ ^{after} allowing our noses to freely inhale and exhale air? Do we smell the food that is already in our mouth? ✓
5. Music is considered as the universal language of expressing emotions and feelings. It can break barriers between cultures. ✓
6. How can blind and deaf people maintain their balance if vision and hearing ^{are} important for balance? 😊
7. Sensitivity throughout the body varies. We are ticklish in the armpits but not in the arms. ✓
8. When we expect something to be painful, we feel it to be more painful. The intensity of pain can be controlled. ✓
9. We do not see everything that is happening in front of us. There are times ~~that~~ ^{when} the person ~~that~~ ^{we} are looking for are just in front of us, yet we do not see him / her. ✓
10. (I believe that) there are blind spots in the eyes. It is a good thing that we have two eyes to compensate for the blind spot. ✓

Summary Reflection

Humans are lucky to have five senses: touch, smell, taste, hearing, and sight. These help us to adapt to the environment. We can also defend ourselves against harmful things. As the most advanced organisms, these senses help us to dominate the earth.

Since we are blessed with the senses, we should use these to take care of the earth. We should not abuse the resources. ✓

November 26, 2008

learned behavior

- acquired through training

- imprinting
- sensitization
- habituation
- conditioned response

associative learning

observational learning (modeling)

insight learning

instinctive behavior

- essentially unlearned
- often done right at the first time

examples: eating, sexual interaction, sleeping

November 27, 2008

Communication Signals and Display

communication signals

- way of transmitting information

signals:

- visual or badge
- sound
- chemical

in humans:

- language and through speaking
- hand gestures, writing, drawing

communication displays

- visible behavior of communications
- display
- somewhat similar to visual signaling

December 3, 2008

Sexual Dimorphism

- development of secondary characteristics which depend on the sex of organism

Cooperation in Social Groups

- Theories of Social Evolution
 - Kin Selection
 - Group Selection
 - Reciprocal Altruism

Benefits

- protection
- easier to accomplish tasks
- higher chances of finding mate

Costs

- greater living space
- competition
- easier spread of disease

Modes of Cooperation

- Hierarchy
- Seniority
- Equality
- Seniority
- Equality

Why not go social?

- Competition
- Living Space
- Complexity

December 4, 2008

Altruism

- social behavior that seems to benefit others without immediate reward returned to the altruistic individual
- decreases survival of the helper while increasing the fitness of the individual

Human Altruism

- Ethical / Social Altruism
- motives based on ethics
- may also have rational reasoning

Altruism through generations

Hamilton's Rule

- Natural selection favors gene for altruism when:
coefficient of relationship \times Benefits $>$ Cost

Reciprocal Altruism

Inclusive Fitness

- trait passed on from generation to generation

December 9, 2008

naked mole rats

- workers protect queen and burrow