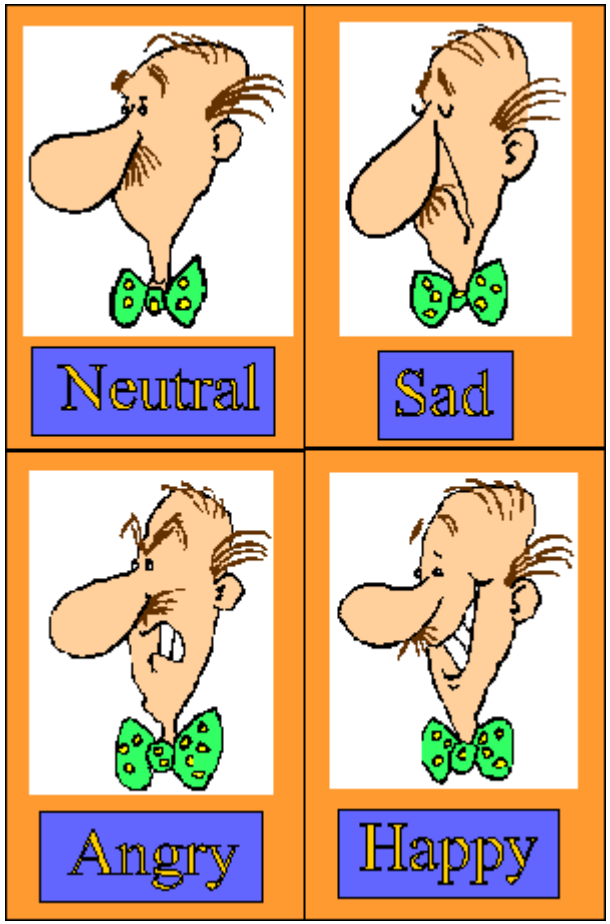
Emotion and Motivation

What is Emotion?

- Emotion is a 4 part process consisting of ***physiological arousal***, ***cognitive interpretation***, ***subjective feelings***, and ***behavioral expression***
- Consider an episode of intense fear due to the sudden appearance of a grizzly bear on your path while hiking. At first blush, we can distinguish in the complex event that is fear an *evaluative* component (e.g., appraising the bear as dangerous), a *physiological* component (e.g., increased heart rate and blood pressure), a *phenomenological* component (e.g., an unpleasant feeling), an *expressive* component (e.g., upper eyelids raised, jaw dropped open, lips stretched horizontally), a *behavioral* component (e.g., a tendency to flee), and a *mental* component (e.g., focusing attention)
- While our emotions are very different, they all involve a state of mental and physical arousal focused on some event of importance.



Emotion Basics

- Emotion and motivation are complimentary process. The concept of ***emotion*** emphasizes arousal, both physical and mental, while ***motivation*** emphasizes how this arousal becomes action.
  - Emotions help us respond to important situations and to convey our intentions to others.

Why We Have Emotions

- Emotions are the result of genetics and learning, especially early in life.
  - **Emotions serve as arousal states that help organisms cope with important recurring situations.**
- Learned emotional responses, along with genetic predisposition are important components of many psychological disorders, including depression, panic attacks and phobias.

Why We Have Emotions

- Emotions are the result of genetics and learning, especially early in life.
  - Emotions serve as arousal states that help organisms cope with important recurring situations.
  - Learned emotional responses, along and genetics are both important components of many psychological disorders, including depression, panic attacks and phobias.
- Perceiving emotions: voice, movements, non-verbal cues, context
- Innate, inborn expressions for certain emotions (Charles Darwin)

Universality of Emotions

- Despite different languages, cultures and social norms, studies suggest that people "speak and understand substantially the same 'facial language' the world around."

- Essentially, people share a set of **universal emotion expression** that supports the point to the biological heritage of the human species.

Seven Basic Emotions

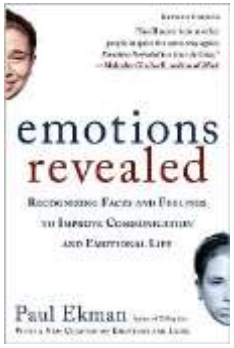
- Paul Ekman, a leading psychologist in emotions, suggests humans everywhere can recognize **seven** basic emotions: *sadness, fear, anger, disgust, contempt, happiness and surprise*.

A sample of 6 of Ekman's emotions. Which one is missing?

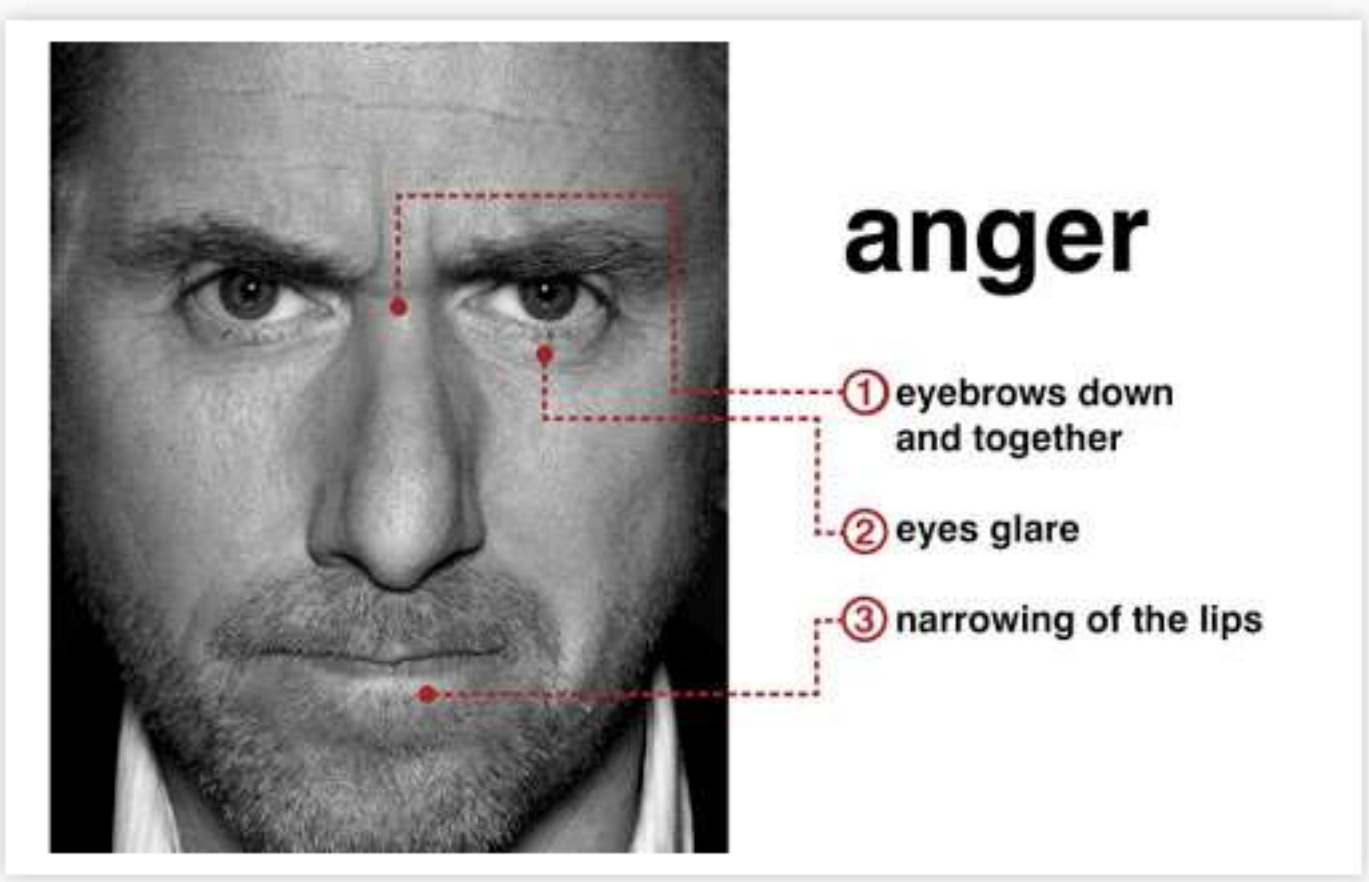
Display Rules

- According to Ekman, the **seven emotions** are universal, but the display rules vary greatly, depending on the culture.

