

1

MORE THAN "MANAGEMENT"


Antecedent-Forward Approaches to Behavior Problems

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2

"REINFORCEMENT DRIVES BEHAVIOR"

- The Law of Effect: a seismic shift (Thorndike, 1898; Skinner, 1938)
- But "reinforcement increases behavior" is not a complete statement.
- Reinforcement increases behavior *in contexts similar to those in which behavior was reinforced.*
- If a behavior happens, not only is there a history of reinforcement, there is a cue
- Stimulus control: happens more in presence, less in absence (or presence of less, lower quality, etc)



3

"MANAGEMENT"

- Not tightly defined
- "Preventing unwanted behavior from occurring by altering parts of the environment that prompt a dog to behave in a way that you as the owner/guardian find unpleasant." (DeWillems, 2024).
 - Avoiding the discriminative stimulus; i.e., preventing the dog from perceiving the A and thus doing B
- Sometimes: preventing B from contacting C (extinction, punishment?)

“MANAGEMENT”

- May be a stand-alone solution
- May be necessary for safety
- May “set the learner up for success” as part of a larger behavior change plan
- Not the only antecedent-change strategy

4

ANTECEDENT CHANGES CAN DO MORE

- Help “get” (or find) the behavior you hope to reinforce
- Repair/retrieve a “broken” or “forgotten” behavior
- Provide “clarity” about when reinforcement is or is not available, reducing “frustration”
- Reduce the need to use extinction or punishment
- Protect training from inconsistency
- Facilitate generalization to natural settings (Stokes & Baer, 1977)

5

MOTIVATING OPERATIONS

- Conditions, events, or stimuli that *momentarily* influence:
 - “Value” of the reinforcer
 - Probability that the cue will evoke behavior
- Establishing: increases reinforcer value, makes behavior to get that reinforcer more likely to occur and cue more likely to evoke
- Abolishing: decreases reinforcer value, makes behavior to get that reinforcer less likely and cues less likely to evoke (Laraway et al., 2003)
- “Potentiating variables” (Layng et al., 2022) includes arrangements that influence the potency of not just consequences but also of other antecedents.

(Laraway et al., 2003)

6

7

MOTIVATING OPERATIONS

- Abundance and scarcity
- Exercise and enrichment
- But also:
 - Bodily conditions
 - The products of respondent behavior
 - Drugs



8

ABOLISHING OPERATIONS FOR LLW

- "Working on the way back" lowers the value of competing reinforcers
- Why familiar territory is often a lower criterion
- Likewise sniffing around a new training area
- Could more overtly signal rule change (different equipment/position of equipment)
- Longer leash facilitates reinforcement not contingent on pulling



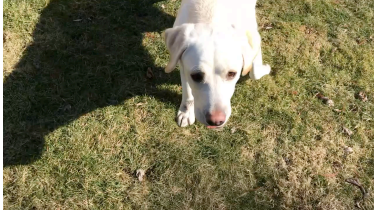
9

CONDITIONAL STIMULI

- Reinforcement in the presence of one stimulus depends on the presence (or absence) of another stimulus (Cooper et al., 2020)
- Very few behaviors are on only one cue



WAS THE BEHAVIOR BROKEN?



- Ella: ignoring "Come!" in the yard; still responding in the park
- Different outcomes capture different antecedents as well as different behavior
- Changed the cue along with the consequence

10

HOW ELLA GOT HER GROOVE BACK



- Avoidance of car as puppy after vet
- Approximated mat into car, faded
- Recurrence in Feb 2025
- Return of the mat, return of the behavior
- Check: Am I a conditional stimulus?

11

SIGNALS FOR CONCURRENT CONTINGENCIES



- Multiple signals at the same time about paths to reinforcement
- Matching Law: learner will allocate behavior in proportion to past reinforcement, but . . .
- May interact with other phenomena

12

13

“DISTRACTIONS” AND “TRIGGERS”



- Why do animals do something other than what we expect?
- There are always cues
- We call some cues “distractions” or “triggers”

14

“DON’T FIGHT EXTINCTION” *

- When we are trying to build reinforcement history for a behavior that we hope will replace an unwanted behavior, we may want to
 - Remove signals for behavior we don’t want
 - Look for what already signals the behavior we do want and/or
 - Introduce new signals for the behavior we do want
 - Introduce the behavior back into the environment where it is needed

* (Rosales-Ruiz, 2020)

15

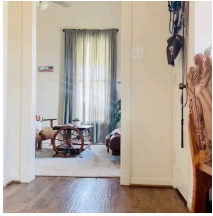
CAPTURING AND MOVING BEHAVIOR



- Capturing and shaping do not have to mean waiting around for behavior
- Where does it already exist?
- What will cue it later?

