Lesson 5.
Behaviorist models for instruction and classroom management.

Learning, Development and Personality.

2nd Part: Educational Psychology

University of Oviedo – Department of Psychology

¿What is behaviorism?

- Behaviorism (or behaviourism) is an approach to psychology that focuses on an individual's behavior. It combines elements of philosophy, methodology, and psychological theory.

- The primary tenet of methodological behaviorism is that psychology should have only concerned itself with observable events.

¿What is behaviorism?

- Behavioral psychology is the study of external behavior
- Behavior is objective and observable, where as what goes on in one's mind can never really be known or measured (the mind is a "black box")
- Behavior is the response of an organism to stimuli

Behaviorism and Education

- Behaviourism focuses on one particular view of learning: a change in external behaviour achieved through using reinforcement to shape the behavior.

- E.g. Skinner found that behaviors could be shaped when the use of rewards was implemented. Desired behavior is rewarded, while the undesired behavior is punished.

Behaviorism and Education

- **The "teacher"** is the dominant person in the classroom and takes complete control
- **Evaluation of learning** comes from the teacher who decides what is right or wrong.
- **The learner** does not have any opportunity for evaluation or reflection within the learning process, they are simply told what is right or wrong.
- **The conceptualization of learning** using this approach could be considered "superficial" as the focus is on external changes in behaviour.
- It is not interested in the internal processes of learning leading to behaviour change and has no place for the emotions involved the process.

Approaches to Behaviorism

- Classical Conditioning -CC
- Operant Conditioning - OC
- Observational Learning - OL

Classical conditioning

- Classical conditioning is a learning process in which an innate response to a potent stimulus comes to be elicited in response to a previously neutral stimulus; this is achieved by repeated pairings of the neutral stimulus with the potent stimulus.
- The basic facts about classical conditioning were discovered by Ivan Pavlov through his famous experiments with dogs.

Elements of Classical conditioning

- Classical conditioning occurs when a conditioned stimulus is paired with an unconditioned stimulus.
- **The conditioned stimulus (CS)** is a neutral stimulus (e.g., the sound of a tuning fork), **the unconditioned stimulus (US)** is biologically potent (e.g., the taste of food) **and the unconditioned response (UR)** to the unconditioned stimulus is an unlearned reflex response (e.g., salivation).
- After pairing is repeated (some learning may occur already after only one pairing), the organism exhibits a **conditioned response (CR)** to the conditioned stimulus when the conditioned stimulus is presented alone.
- The conditioned response is usually similar to the unconditioned response but unlike the unconditioned response, it must be acquired through experience and is relatively impermanent.

Classical conditioning and Education

- Explains some learning of involuntary emotional and physiological responses.
  - Dog drooling when it smells food and later when it hears a bell
- It's important for teachers to understand since school is often the cause of unintentional learning through classical conditioning, especially anxiety.
  - Test anxiety conditions us to have general school anxiety

CC Phenomena - Acquisition

- The CS and US are paired. The extent of conditioning may be tracked by test trials. In these test trials, the CS is presented alone. A single CS-US pairing may suffice to yield a CR on a test, but usually a number of pairings are necessary. This repeated number of trials increase the strength and/or frequency of the CR gradually.

- The speed of conditioning depends on a number of factors, such as the nature and strength of both the CS and the US, previous experience and the animal's or individual´s motivational state.

- Acquisition may occur with a single pairing of the CS and US, but usually, there is a gradual increase in the conditioned response to the CS.

