# An Experiential Introduction to Relational Frame Theory

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PowerPoints at rft.drsharma.org

# Your First Rule-Governed Behavior For This Session

DON’T FORGET YOUR CE’S!

PLEASE SIGN IN TO HAVE YOUR ATTENDANCE TRACKED.

# Disclosure

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There are no known conflicts of interest between these funders and the content of this presentation.

# Disclaimer: I am not a researcher or original author in relational frame theory

An Incomplete List of the Metaphorical Giants:

Steven Hayes
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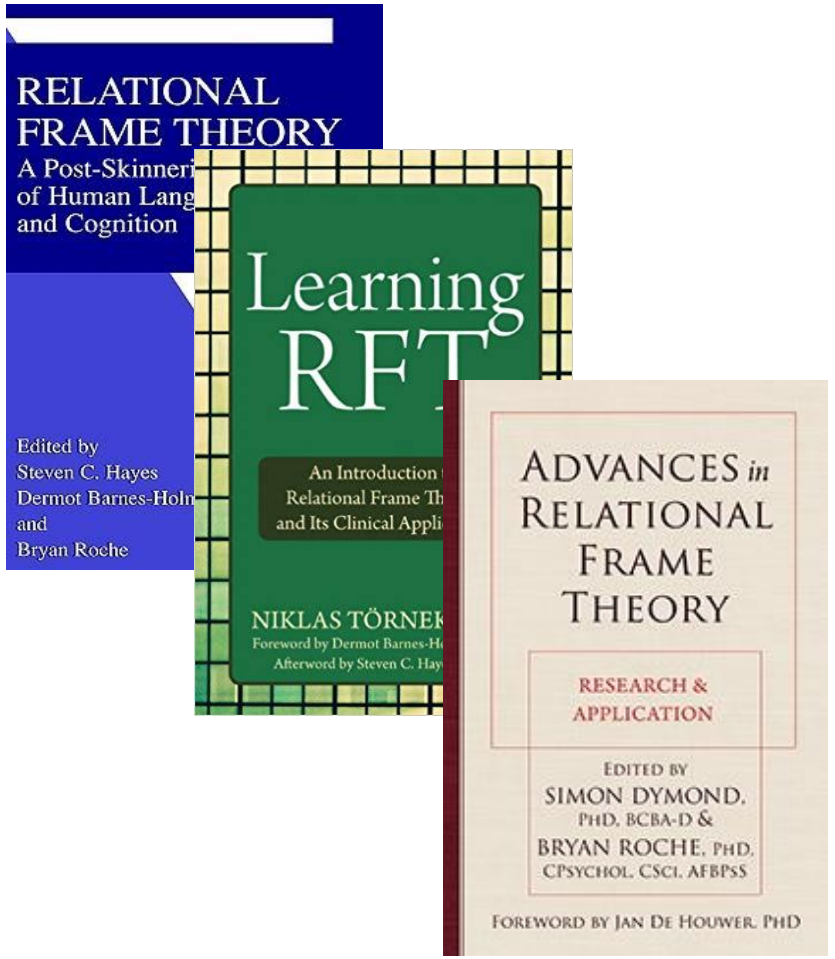


# What is verbal behavior?

# Verbal Behavior vs. Communication

Communication (Latin, “to share”) is when the behavior of one organism generates stimuli that influences the behavior of another organism (Baum, 2005).

In these cases, the resulting behavior is respondent; communication here involves only the antecedent stimuli.  Communication is the broad category, but this would not be called verbal behavior.  Most of these behaviors can be described as “innate.”

# Verbal Behavior vs. Communication

Communication (Latin, “to share”) is when the behavior of one organism generates stimuli that influences the behavior of another organism (Baum, 2005).


ALEXA! Play
*THUNDERSTRUCK*
on Spotify!