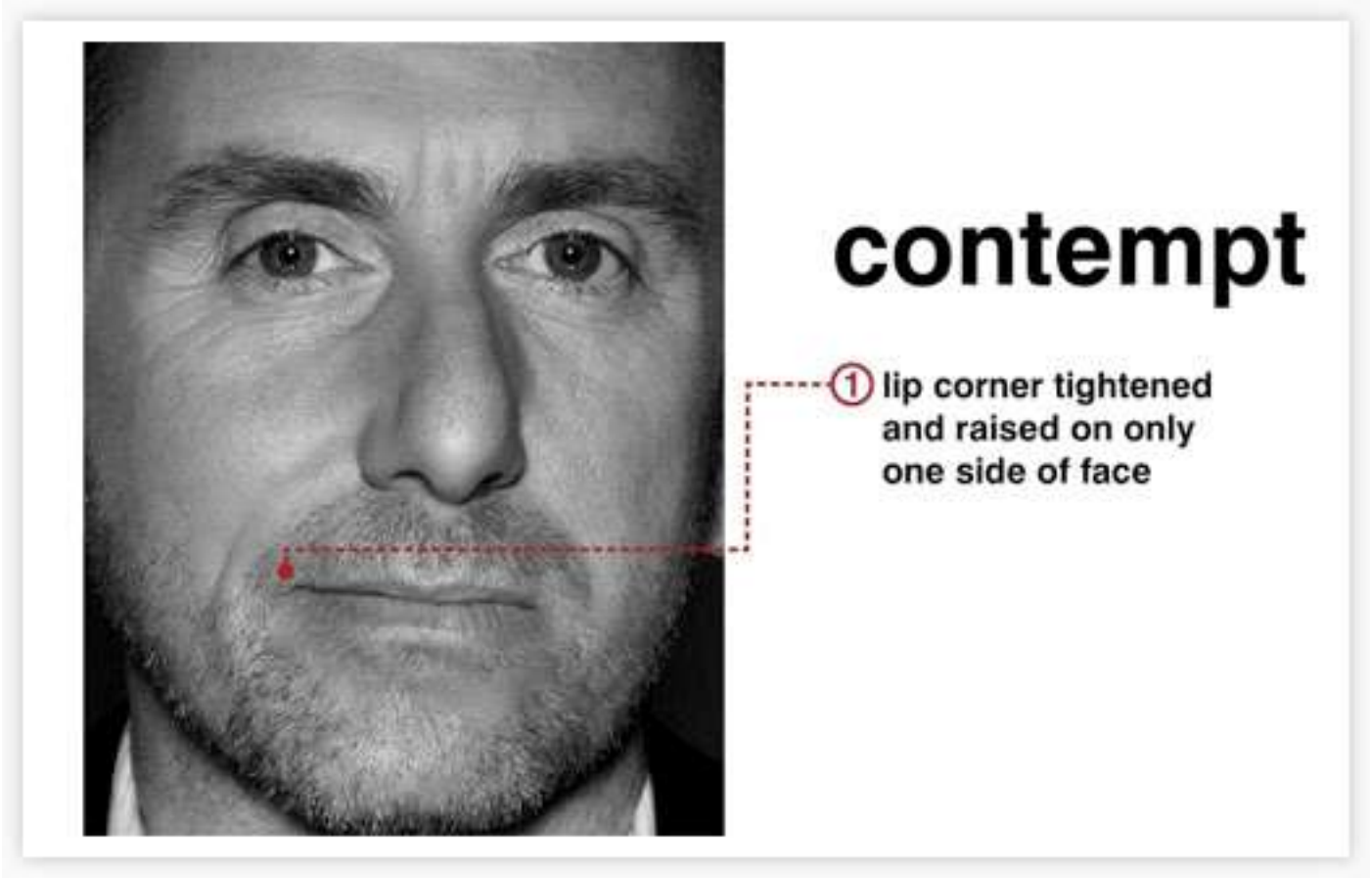
- He defines display rules as the permissible ways of displaying emotions in a given society.