CC Phenomena - Extinction

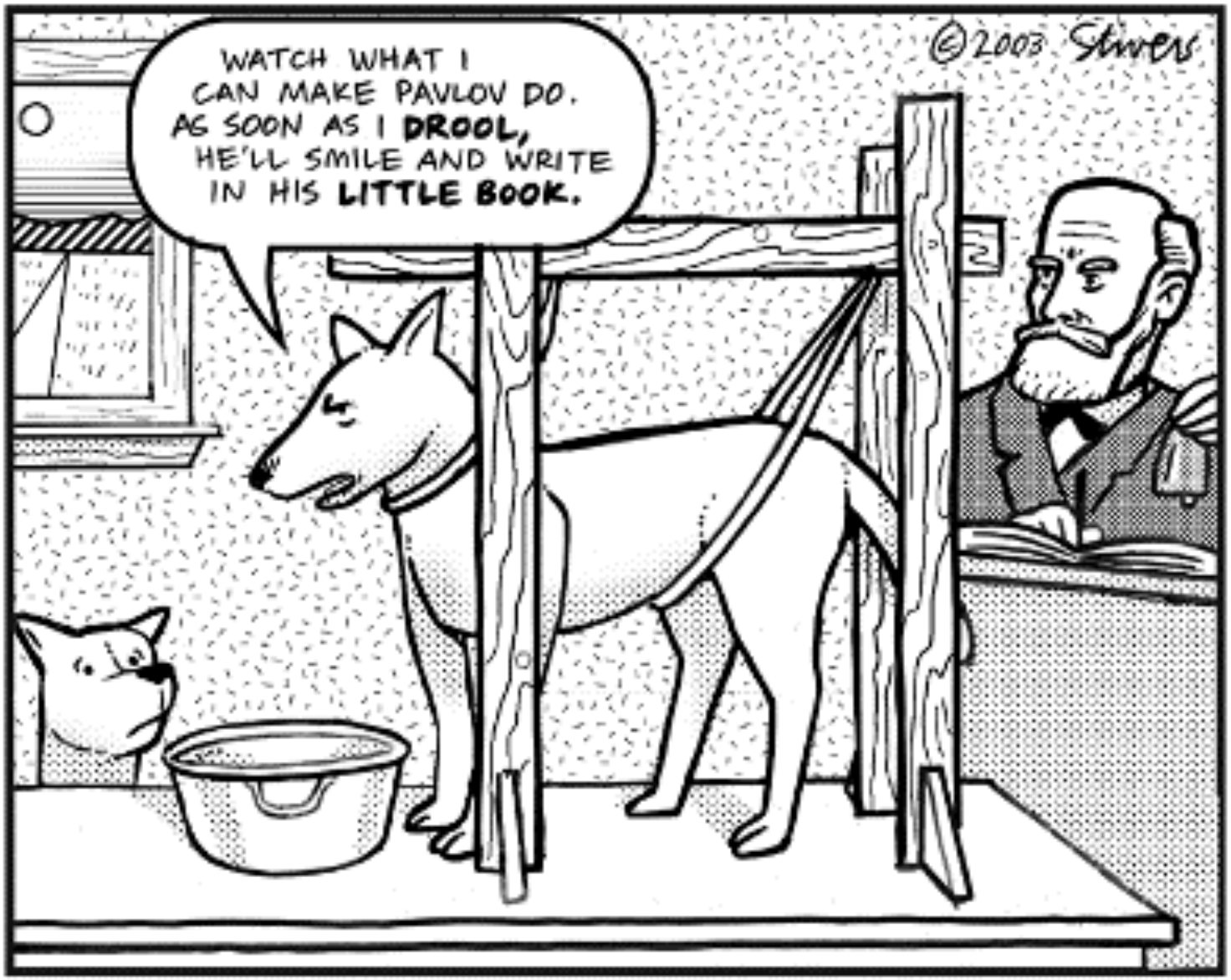
- In order to make a learned behavior disappear, the experimenter must present a CS alone, without the presence of the US.

- Once this process is repeated continuously, eventually, the CS will stop eliciting a CR. This means that the CR has been "extinguished”.

Paulov´s Experiment

- Pavlov presented a stimulus and then gave the dog food; after a few repetitions, the dogs started to salivate in response to the stimulus. Pavlov called the stimulus **the conditioned stimulus (CS)** because its effects depend on its association with food. He called the food the **unconditioned stimulus (US)** because its effects did not depend on previous experience. Likewise, the response to the CS was the **conditioned response (CR)** and that to the US was the **unconditioned response (UR)**.