# The Operant Functions of Communication

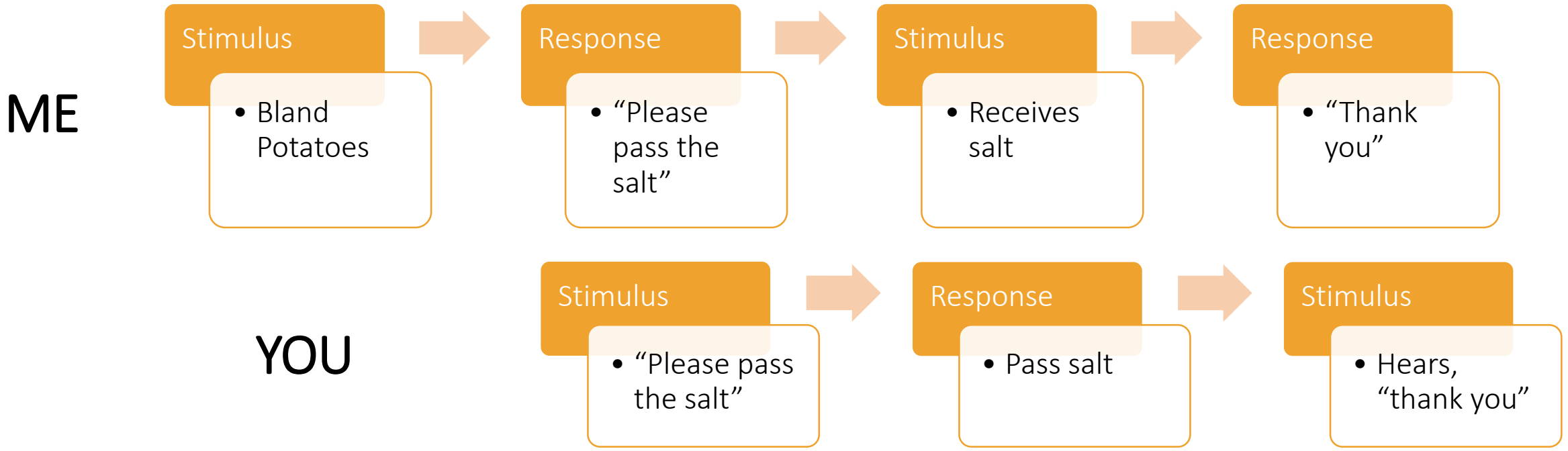
A lot, if not most, of human communication is operant.  This means that communication is contextually dependent.

If you and I are sitting together at dinner and my potatoes taste bland, I may want salt.  If the salt shaker is next to you, I may say, “please pass the salt.”  This behavior typically results in receiving access to salt.

The “context” (discriminant stimulus), in this case, is bland potatoes + salt near you. In this context, the behavior of speaking “please pass the salt” is likely to occur.  If the potatoes were not bland or the salt was not near you, this behavior would not likely occur.

# Skinner's Classification of Verbal Behavior

Sinner looked solely at the operant nature of verbal behavior ("verbal operants"). His definition for verbal behavior was any operant behavior that required the presence of another person for its reinforcement. Said another way, one person's behavior becomes another person's stimulus.

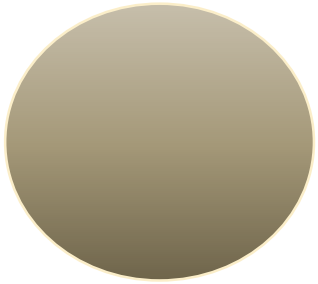


# Limitations of Skinner's Model

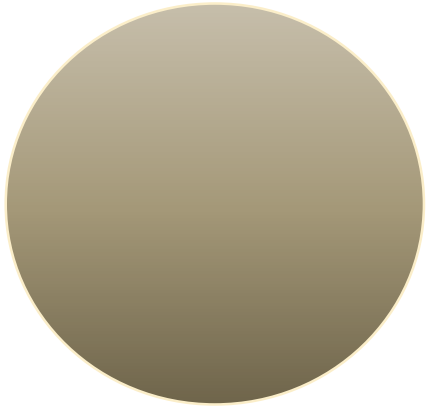
Skinner's descriptions of verbal behavior were quite extensive and included many technical terms, including descriptions of tacts, mands, autoclitic, echoic, textual, and intraverbal behavior. However, his model failed to explain verbal behavior that seemed spontaneous or untrained. Noam Chomsky wrote a highly influential critique of Skinner's *Verbal Behavior* that capitalized on these shortcomings.

Relational Frame Theory picks up where Skinner left off by including seminal research conducted by Murray Sidman on *stimulus equivalence.* In short, RFT describes the process by which stimulus equivalence occurs.

# Choose One:



A



B

# Choose One:

A

B

# Choose One:


A


B

# Remember: Relating is Operant Behavior

Classical Conditioning

S → R

Operant Conditioning

S: R-S

*A class that is formed by its functional effect in a given context. (Skinner)*

A = ?