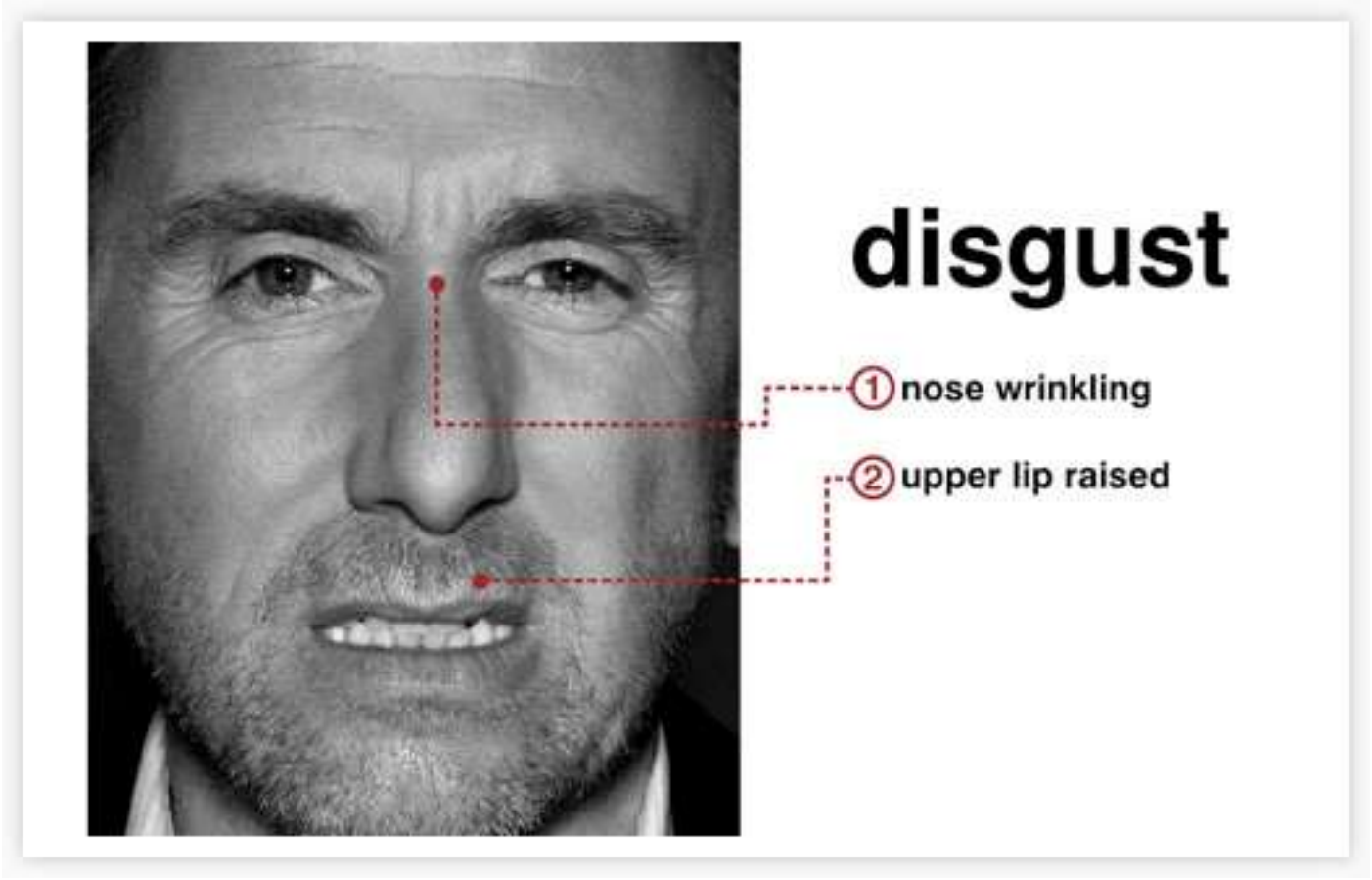
Anger


anger
① eyebrows down and together
② eyes glare
③ narrowing of the lips

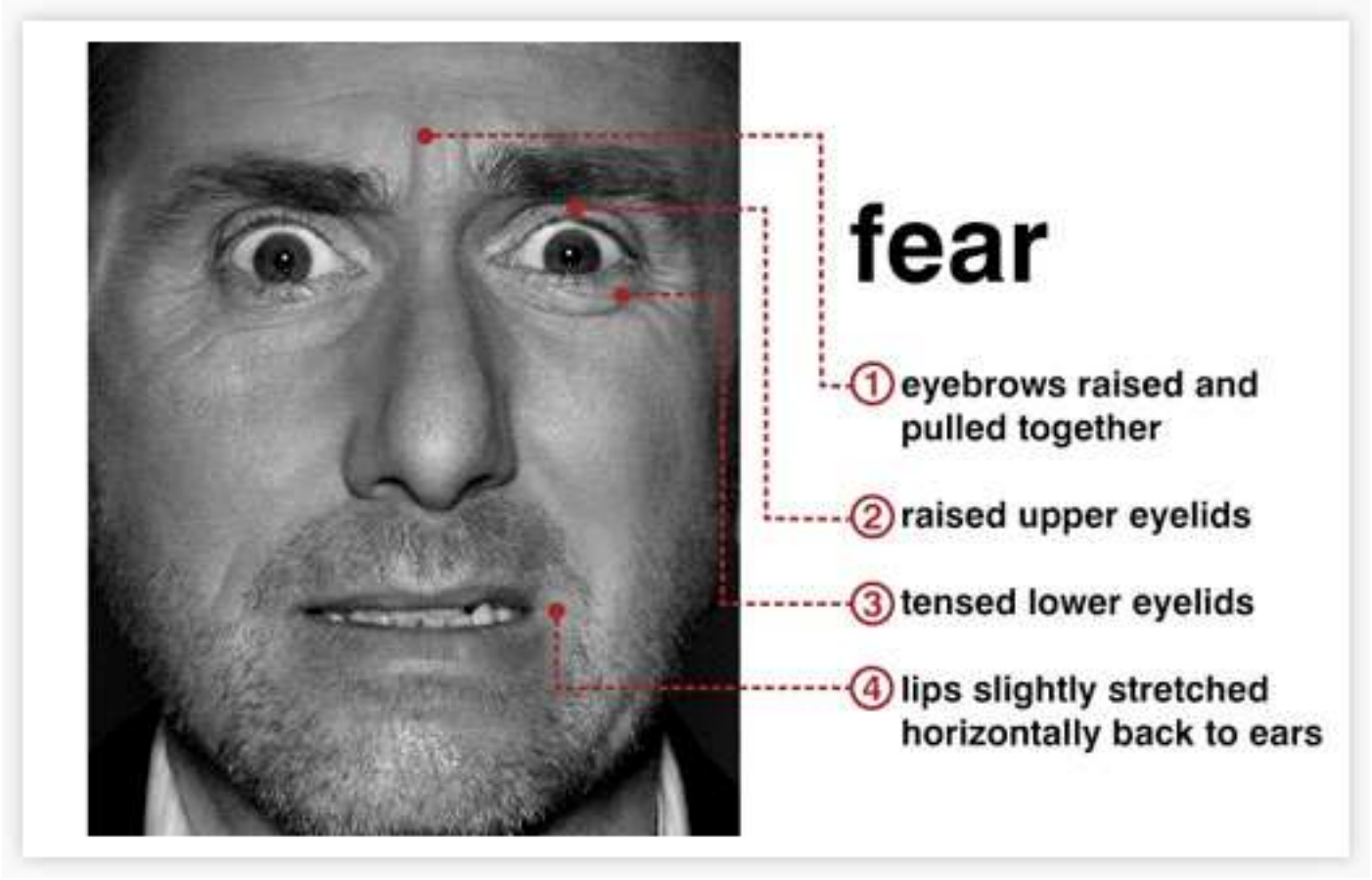
Contempt


contempt
1 lip corner tightened and raised on only one side of face

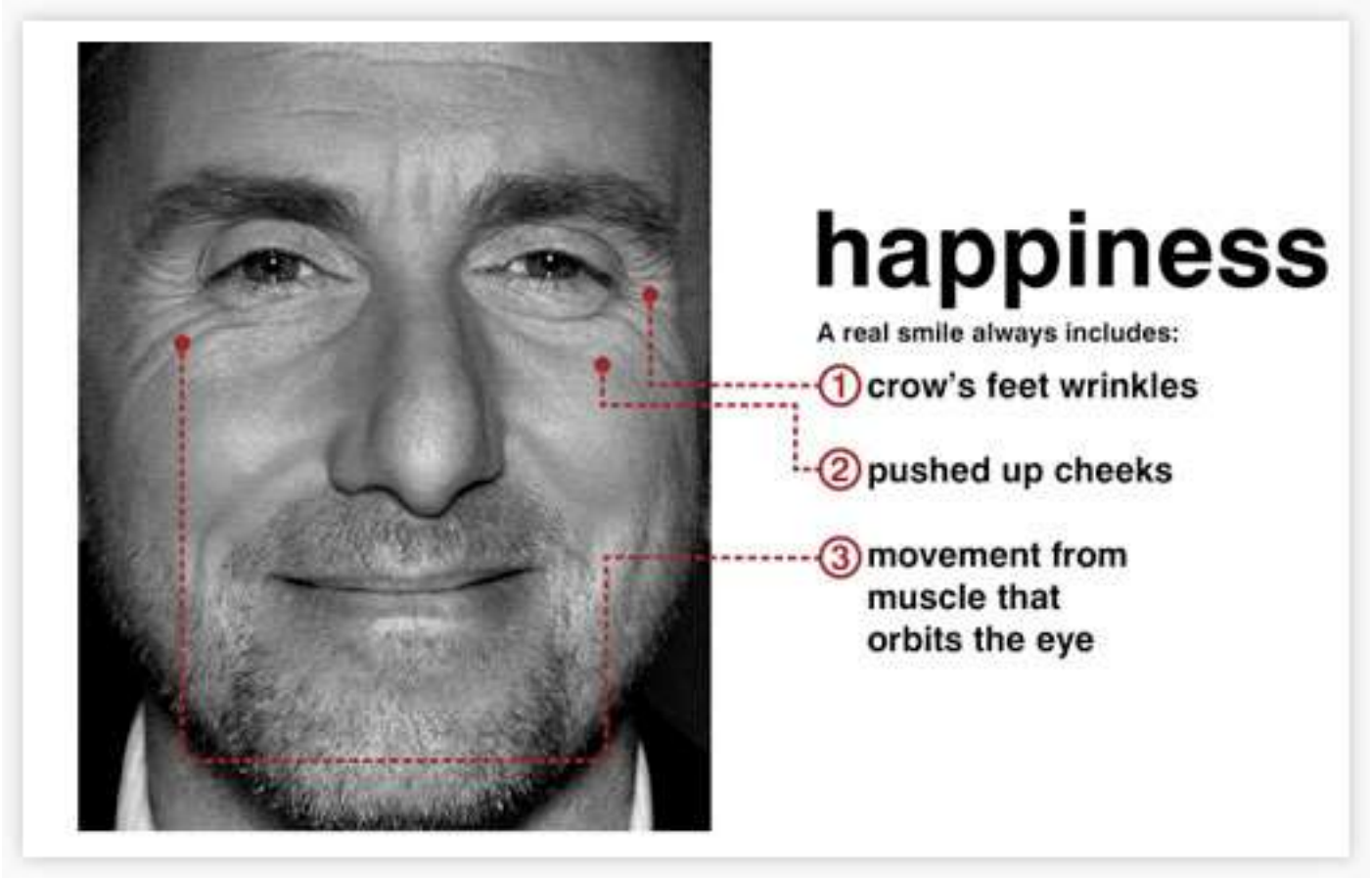
Disgust



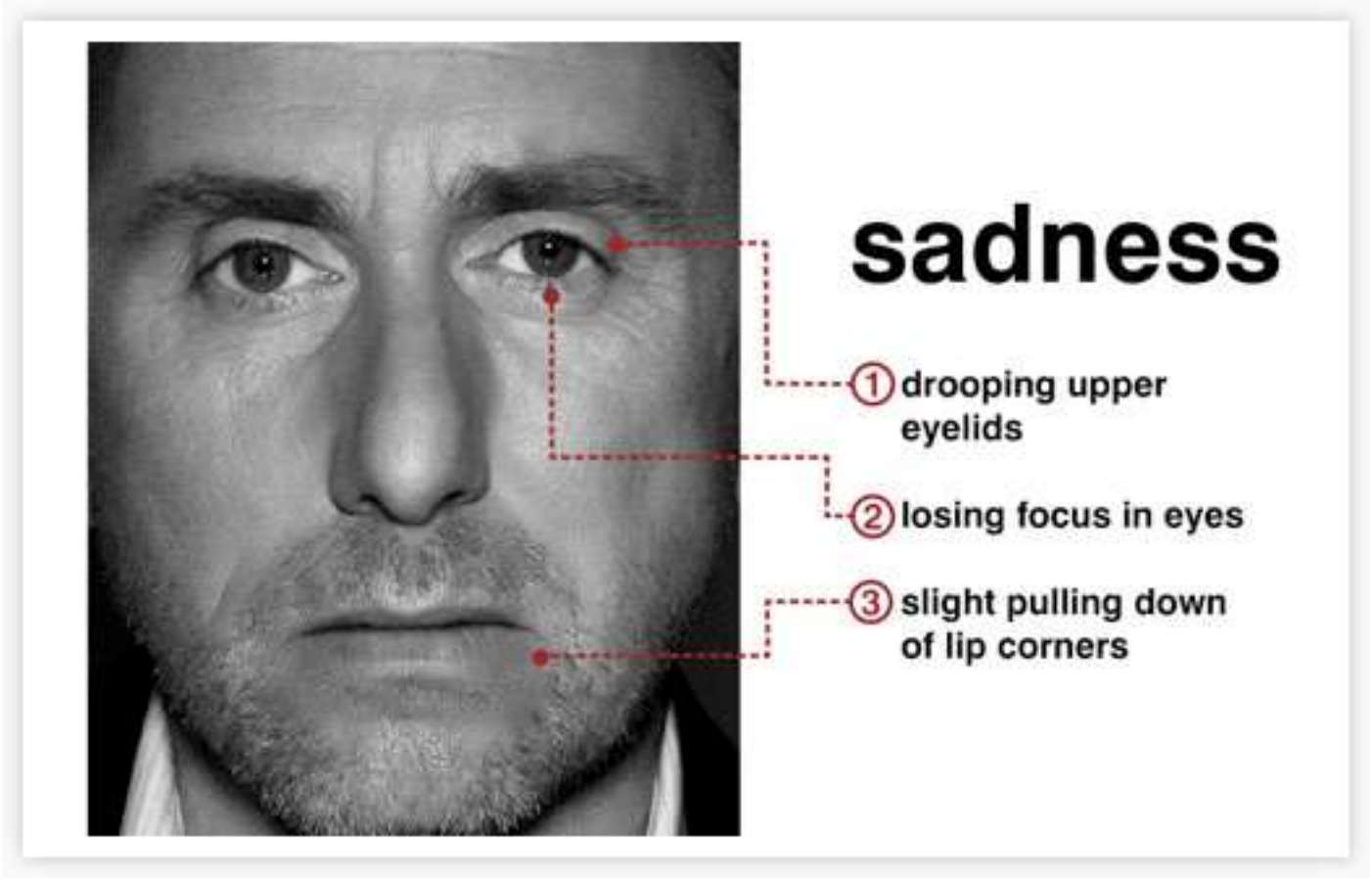
Fear


fear
1 eyebrows raised and pulled together
2 raised upper eyelids
3 tensed lower eyelids
4 lips slightly stretched horizontally back to ears