https://www.youtube.com/watch?v=bRrBsoU3PVI


WATCH WHAT I CAN MAKE PAVLOV DO. AS SOON AS I DROOL, HE'LL SMILE AND WRITE IN HIS LITTLE BOOK.
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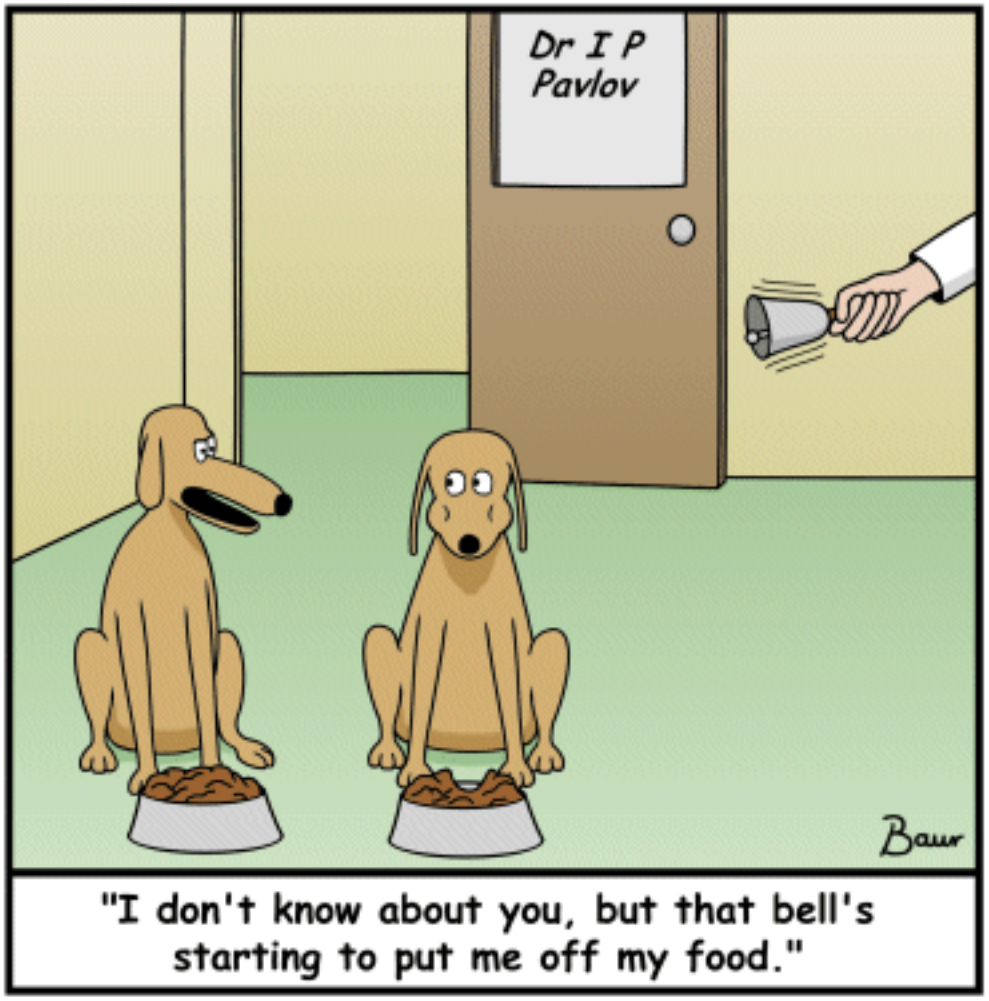
Paulov´s Experiment



Examples of Classical conditioning

- Kids who often get strep throat, after much swabbing of their throat, begin to gag as soon as they see the doctor with the swab.
- Hearing a teacher say to you, “We need to talk”. Upon hearing this phrase your stomach “flutters”.

- The point is, we learn to associate a stimulus with a response, and eventually our body does this automatically in the presence of the stimulus. Our response is involuntary.

Operant conditioning

- Operant conditioning (also, “instrumental conditioning”) is a learning process in which behavior is sensitive to, or controlled by its consequences.

- B.F. Skinner (1904–1990) is often referred to as the father of operant conditioning and Many of Skinner's writings are devoted to the application of operant conditioning to human behavior.

https://www.youtube.com/watch?v=D-RS80DVvrg

https://www.youtube.com/watch?v=I_ctJqjlrHA


THEY GIVE YOU A LOT OF TREATS WHILE THEY'RE TRAINING YOU, SO PLAY DUMB FOR AS LONG AS YOU CAN.
facebook.com/brevitycomic

Operant conditioning elements

- **Reinforcement and punishment** are the core tools through which operant behavior is modified.
- These terms are defined by their effect on behavior.
- **Positive Reinforcement** and **Negative Reinforcement** increase the probability of a behavior
- **Positive Punishment** and **Negative Punishment** reduce the probability of a behaviour that it follows.

Operant conditioning elements

- **Extinction** occurs when a behavior (response) that had previously been reinforced is no longer effective.

