Learning Behavior and Search Optimization
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Each dog handler should have fundamental knowledge about learning behavior (classical / instrumental conditioning):

to make them aware of the little pitfalls that might occur during training in order to avoid them.
Introduction

At the latest when a dog is unable to render its best possible performance, the question must be:

How can I optimize my training as trainer/dog handler to achieve the desired result?
How can we make use of findings about a dog’s learning behavior to optimize search behavior for most types of material?
Classical Conditioning

- This form of conditioning is about deliberately uncontrollable responses of the body (reflexes, emotions) that are associated with certain causes and learned in this way.

- Conditioning is done by closely linking in time an initially neutral stimulus to an unconditioned stimulus.

- And, finally, the originally neutral stimulus itself becomes a -learned- stimulus that can trigger a reflex.
Classical Conditioning

- In the context of dog training classical conditioning are applied in all fields where behavior is controlled by "reflexes".
- Every emotional response is subjected to classical conditioning.
- The best results are obtained, if the unconditioned stimulus is preceded by 0.5 seconds by the conditioned stimulus.

Characteristic features of classical conditioning:
- largely independent of location
- not controlled through reflection
- swift and reliable implementation after successful conditioning process.
Application in Search Work

Classical conditioning of smells.

Presentation of Odor - food
Instrumental Conditioning

- Also referred to as **operant conditioning**.
- Refers to learning processes that are controlled via deliberate action or via the principle of "**trial and error**".
- In processes of instrumental conditioning there is **leeway for action** for the dog.
- The dog may choose whether to show a behavior or not.
- Depending on whether it will be rewarded or punished, a behavior is shown more or less often.
**Reward and Punishment**

<table>
<thead>
<tr>
<th>Learning theory</th>
<th>+</th>
<th>-</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behavior is getting stronger</td>
<td>Something good is added</td>
<td>Something unpleasant is removed</td>
</tr>
<tr>
<td>Behavior is getting weaker</td>
<td>Something bad is added (positive punishment)</td>
<td>Something pleasant is removed</td>
</tr>
</tbody>
</table>

- **PR added**
- **PR removed or not given**
- **NR added**
- **NR removed or not given**

- ecstatic
- enthusiasm
- joy
- relief
- concern / insecurity
- anxiety
- panic
- grief
- anger
- frustration

*Emotionale Stadien bei verschiedenen Belohnungsformen*  
*Nach Rolls, 1999*
determining factors

What are the determining factors for the degree of reinforcing a behavior?

• Time lag!

• Location of administering the reinforcer!

• Type of reinforcer!
Video
The longer the delay in administering the reinforcer, the less effective the reinforcer!

directly
reliable
valuable
Response Cost

- The animal must work harder to get a reinforcer, if the behavior shown has not been optimal
- Clicking and rewarding are different things
- To achieve a high rate of reward, it is possible to click in one place and reward in another
- In case an animal must work more and harder to get a reinforcer, the value of the reinforcer is minimized…
“Errorless Learning”

How do I cope with errors?

Errorless learning.
Why errorless learning – what is the advantage and how do I design errorless learning?
“Errorless Learning”

Studies have shown that the training objective is reached faster, if no errors are made during learning.

Theory

– The memory is busy with processing the error. No capacity!
– Errors are demotivating. Negative emotion!
– Even if it is not rewarded, the unwanted behavior is learned
Errorless Learning

Start the training with something the animal is capable of achieving.

- What is the animal capable of achieving?
- Training atmosphere is important – SAFE!
- Always only one training criterion
- Analyze the behavior / analyze the behavior of the trainer
- To change the behavior of your opposite, you have to change your own behavior!
Conclusion

• To know about learning theories are important for dog handlers.
• All dog trainers should regularly train themselves in dog training.
• To train with different animals is beneficial for dog handlers / trainer.
• Good documentation and a good plan is important for good training.
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