5 $ Bird

stop

# 5 = ?

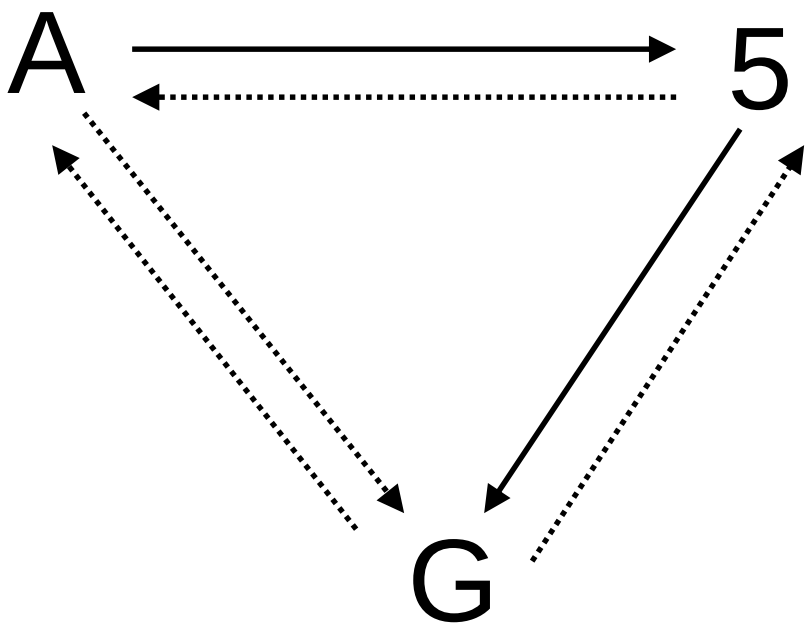
A Bird *

stop

# G = ?

A & Bird

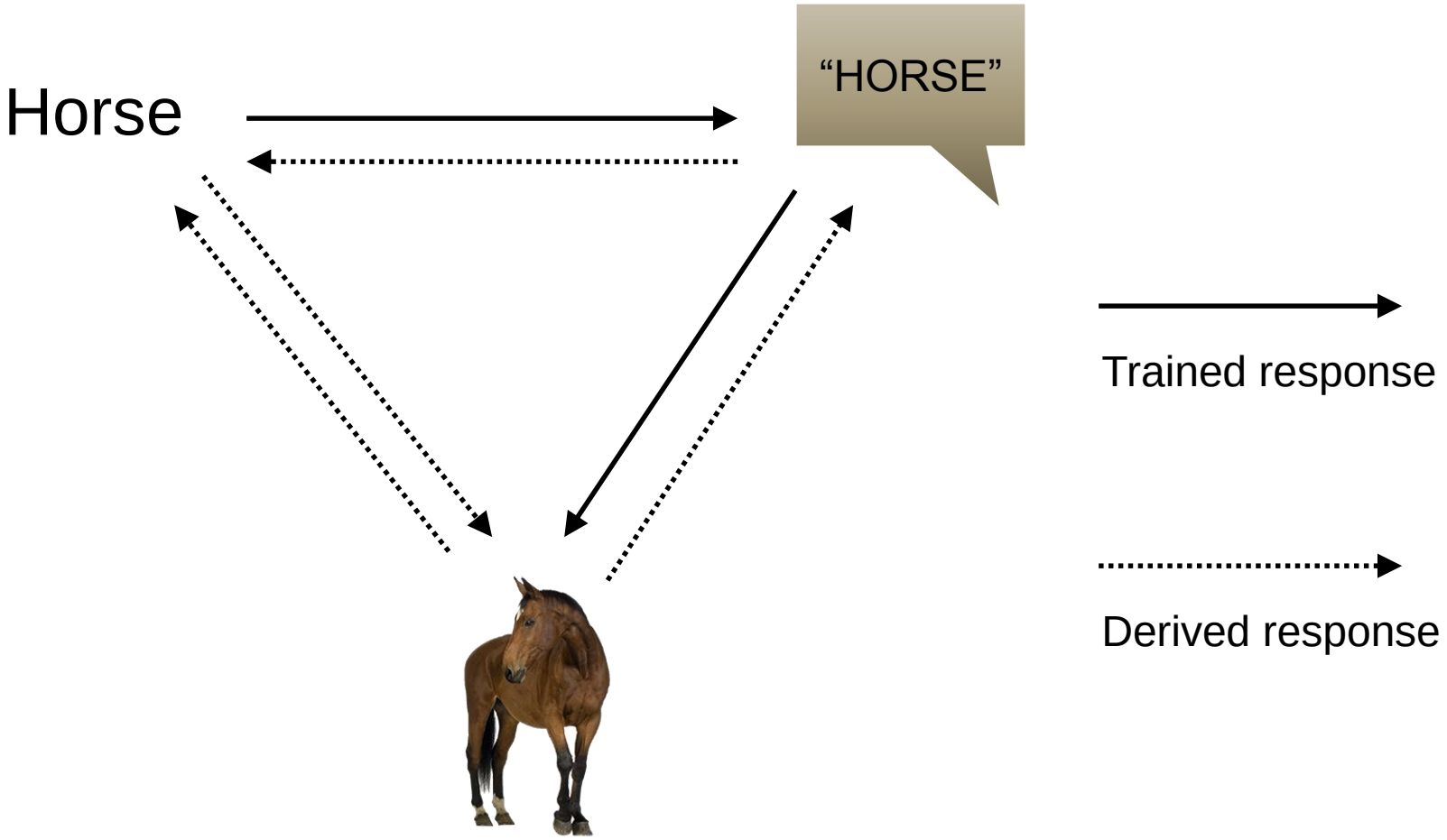
# Relational Frame Theory




Trained response

Derived response

# Relational Frame Theory



# Choose One:

| Jitensha | Uma | Hon |
| --- | --- | --- |
| A | B | C |

# Choose One:

*Uma = Horse*

| Jitensha | Uma | Hon |
| --- | --- | --- |
| A | B | C |

# Choose One:

*Uma = Horse*

| 自転車 | うま | 本 |
| --- | --- | --- |
| A | B | C |

# By the way…

"Pick the stimulus below that goes with this picture"

"Pick the stimuli below that DO NOT go with this picture"

What function does this stimulus have?

| 自転車 | うま | 本 |
| --- | --- | --- |
| A | B | C |

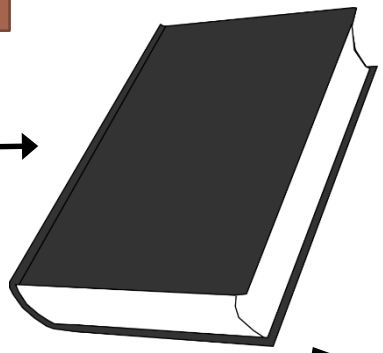
# Choose One of the Words Below:

Uma

Hon

# Choose One of the Words Below:

Frame of Comparison



Frame of Coordination

Frame of Coordination

Uma

Hon

Frame of Comparison

Trained Relationship

Derived Relationship

# Please say in English:

Hon

# Arbitrary Stimulus Relations

Relationships between stimuli are “arbitrary” when responding is no longer dependent purely upon the physical features of the stimuli.  Rather, relationships can be created by social whim and sustained through agreement by the verbal community.

While many animals (including humans) can be trained in relational responding, non-human animals are not able to consistently learn arbitrary relationships.

*Which is bigger?*


# Arbitrary Stimulus Relations

Relationships between stimuli are “arbitrary” when responding is no longer dependent purely upon the physical features of the stimuli.  Rather, relationships can be created by social whim and sustained through agreement by the verbal community.

While many animals (including humans) can be trained in relational responding, non-human animals are not able to consistently learn arbitrary relationships.

*Which would you rather have?*


# Arbitrary Stimulus Relations

Now I want everyone to give me their highest bill for no reason.

*Which would you rather have?*

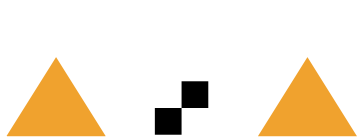

# Arbitrary Stimulus Relations

Just kidding! Whoever has a $100 bill

will win an all-expenses-paid trip to France.