  – For example, a rat is first given food many times for lever presses. Then, in "extinction", no food is given. Typically the rat continues to press more and more slowly and eventually stops, at which time lever pressing is said to be "extinguished."

Operant conditioning elements

- **Positive reinforcement (reinforcement)**: This occurs when a behavior (response) is followed by a stimulus that is appetitive or rewarding, increasing the frequency of that behavior.
  - For example, if a rat in a Skinner box gets food when it presses a lever, its rate of pressing will go up. This procedure is usually called simply reinforcement.

    https://www.youtube.com/watch?v=JA96Fba-WHk

- **Negative reinforcement (escape)**: This occurs when a behavior (response) is followed by the removal of an aversive stimulus, thereby increasing that behavior's frequency.
  - For example, in the Skinner box experiment, the aversive stimulus might be a loud noise continuously sounding inside the box; negative reinforcement would happen when the rat presses a lever, turning off the noise.

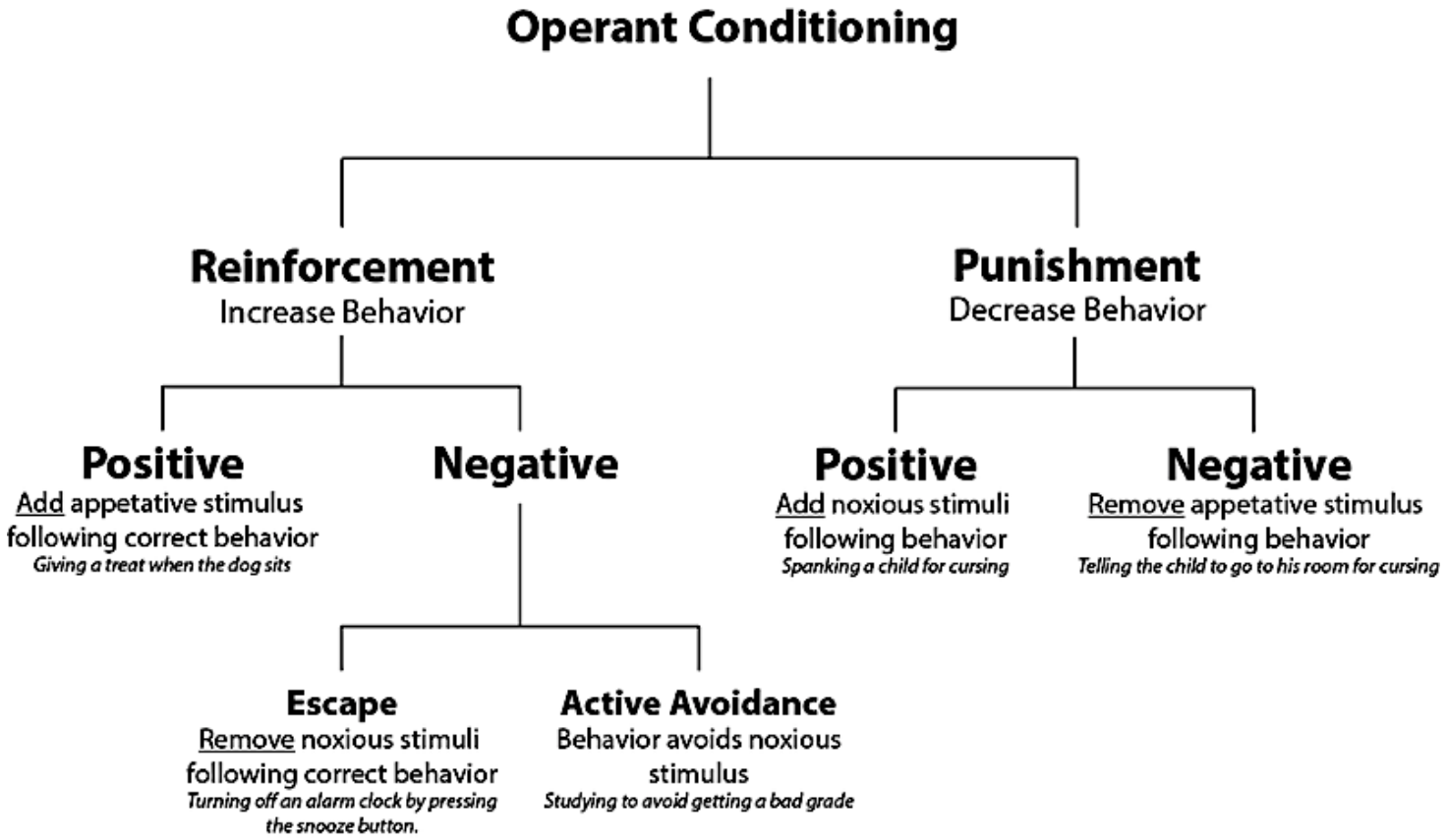
Operant conditioning elements

- **Positive punishment (punishment):** This occurs when a behavior (response) is followed by a stimulus, such as a shock or loud noise, which results in a decrease in that behavior.
  - For example, your cell phone rings in the middle of a class lecture, and you are scolded by your teacher for not turning your phone off prior to class.

- **Negative punishment (penalty)**: Occurs when a behavior (response) is followed by the removal of a stimulus.
  - For example, taking away a child's toy following an undesired behavior, resulting in a decrease in that behavior.

Negative effects of effects of punishment

- Punishment does not teach appropriate behaviors
- Must be delivered immediately & consistently
- May result in negative side effects
- Undesirable behaviors may be learned through modeling (aggression)
- May create negative emotions (anxiety & fear)