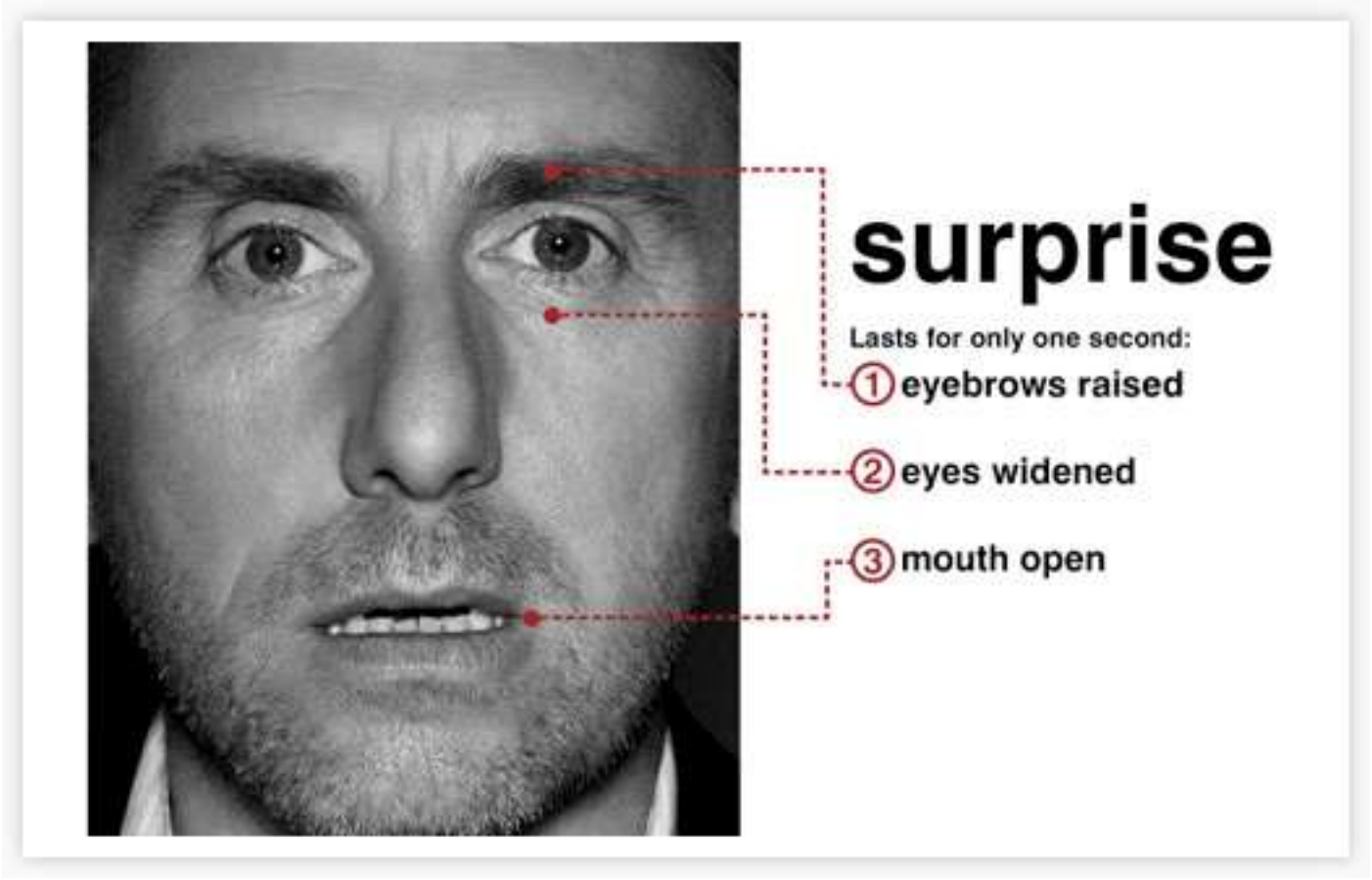
Happiness


happiness
A real smile always includes:
1 crow's feet wrinkles
2 pushed up cheeks
3 movement from muscle that orbits the eye

Sadness


sadness
1 drooping upper eyelids
2 losing focus in eyes
3 slight pulling down of lip corners

Surprise

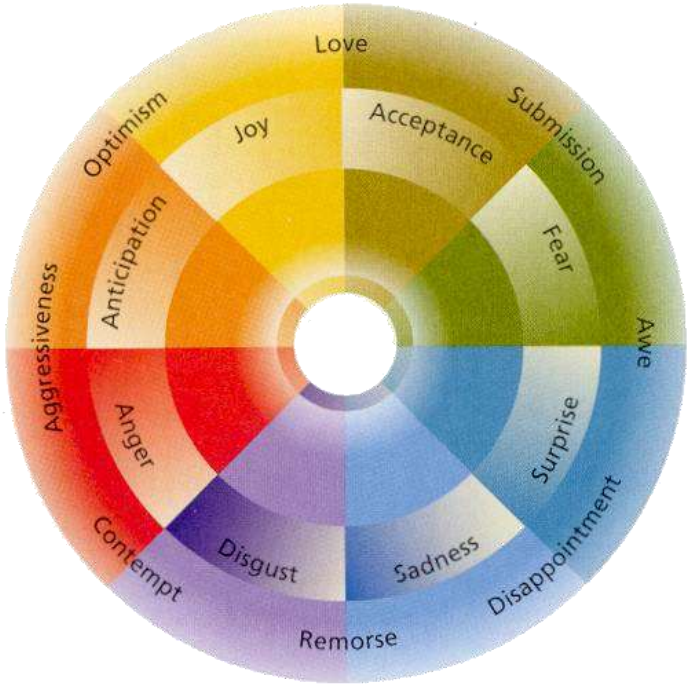

surprise
Lasts for only one second:
① eyebrows raised
② eyes widened
③ mouth open

Reading Emotion

- In addition to being universal, the ability to read facial expressions is nearly ageless. Psychologists think that children as young as **5 years** old have the same ability to recognize emotion on a person's face as an adult does.

More Emotions

- While we can recognize Ekman's seven emotions, most of us can think of others like greed, envy, regret, optimism, etc.
- Robert Plutchik suggests that rather than seven, we have eight primary emotions and eight secondary emotions. He depicts this in his "**Emotion Wheel**."



- More complex emotions occur when pairs of adjacent emotions combine.

  Ex: love is a combination of joy and acceptance.

Origins of Emotions

- The biggest breakthrough in the study of emotions was the discovery of two distinct emotional pathways in the brain.
  - One of the pathways is *fast*, and operates mainly at an *unconscious level* where it screens incoming stimuli and helps us respond quickly to stimuli even before they reach consciousness.
  - These cues seem to have a built-in, innate sensitivity to certain cues-explains why we have more fears of spiders, heights and lightening than cars or electricity.

Origins of Emotion

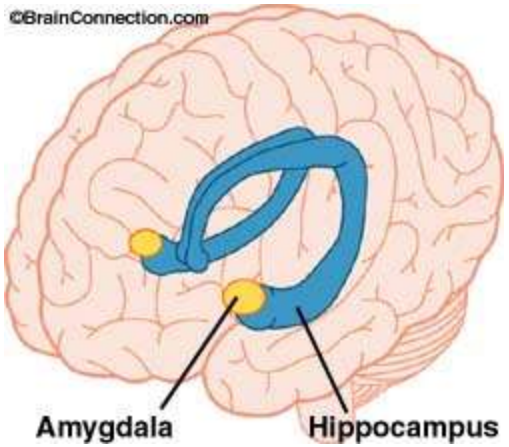
- The other pathway is much *slower* and linked to *explicit memory*. While it generates emotions more slowly, it delivers more complex information to our consciousness.

- This system relies heavily on the cerebral cortex, which is why we can feel fear, despite knowing there is no real basis for that feeling.

The Limbic System

- While the two pathways differ, they do have some things in common. Both rely heavily on the limbic system.

- The amygdala plays an especially important role in both emotion pathways. In the past it was thought that the amygdala was simply involved in negative emotions. Recently it has been discovered that it plays a role in positive emotions as well.



Emotion in Men and Women

- In our culture, on average, women are viewed as far more emotional than men. This may be the result of two factors.
    1. ***Biology***, **and the genetic make-up of men and women do lead to women "having more emotion."**
    2. ***Culture***, **may be the bigger of the two causes. Boys and girls learn different lessons about emotion and emotional control. Boys are largely taught to hide emotions that may be seen as weaknesses and are praised for emotions that show strength and dominance. Girls are taught the exact opposite.**

Lateralization of Emotion

- Different parts of our brain deal with different emotions. In the cerebral cortex, the right hemisphere generally specializes in negative emotions and the left hemisphere generally processes more positive and joyful emotions.

