The Poisoned Cue and Its Implications for Teaching and Social Interactions

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Cues

- Karen Pryor distinguishes between three types of antecedent events:
  - A cue
  - A command
  - A poisoned cue

- Other antecedents include cues based on punishment, removal of reinforcement, and extinction

Cue

- A CUE is a discriminative stimulus (SD) established through positive differential reinforcement
  - In the presence of the CUE
    - IF the target behavior occurs, it is followed by a click and the delivery of a positive reinforcer
    - IF other behavior occurs, no click and no delivery of a reinforcer occurs
Cue

- The CUE is the occasion in which particular responses are positively reinforced
- The CUE itself becomes a conditioned positive reinforcer
  - Just like the “click”, you can use the CUE
    - to shape new behavior
    - to capture existing behavior
Command

- A COMMAND is a discriminative stimulus (SD) established through negative reinforcement
  - In the presence of the COMMAND
    - IF the target behavior occurs, it prevents the occurrence of an aversive stimulus
    - IF other behavior occurs, an aversive stimulus is delivered (usually called a “correction”) which in turn is terminated by the emission of the target behavior
Command

- The COMMAND is the occasion in which particular responses are negatively reinforced
- The COMMAND itself becomes a conditioned aversive stimulus
  - The removal or postponement can be used to shape and capture behavior
  - The presentation can be used to decrease behavior
Poisoned Cue

- A POISONED CUE is a discriminative stimulus (SD) established through the combination of negative and positive reinforcement
  
  * In the presence of the POISONED CUE
    
    - The target behavior prevents the occurrence of an aversive stimulus and is followed by a positive reinforcer
    
    - Other behavior is followed by an aversive stimulus (usually called a “correction”) which in turn is terminated by the emission of the target behavior
Poisoned Cue

- The POISONED CUE is the occasion for positive reinforcement as well as negative reinforcement
  - The SD becomes ambiguous in terms of outcome (reinforcers or aversives)
  - The SD can be used as positive reinforcer
    - but the resulting performance is significantly different than the one produced by using cues associated with positive reinforcement alone
Poisoned Cue

- Possible effects on behavior
  - Learner is reluctant, often with visible manifestations of stress
  - Behavior breaks down preceding the cue
  - Behavior breaks down following the cue
    - Example: Freezing, longer latencies prior to and following the cue
Poisoned Cue

• Ways cues may be poisoned
  * Add aversive stimulation to a positive reinforcement program
  * Teach with aversive stimulation for “errors” or “bad behavior” and positive reinforcement for “corrects” or “good” behavior
  * Elicit behavior with aversive stimulation and capture it with positive reinforcement
Purpose

To compare the effects of training with cues established with differential positive reinforcement only to the effects of cues established through the combination of positive and negative reinforcement on the behavior of a miniature poodle.
CUE TRAINING

“Ven” & “Punir”
Training Procedures: “Ven”

- The trainer said “ven”
  - Once an approximation or the target behavior occurred, the trainer clicked the clicker and immediately delivered a treat
  - Other behavior did not produce a reinforcer
- A trial began when the cue “ven” was presented and ended with the delivery of a reinforcer
- The experimenter repositioned after every response
Training Procedures: “Punir”

- The trainer said “punir”
  - If the target behavior began within 2s, the trainer operated the clicker and delivered a reinforcer upon completion of the target response
  - If the target behavior did not begin within 2s or was not completed, the trainer delivered a leash tug which pulled the dog to the correct location. Once the dog was in the correct position, the trainer operated the clicker and delivered a treat
Cue Training

Ven

Punir

Session 13
Middle of Training
Cue Training

Ven

Punir

Session 17
100% Accuracy
Capturing Behaviors 1, 2, 3

with

“Ven” & “Punir”
Captured Behaviors

• With “Ven”
  * Back stepping (Behavior 1)
  * Walking to the left side sq. (Behavior 2)
  * Walking to the right side corner and touching a briefcase (Behavior 3)

• With “Punir”
  * Walking to the right corner sq. (Behavior 1)
  * Walking to the right side sq. (Behavior 2)
  * Walking to the left side corner and touching an upside-down trash-can (Behavior 3)
Capturing with “Ven”

- The trainer waited for the occurrence of the target behavior, and said “ven” contingent upon its occurrence.

- When the dog completed the target response (e.g., walking to the trainer), the trainer operated the clicker and delivered a reinforcer.

- When the target response was not completed, no reinforcer was delivered.

- During capturing, a session began when the trainer stood in a designated square on the grid.
Capturing with “Punir”

- The trainer waited for the occurrence of the target behavior, and said “punir” contingent upon its occurrence.

- When the dog completed the target response (e.g., walking to the trainer), the trainer operated the clicker and delivered a reinforcer.

- When the target response was not completed, the trainer delivered a leash tug and followed the same procedure as in training.
Capturing Behavior 1

Ven

Punir

Session 50
Capturing Behavior 2

Ven

Punir

Session 44
Capturing Reversal of Behavior 2

Ven

Punir

Session 63
Capturing Behavior 3

with

“Ven” & “Punir”
Captured Behaviors

- With “Ven”
  - Walking to the right side corner and touching a briefcase
- With “Punir”
  - Walking to the left side corner and touching an upside-down trash-can
Capturing Behavior 3

Ven

Punir

Session 85
Last 3 trials
Capturing Behavior 3

Ven

Punir

Session 92
Last 3 trials
Stimulus Control Tests
What Got Poisoned?

- The cue “Punir”
- The leash
- The context
No Leash

Ven

Punir

Session 102
First 3 trials
Leash

Ven

Punir

Session 112
First 3 trials
All Sr+

Ven

Punir

Session 118
First 3 trials
Discussion

- Combining positive and negative reinforcement during training can have detrimental effects on the topography, accuracy and frequency of the target behavior and evoke emotional behavior.

- Emotional behaviors produced by this procedure do not disappear over time in spite of the use of positive reinforcement.

- A poisoned cue can select behavior but the performance may be significantly different than with a cue associated with only positive reinforcement.
Error Correction

Boy Differential Reinforcement Condition
Discussion

... don’t poison the cue!

... and if you have

Use a different cue and retrain the behavior with positive reinforcement
Seeing It Their Way: A Stimulus Control Application

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Background

- Red tailed hawk: Buesto Jamaicensis
- Known to be at least 9 years of age but actual age is unknown.
  * (Average life span in the wild is 21 years.)
Background

- Discovered by Texas Parks And Wildlife on the side of the road and deemed imprinted and unreleasable
- Refuses to step into the glove
Background

- Glove training with weight management was unsuccessful
- and resulted in the bird prematurely flying at anyone who went in to feed him
Background

- Diet varied by day but typically either: 4 oz of BoP, 1 medium rat, or 4 oz of beefheart. Twice a week vitahawk was given in diet

- In this demonstration, the hawk received additional beef heart
Baseline
Change of Glove
Maintenance
Reversal
Flying
Identifying Poisoned Cues

- Establish a baseline
  - Trainer says “name” -> dog eye contact -> Trainer says “Sit” -> dog sits
    - Repeat for 5 trials
- Varied the stimulus conditions
- Revert to the original stimulus conditions
Cesar
Cesar

Baseline

Leash on
Cesar

Leash/Floor

Leash/Desk
Cesar

Leash/House

Leash/Floor & Owner