Postive presence of a stimulus

Negative absense of a stimulus

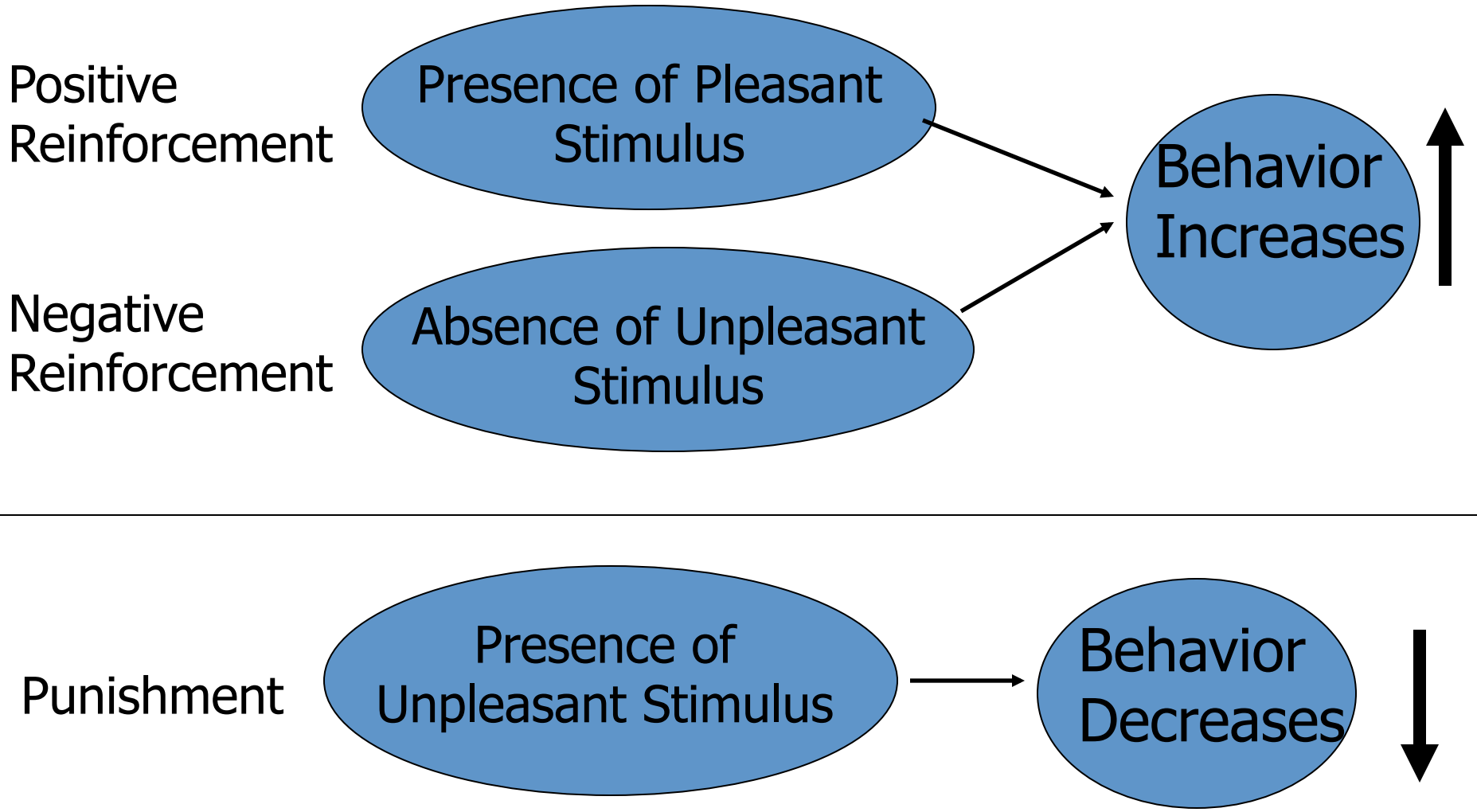
Reinforcement increases behavior

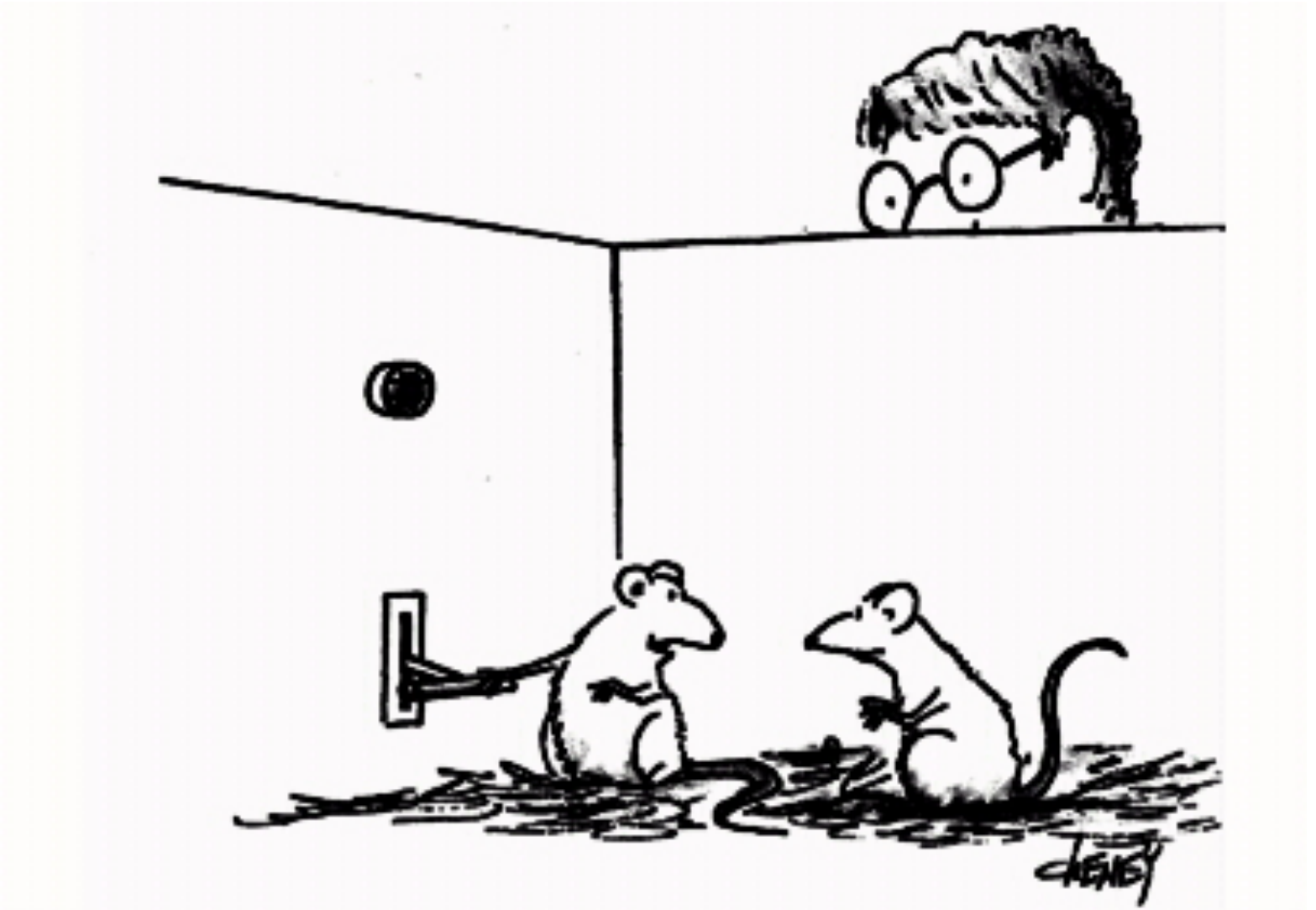
Punishment decreases behavior

Escape removes a stimulus

Avoidance prevents a stimulus

Skinner's Operant Conditioning





It's a rather interesting phenomenon. Every time I press this lever, that post-graduate student breathes a sigh of relief.