16

CAPTURING AND MOVING BEHAVIOR



- We can capture and shape behaviors other than "obedience" or "tricks"
- Pony: Underweight at 26 lbs
- Medical rule outs/vet approval
- When was eating most likely? Evening, nobody looking at him, not in a bowl, every 1.5 days, 2/3 of needed kcal
- "Captured" and put on arbitrary, portable cue: a scarf on the floor. Initially reinforced by opening back door
- Eating 2x a day within 5 days, all kcal within 2 weeks
- Contrived reinforcers and cues faded (haphazardly)
- Weighs 31 lbs and herds sheep

17

CAPTURING AND MOVING BEHAVIOR



- Isabelle: Would only eat off floor or from hand
- Goal: eat from bowl for travel purposes
- Transferred stimulus control gradually from flat surface to paper towel to shallow bowl
- Also used mat as she had history of eating on it during training

18


CAPTURING AND MOVING BEHAVIOR



19

REINFORCERS AS CUES


- What is A and C is always in relation to a B
- Even noncontingent presentation can evoke behavior that previously produced that reinforcer (Ingvarsson & Kahng, 2006)



20

WHAT'S THE CUE?

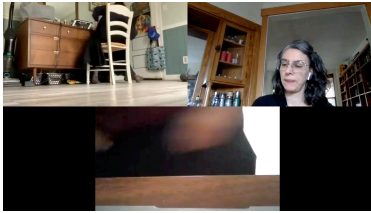
- 5 min of near constant barking (avg. quiet time 4 s)



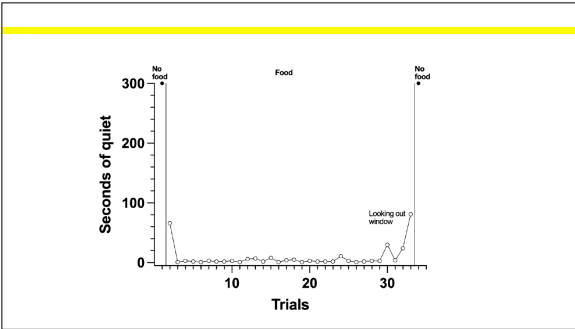
21

WHAT'S DIFFERENT?

- 5 min, no barking



22



23

SIGNALLED DRO



Baseline with guardian eating as the antecedent

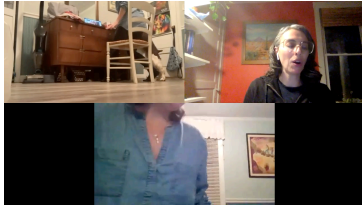
24

SIGNALLED DRO

- Old picture: Eating signals vocalization will be reinforced
- Add new signal for new "rules" to get attached to: Scarf on chair
 - Scarf is a "stimulus delta," signaling that reinforcement for vocalizing is not available. (S-deltas are antecedents, not consequences!)
- Vocalization resets the timer
- X seconds of quiet > remove scarf and feed
- Raise and lower criteria according to data
- OK to muddle through when not using scarf

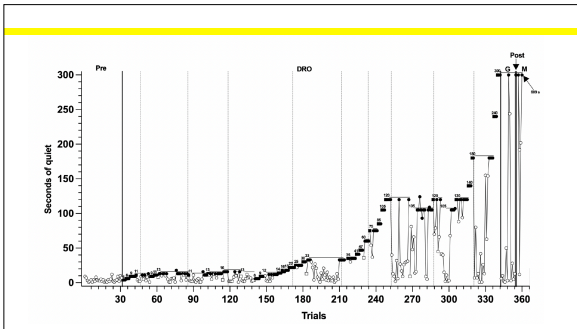
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SIGNALLED DRO



Successful trial of signaled DRO at 22 s criterion

26



27

SIGNALLED DRO



Unsuccessful trial at 105s (1 min 45 s) criterion

28

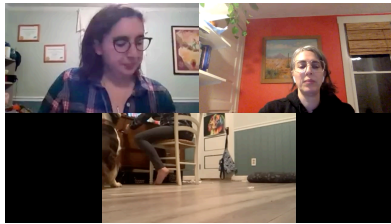
SIGNALED DRO

7	105	13:03	13:44	41					
8	105	13:49	14:29	40					got on and off dog bed, came left, laid down, whined as he went down
9	105	14:32	14:47	15					remained down, chin down, got up, yowled a little but sat on dog bed
10	105	14:53	14:55	2					
11	105	15:01	15:12	11					came left, backed up, grumble/whined
12	105	15:20	15:22	2					
13	105	15:29	15:32	3					

Unsuccessful trials at 105 s criterion

29

SIGNALED DRO



Last of 3 successful 5 min trials in a row

30

CAN WE DO IT WITH LESS EXTINCTION?



- Twig: 30+ mins of barking and jumping, carpet scratching in living room
- Trouble settling in general
- "Needs met," vetted
- Distraction with chews didn't work
- Hx of settling during baking

31

MOVING THE BEHAVIOR



- Could do webinars in kitchen—practiced by talking to YouTube
- Moved kitchen mat to dining room
- Had held several short webinars in dining room, 1 setback at start of 90 min webinar

32

FACILITATING GENERALIZATION



- Scarf as "common stimulus" (Stokes & Baer, 1977)
- Went to bed for first time at ~6 mins
- Competing cue I didn't know about: Klimb

33

FACILITATING GENERALIZATION



BEING PROACTIVE



- What reinforcers are available in each room of your home?
- What will tell them what's available, if not the location?

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