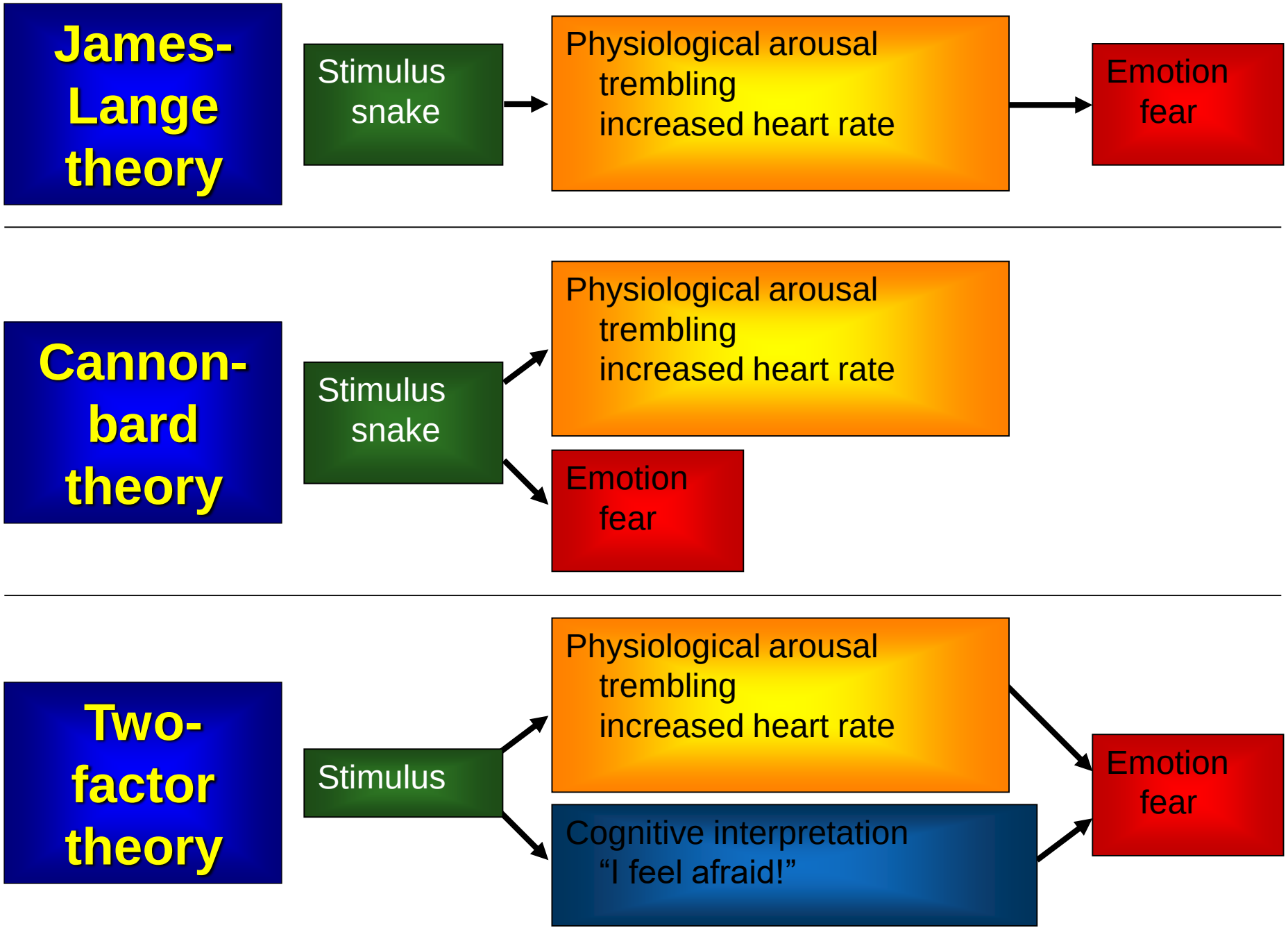
  - The idea that each hemisphere specializes in different classes of emotion has been called *lateralization of emotion*.

Psychological Theories of Emotion

- There are multiple theories on how our emotions affect out behavior and mental processes.
  - **James-Lang Theory:** An emotion provoking stimulus a physical response, that then leads to emotion.
    - Emotion follows behavior
    - "We feel sorry *because* we cry; angry *because* we strike; afraid *because* we tremble."-William James
  - **Cannon-Bard Theory:** A theory that an emotional feeling and an internal physiological response occur at the same time.
    - Emotion and behavior simultaneously

Psychological Theories of Emotion

- **Two-Factor Theory:** This theory suggests that the emotions we feel depend on two things:
  - 1) our internal physical state
  - 2) the external situation we find ourselves in.
    - Attractive female researcher study (pg 308)



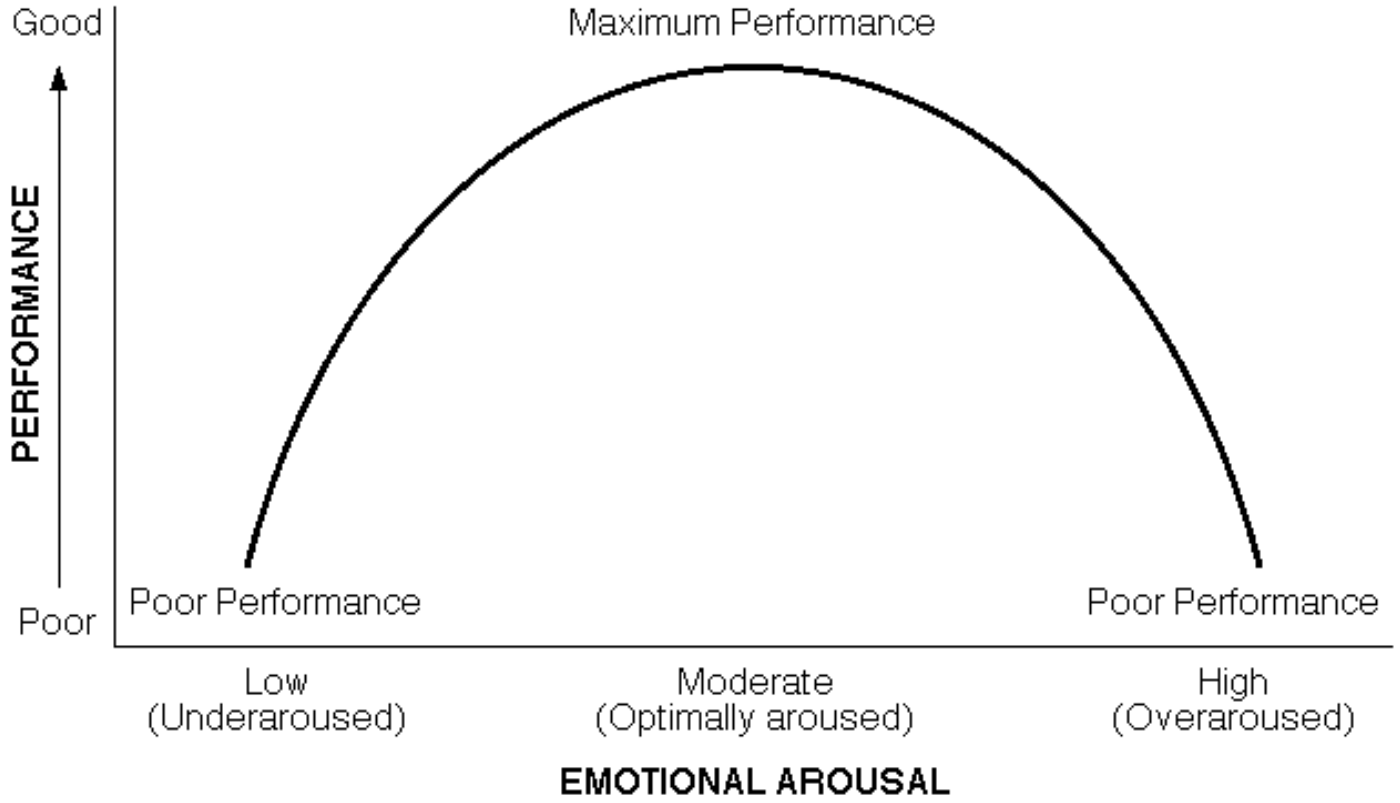
Psychological Theories of Emotion

- **Cognitive Appraisal Theory:** The thought that we look back on a situation and consciously decide how we should feel about the situation.
  - Ex. Grades, Papers, Projects, Tests

- **Opponent-Process Theory:** Theory that we trigger one emotion by suppressing its opposite emotion.
  - Ex. Drugs-the highs experienced by some drugs are replaced with lows (withdrawals). Eventually people take drugs not for the highs, but to avoid the lows.

Yerkes-Dodson Law

- **<u>Yerkes-Dodson law:</u>** A theory that a degree of psychological arousal helps performance, but only to a certain point. Too much or too little arousal can decrease performance. Also known as the Inverted U.



