

Learning

What is
Learning?

Critical Periods

Instrumental Learning

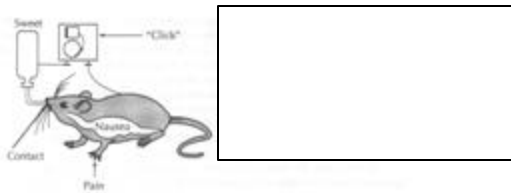
**Types of
Learning**

Habituation

Classical Conditioning



Constraints on Learning

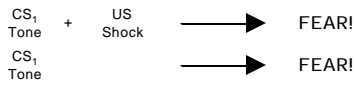


Habituation

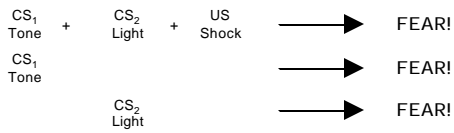
Classical Conditioning



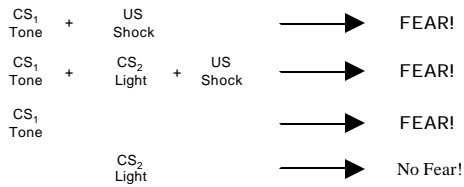
Blocking



Blocking



Blocking



Rescorla (1967)

Group	p(US follows CS)	p(US alone)
1	.8	.8
2	.8	.4
3	.4	.4
4	.4	.0

Rescorla Wagner Model

$$? V_{A(n)} = a_A \beta_{US(n)} (?_{US(n)} - V_{all(n)})$$

? $V_{A(n)}$ – Change in associative strength (V) of stimulus A on trial n

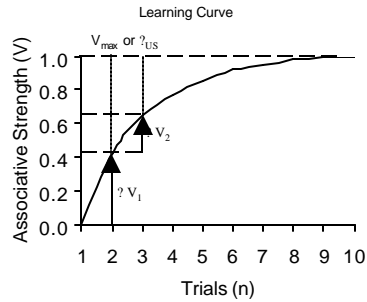
a_A – learning rate parameter (constant) for stimulus A

$\beta_{US(n)}$ – learning rate parameter (constant) for the US presented on trial n

? $_{US(n)}$ – asymptote of learning supported by the US presented on trial n

$V_{all(n)}$ – net associative strength of all stimuli present on trial n (extent to which the US is predicted on trial n)

Rescorla Wagner Model



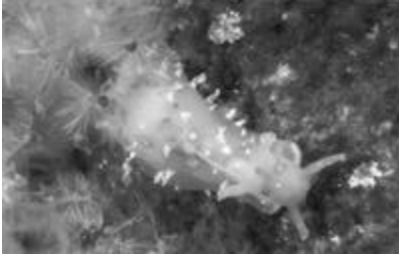
Rescorla Wagner Model

- How does the model explain extinction?
- How does the model explain blocking?
- How does the model explain the ISI effect?

Compensatory Response Model

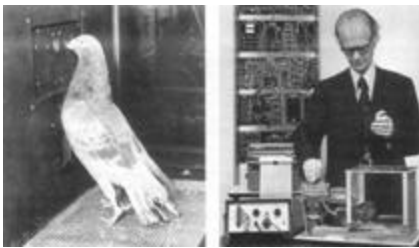
UR and CR are sometimes opposites

Long-Term Potentiation

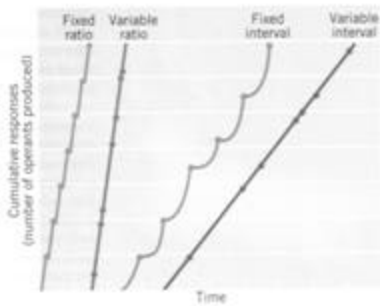


Aplysia

Instrumental Conditioning



Schedules of Reinforcement



Instrumental Learning Phenomena

- Shaping
- Chaining
- Species specific behavior / preparedness

Why Are Reinforcers Reinforcing?

- Drive reducers
- Primary and secondary reinforcers
- Feelings