Factors affecting Operant Conditioning

- **Satiation/Deprivation:** The effectiveness of a positive stimulus will be reduced if the individual has received enough of that stimulus to satisfy its appetite. The opposite effect will occur if the individual becomes deprived of that stimulus: the effectiveness of a consequence will then increase.
  - If someone is not hungry, food will not be an effective reinforcer for behavior

- **Immediacy:** An immediate consequence is more effective than a delayed consequence.
  - If one gives a dog a treat for "sitting" right away, the dog will learn faster than if the treat is given later.

Factors affecting Operant Conditioning

- **Contingency:** To be most effective, reinforcement should occur consistently after responses and not at other times.
  - Learning may be slower if reinforcement is intermittent, that is, following only some instances of the same response, but responses reinforced intermittently are usually much slower to extinguish than are responses that have always been reinforced

- **Size:** The size, or amount, of a stimulus often affects its potency as a reinforcer. Humans and animals engage in a sort of "cost-benefit" analysis.
  - A tiny amount of food may not "be worth" an effortful lever press for a rat. A pile of quarters from a slot machine may keep a gambler pulling the lever longer than a single quarter.

Critics to Operant Conditioning

- Behaviorism doesn't account for anything that isn't an observable behavior
- There has to be more going on than what is observable.
- Behaviorism only accounts for learning through direct experience with the environment (not observational learning)


I HAVE A CONFESSION TO MAKE... I DON'T COME HERE TO BE PSYCHOANALYZED. I COME HERE 'CAUSE YOU LET ME ON THE COUCH...

Observational Learning

- ¿How are learning these children?

https://www.youtube.com/watch?v=KHi2dxSf9hw

¿What is Observational Learning?

- Observational learning is learning that occurs through observing the behavior of others**. It is a form of Social Learning** which takes various forms, based on various processes.
  - In humans, this form of learning seems not need reinforcement to occur, but instead, requires a social model such as a parent, sibling, friend, or teacher. Particularly in childhood, a model is someone of authority or higher status.

¿What is Social Learning?

- The Social learning theory by Albert Bandura) posits that learning is a cognitive process that takes place in a social context and can occur purely through observation or direct instruction, even in the absence of motor reproduction or direct reinforcement.

- In addition to the observation of behavior, learning also occurs through the observation of rewards and punishments, a process known as vicarious reinforcement.

¿What is Social Learning?

- The theory expands on traditional behavioral theories, in which behavior is governed solely by reinforcements, by placing emphasis on the important roles of various internal processes in the learning individual.

Bandura´s Social Learning Theory I

- Learning is not purely behavioral; rather, **it is a cognitive process** that takes place in a social context.
- Learning can occur by observing a behavior and by observing the consequences of the behavior (**vicarious reinforcement**).
- Reinforcement plays a role in learning but is not entirely responsible for learning.

Bandura´s Social Learning Theory II

- Learning involves observation, extraction of information from those observations, and making decisions about the performance of the behavior (observational learning or modeling).
- Learning can occur **without an observable change** in behavior.
- **The learner is not a passive recipient of information.**
- Cognition, environment, and behavior all **mutually influence** each other.