Motivation

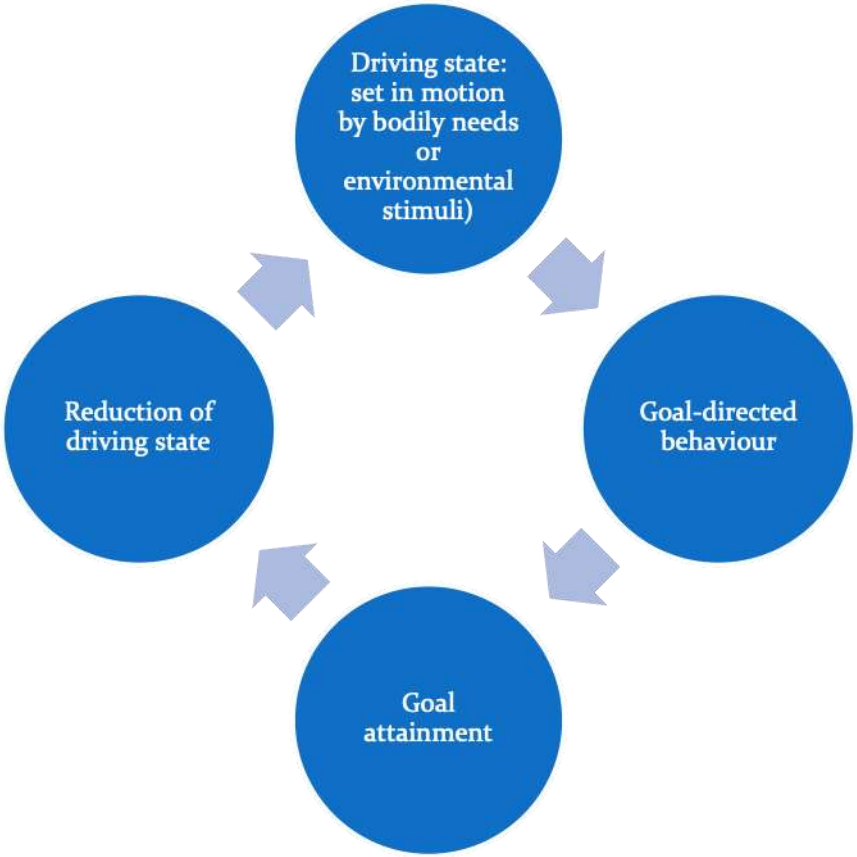
- *Motivation* is all the processes involved in starting, directing and maintaining physical and psychological activities. Goal seeking behavior that tends to persist in goal directedness
- Motives: inferences from behavior (things that are said and done)
- Conscious and unconscious motives
- and motivation
- Correct inferences about behavior explains behavior: eg: wants, needs, desires, avoidance of needs
- Helps predict a range of behaviors (eg: need for vengeance and related behaviours)

Motivation

- Psychologists see motivation as being an important part of human nature:
  - Motivation connects observable behavior to internal states
  - Motivation accounts for variability in behavior
  - Motivation creates perseverance despite adversity
  - Motives relate biology to behavior

Theories

- Drive theories: behavior is pushed towards goals by driving states within the person or animal (Freud, 1940/1949)



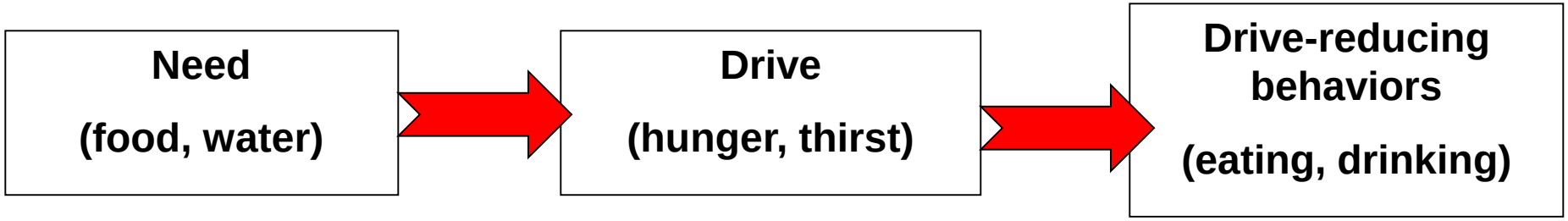
Motivational cycle

Theories of Motivation

- **Instinct Theory:** The theory that all behaviors will be determined by innate factors and biologically based behaviors that generally lead to survival.
  - The term instinct was becoming overused, so the psychologist changed the phrase they use to fixed-action patterns.
    - Birds migrating, salmon returning to creeks to spawn
  - **Why do you think this theory became outdated?**
  - **Does this theory really explain behavior?**

Drive Reduction Theory

- ***Drive-Reduction Theory:*** The idea that a physiological need creates a state of tension (a drive) motivating and organism to satisfy their needs.
  - Drive-reduction theory states that a person will eat food as a result of a drive of hunger (a state of tension that humans seek to correct).
  - The theory aims for *homeostasis*, or biological balance



Theories of Motivation

- ***Cognitive Social-Learning Theory:*** Our behavior is determined by two factors:
  - 1) the expectation of attaining a goal;
  - 2) the personal value of the goal
    - ***Locus of Control:*** our belief that we control the outcome of our own lives-*intrinsic vs. extrinsic control*

- **Psychodynamic Theory:** Our motivation comes from the deep, dark parts of our unconscious minds (the id).
  - We have two basic needs:
    - 1) *Eros:* desire for sex
    - 2) *Thantos:* aggression and destruction

      **Was trying to explain mental disorders, not everyday behaviors

Maslow's Hierarchy/Humanistic

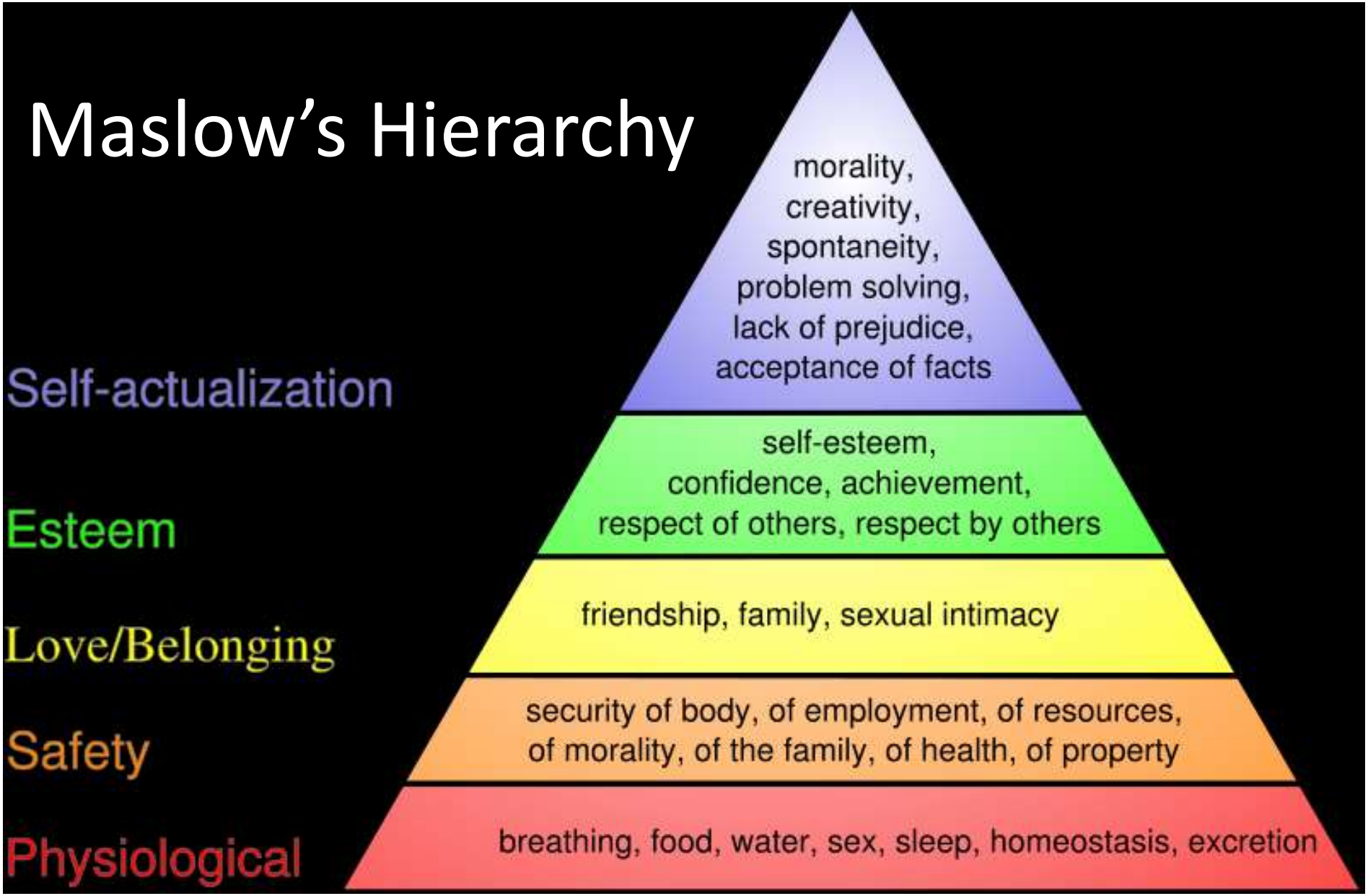
- Maslow argued that humans behave to satisfy specific types of needs. He broke them into five categories:
  1. *Biological:* Hunger, thirst, warmth
  2. *Safety:* Avoid danger
  3. *Attachment:* Wanting to belong to something
  4. *Esteem:* Seeing oneself as competent and effective
  5. *Self-actualization:* Being all that you can possibly be

Maslow's Hierarchy

- Maslow said that there is a natural hierarchy or rank to the needs humans have.