Bandura´s Social Learning Theory III

Types of modeling stimuli

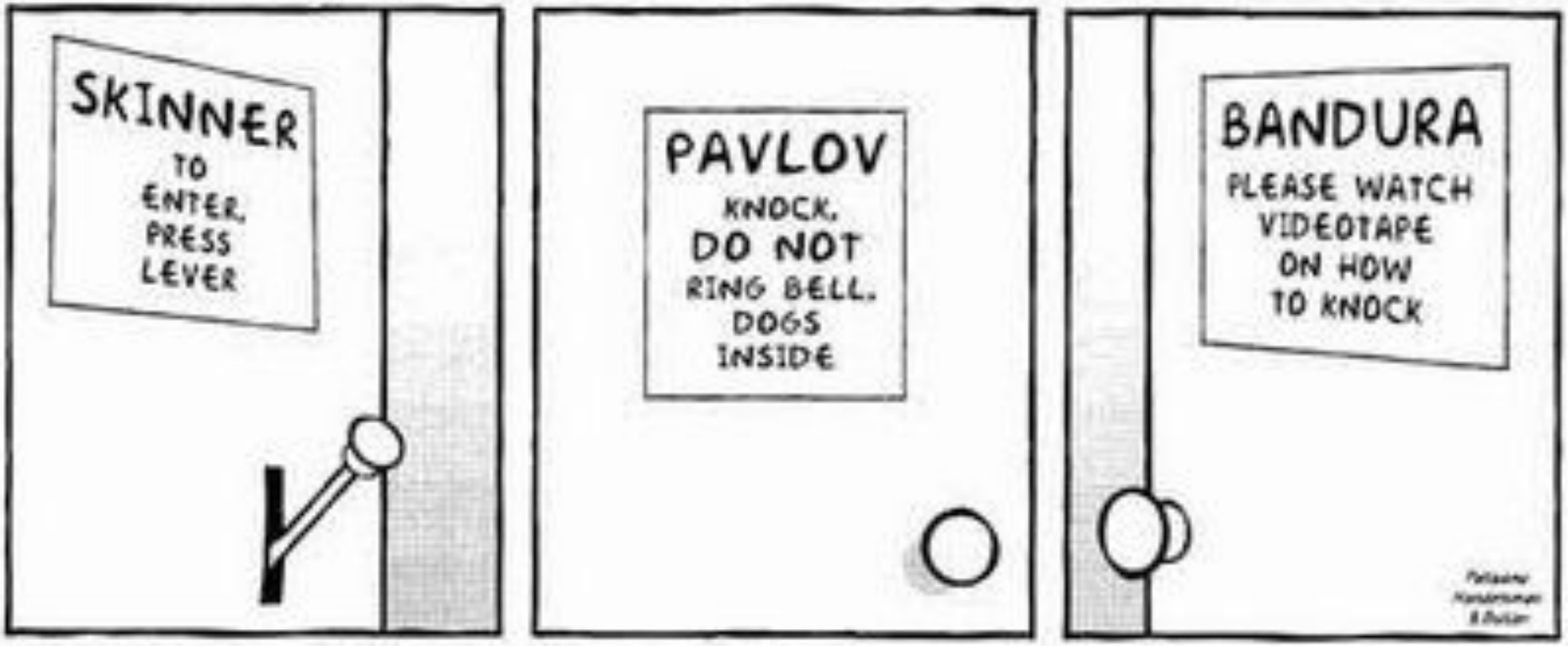
- **Live model:** an actual person is demonstrating the desired behavior
- **Verbal instruction:** an individual describes the desired behavior in detail and instructs the participant in how to engage in the behavior
- **Symbolic:** modeling occurs by means of the media, including movies, television, Internet, literature, and radio. Stimuli can be either real or fictional characters.

Cognitive and behavioral processes in Bandura´s Social Learning Theory

- **1st Attention -** In order to learn, **observers must attend to the modeled behavior.**
  - Attention is impacted by characteristics of the observer (e.g., perceptual abilities, cognitive abilities, arousal, past performance) and characteristics of the behavior or event (e.g., relevance, novelty, affective valence, and functional value).
- **2nd Retention -** In order to reproduce an observed behavior, **observers must be able to remember features of the behavior.**
  - This process is influenced by observer characteristics (cognitive capabilities, cognitive rehearsal) and event characteristics (complexity).

Cognitive and behavioral processes in Bandura´s Social Learning Theory

- **Reproduction -** To reproduce a behavior, the observer must organize **responses** in accordance with the model.
  - Observer characteristics affecting reproduction include physical and cognitive capabilities and previous performance.
- **Motivation -** The decision to reproduce (or refrain from reproducing) an observed behavior is dependent on the **motivations and expectations of the observer**
  - Anticipated consequences or internal standards.


SKINNER
TO ENTER, PRESS LEVER
PAVLOV
KNOCK. DO NOT RING BELL. DOGS INSIDE
BANDURA
PLEASE WATCH VIDEOTAPE ON HOW TO KNOCK