- Before one of the higher needs can be fulfilled, the needs on the levels below must be met, at least to some degree.
  - Most needs are met at a rate of about 85% before a person can move onto a higher need.

Maslow's Hierarchy



- Incentive theories: stimulus characteristics of the goal can sometimes start a train of motivated behavior: the goal motivates behavior
- Incentive: goal object motivating behaviour
- Pull theory of motivation: characteristics of goal pulls behavior towards them
- Positive incentive: Individuals expect pleasure from attainment of goals
- Negative incentive: avoidance

- Opponent process theory:
- Hedonistic views of motivation: seek goals that are good for our emotional feelings and avoid those resulting in displeasure
- Emotional-motivating states are followed by opposing states (eg: joy following feelings of dread: use of substances- thrill of intoxication followed by craving and displeasure before returning to baseline)

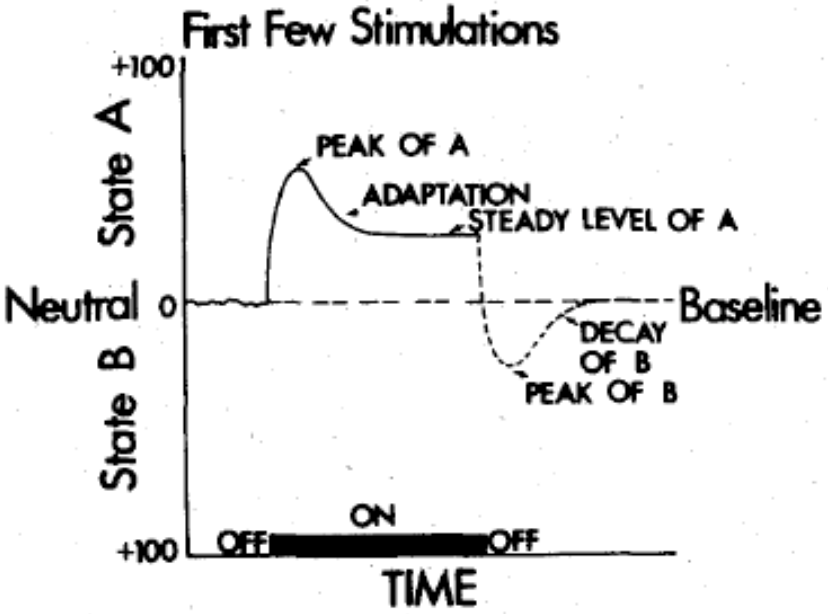


Figure 4. The standard pattern of affective dynamics produced by a relatively novel unconditioned stimulus.

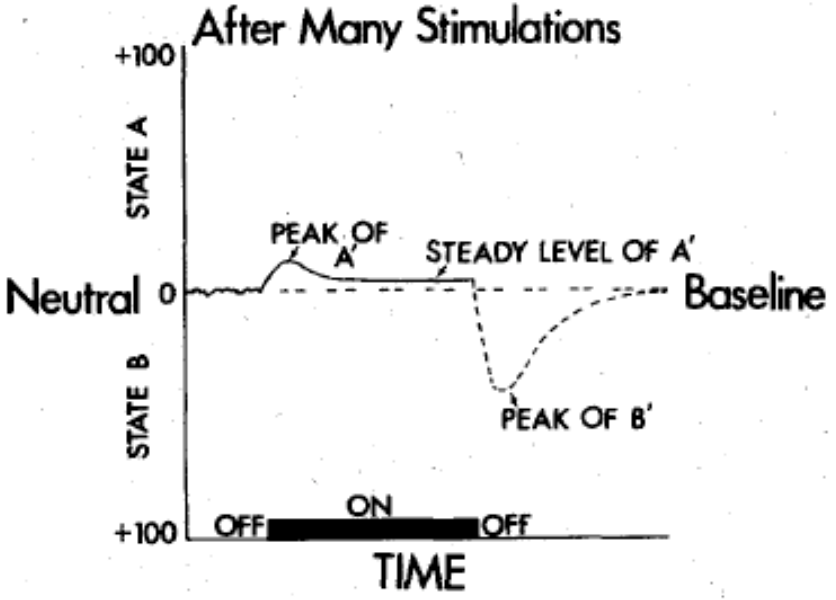


Figure 5. The standard pattern of affective dynamics produced by a familiar, frequently repeated unconditioned stimulus.

Fig 4: Baseline-peak of state A- decline of state A to a steady state-State B-Decline of state B to baseline
Black bar: duration of an emotion-provoking situation

- Optimal level theories: best level of arousal that is rewarding
- Motivation induces behavior to maintain the optimal level of arousal
- Arousal too low, person motivated to to seek situations to rouse it; if too high, behavior directed towards decreasing it
- Eg: Responding to boredom, work overload or underload
- Homeostasis: tendency of the body to maintain its internal physiological processes at optimal levels
- Body temp., acidity of body fluids, body water levels and amounts of certain substances circulating in the blood are maintained at certain optimal homeostatic levels: departure initiates movement towards restoring equilibrium

Types of Motivation

- ***Drive:*** Biologically instigated motivation. A state of tension is created, which humans will seek to correct.
  - Drinking water
- ***Motive:*** Motivational process that is learned.
  - Achievement

- While some motivated behaviors clearly fall into one of these two categories, many have roots in both biology and cognition/learning.

Extrinsic vs. Intrinsic Motivation

- **Extrinsic Motivation:** A desire to perform a behavior because of promised reward or threats of punishments.

- **Intrinsic Motivation:** A desire to perform a behavior for its own sake and to be effective.

  - Examples?

- So which type of motivation is better? Which produces more, positive results?

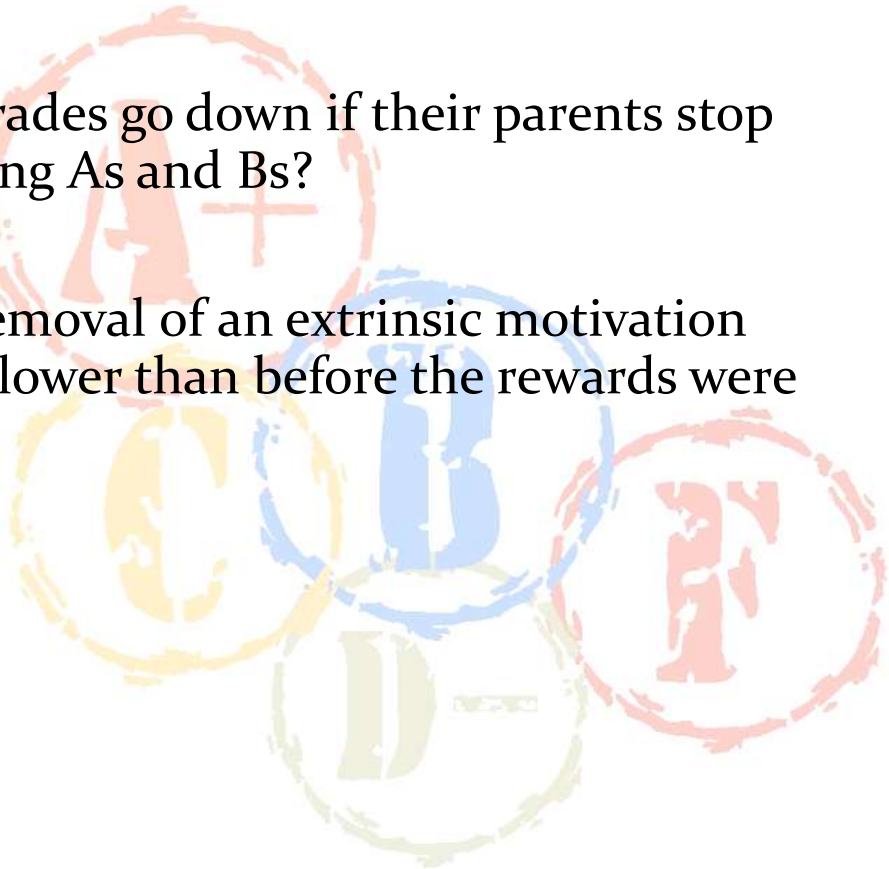
- Research indicates that intrinsic motivation has an edge over extrinsic motivation in most cases.

- This does not mean that extrinsic motivation isn't good or does not work. In many cases, the two work together.

  - For example, the journalism students who wash cars as a fund raiser all spring and summer to pay for their trip to the national convention in St. Louis in the fall are working to make money….extrinsic motivation. Their desire to go to the convention, however, is intrinsic motivation.

Problems with Extrinsic Motivation

- A primary concern about external rewards, however, is that behaviors maintained by extrinsic motivation alone may not be enough to be effectively sustained once the motivation is gone.
  - **Example:** Will a student's grades go down if their parents stop giving them money for earning As and Bs?
  - Evidence suggests that the removal of an extrinsic motivation will result in behavior levels lower than before the rewards were given.



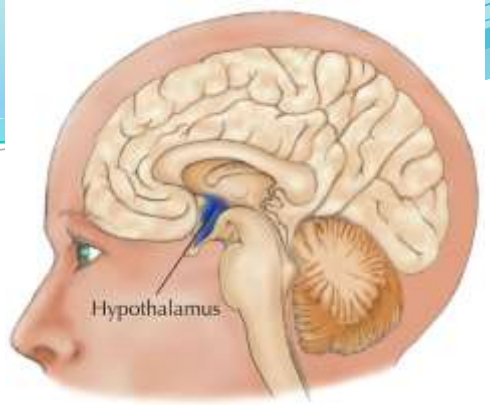
Overjustificaion

- The overjustification effect is the idea that if we give extrinsic rewards or motivators for things that people already love to do and would do without a reinforcer, eventually the person's intrinsic motivation will be replaced by that extrinsic motivation.
  - Ex: Professional athletes, musicians

Biological motivation

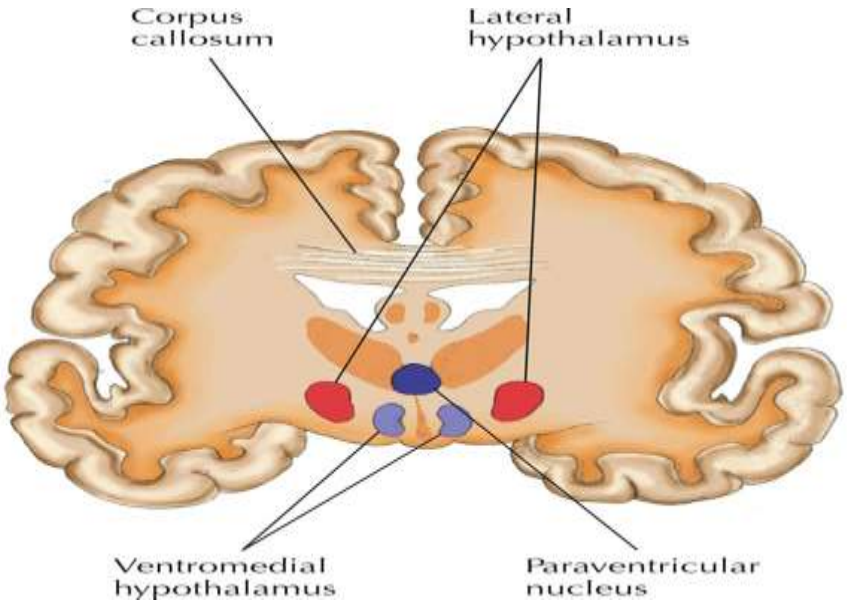
- Circadian rhythms
- Cyclical changes in bodily functions and arousal levels that vary on a schedule approximating a 24-hour day, one way to assess circadian rhythms
- Our body temperatures change gradually when we are in deep sleep, we get a few degrees colder
- Pre-adaptation: Gradual matching of sleep-waking cycles to a new time schedule before an anticipated circadian rhythm change
  - e.g., trying to adjust to new time zone to avoid jet lag
- Melatonin: Hormone produced by pineal gland in response to light (production suppressed) and dark (production increased)

- Hunger:



- Hypoglycemia: Low blood sugar
- Hypothalamus: Brain structure; regulates many aspects of motivation and emotion, including hunger, thirst, and sexual behavior
- Feeding system: Area in the lateral hypothalamus that, when stimulated, initiates eating
- Satiety system: Area in the ventromedial hypothalamus that terminates eating
- keeps blood sugar levels steady by starting and stopping eating

- Neuropeptide Y (NPY): Substance in the brain that initiates eating; works on paraventricular nucleus in hypothalamus
- Glucagon-like peptide 1 (GLP-1): Substance in brain that terminates eating
- Set point: Proportion of body fat that is maintained by changes in hunger and eating; point where weight stays the same when you make no effort to gain or lose weight



Damage to the hunger satiety system in the hypothalamus can produce a very fat rat, a condition called hypothalamic *hyperphagia* (hi-per-FAGE-yah: overeating).

- Leptin: Substance released by fat cells that inhibits eating
- External eating cues: Signs and signals linked with food

TABLE. Summary of eating disorder diagnostic criteria

Diagnosis	Major criteria
Anorexia	Significantly low body weight, significant weight and shape concerns
Bulimia nervosa	Recurrent binge eating and compensatory behaviors (eg, purging, laxative use); significant wieght and shape concerns
Binge eating disorder[a]	Recurrent binge eating; at least 3 of 5 additional criteria related to binge eating (eg, eating large amounts when not physically hungry, eating alone due to embarrassment); significant distress

[a] Binge eating disorder is specified as a diagnosis only in DSM-5; in ICD-10 a person meeting the criteria would have a diagnosis of "other eating disorder."

- Anorexics and bulimics have exaggerated fears of becoming fat; they think they are fat when the opposite is true
- Bulimics are obsessed with food and weight; anorectics with perfect control
- Anorexics will often be put on a "weight-gain" diet to restore weight
- Treat with cognitive-behavioral techniques

Thirst

- Extracellular thirst: When water is lost from fluids surrounding the cells of the body
- Intracellular thirst: When fluid is drawn out of cells because of increased concentration of salts and minerals outside the cell
- Reduction in blood volume

Sex

- Biological drive.
- Social: involves other people; basis for social groups, social pressures and religious beliefs
- Psychological: part of our emotional lives
- Not necessary to maintain lfe but important for survival of species
- Not aroused by deficits in equilibrium within the body
- Under the influence of sensory information from the environment than other biological drives

Organizational role of hormones

- Estrogens: hormones: from the ovaries and the adrenal glands
- Testosterone: major androgen. Present in both sexes; the relative amounts differ
- Effects the structure of the body and the brain-especially the regions of the hypothalamus that regulate hormone release
- a person's sex is inherited (genes on the so-called sex chromosomes provide the basis of the growing baby's gender)
- The organization of the body and brain as either male or female depends on the presence of the appropriate sex hormones during early life
- Later in adolescence: changes in hormone levels and secondary sexual characteristics

Activational role of hormones

- Higher than normal levels trigger sexual behavior in lower species
- Role of estrogens: menstrual cycle and menopause, relation with sex drive unclear: habits and attitudes more important
- Androgen/ testosterone levels important for sexual behavior
- Role of external stimuli, learning and sexual behavior

Social Motives

- complex motive states, or needs, that are the wellsprings of many human actions
- learned in social groups, especially in the family and as children grow up, and they usually involve other people
- What goals to pursue and how to persist eg: power, defence, autonomy
- Achievement motivation: need to care for fear of failure

Motives to know and be effective

- Seek variety in stimulation
- Process information around the world, explore
- Be effective in mastering challenges in the environment
- Effectance motivation: general motivation to act competently and effectively when interacting with the environment
- Intrinsic and extrinsic motivation
- Self-actualization

Frustration and conflict of motives

- Frustration: blocking of behavior directed towards a goal; emotional feelings and behaviors develop
- Conflict among simultaneously aroused motives
- Valences: attraction or repulsion towards a goal
- Sources: environmental; personal; conflict produced (expression of one motive interferes with the expression of another motive)
- Types of conflict: approach-approach; avoidance-avoidance; approach-avoidance; multiple approach-avoidance conflicts

Stress

- In psychology, stress is not a situation, but a response.

- Psychologists talk about stress and stressors a little different than you or I might:
  - ***Stress:*** A physical and mental response to a a challenging or threatening situation
  - ***Stressor:*** A stressful stimulus or situation demanding adaptation

Traumatic Stressors

- Certain events go beyond a "normal" stressor; examples would be the World Tsunami in 2004, 9/11, Columbine, Hurricane Katriana, 9/11, etc.

- These are called *traumatic stressors*. To be considered a traumatic stressor, it must be a situation that threatens yours, or others' physical safety and promotes a feeling of helplessness.
  - Human created catastrophes are always worse, why?

Response to Traumatic Stressors

- In the face of catastrophic situations, most people pass through five stages:
  1) **Psychic Numbness:** shock, confusion, lack of understanding
  2) **Automatic Action:** little awareness of the experience, poor memory/recall
  3) **Communal Effort:** people work together, but with little planning
  4) **Letdown:** the setting-in of the magnitude and impact of the situation
  5) **Recovery:** Survivors adapt to changes caused by the disaster

PTSD

- ***Post Traumatic Stress Disorder:*** Individuals who have undergone severe ordeals-rape, combat, beatings, torture-may experience a delayed pattern of stress symptoms that can appear as long as years after the event.

  - Victims of PTSD often have the following symptoms:
    - Distracted
    - Disorganized
    - Suffer memory difficulties
    - Experience psychic numbing (diminished hedonic capacity)
    - Feelings of alienation

Response to a Normal Stressor

- The physical response to a normal stressor is fairly universal as well and follows the same sequence:
  - An initiation of arousal
  - A protective behavioral reaction (fight or flight)
  - Internal response of the autonomic nervous system
  - A decrease in the effectiveness of the immune system

Types of Stress

- Despite the bad name that stress has, it is actually a vital part of our lives, as long as it is controlled
- Eustress and distress
- Types of stress:
  - ***Acute Stress:*** A temporary pattern of stressor-activated arousal with a distinct onset, and limited duration
    - Short term stress
  - ***Chronic Stress:*** A continuous state of stressful arousal, persisting over time.
    - Long term stress

General Adaptation Syndrome

- GAS-A pattern of general physical responses that take essentially the same form in responding to any serious chronic stressor.

Alarm Reaction
– the body mobilizes it's resources to cope with a stressor

Resistance
– the body seems to adapt to the presence of the stressor

Exhaustion
– the body depletes it's resources