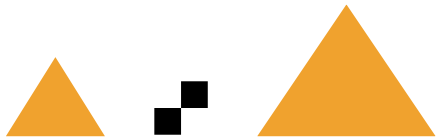
*Which would you rather have?*


# Choose one



A

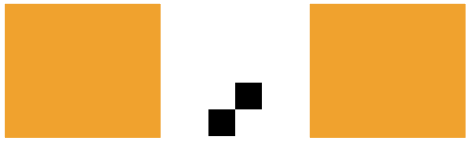
B



C

# Choose one

A

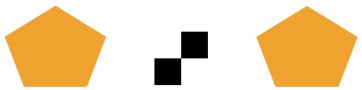


B

C

# Choose one

A

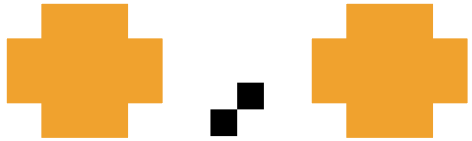


B

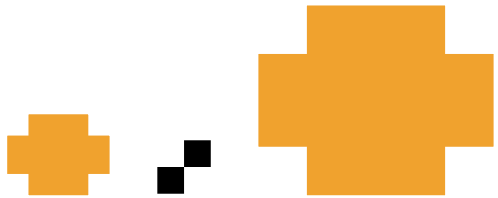
C

# Choose one

A



B



C

?

A

B

C

5  ?

3 5 7

# Choose one

Mountain  Hill

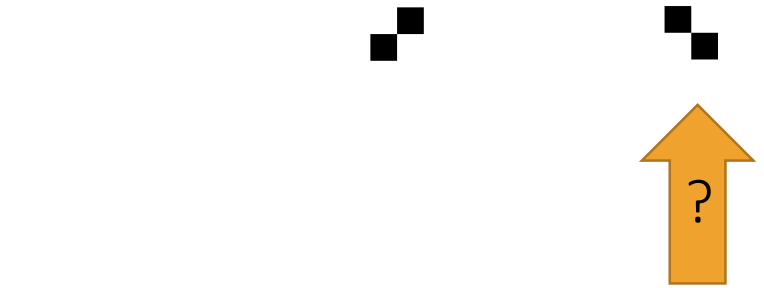
A

Hill  Mountain

B

# Say in English:

# Say in English:



# Choose one

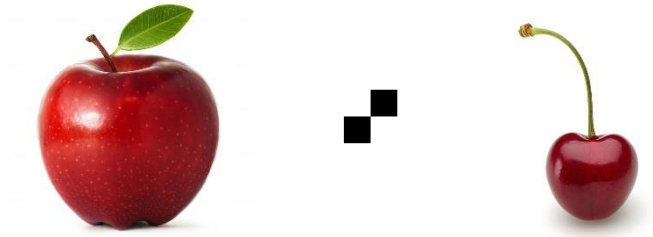


A

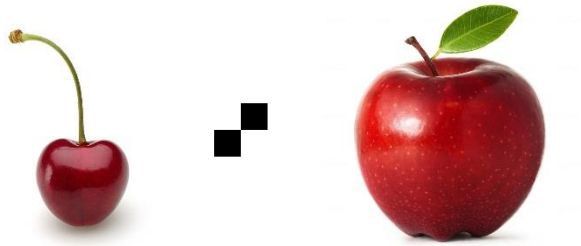


B

# Choose one



A



B

# Choose one

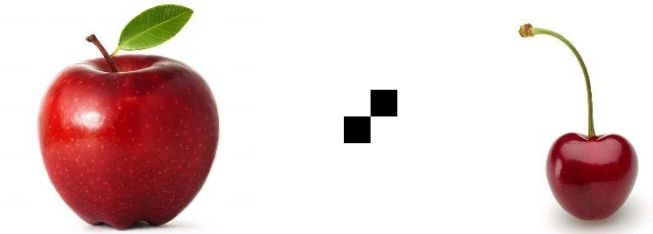
$

A

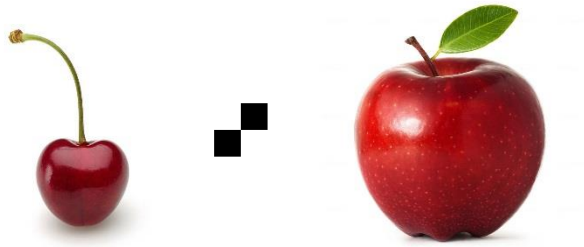
B

# Choose one

**Weight**



A

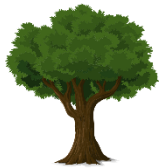


B

# DRR is Operantly Learned

is a ball.

is a book.



is a tree.

is a house.

With repeated trials holding the contextual cues constant, humans learn to abstract the cues that determine the manner in which the stimuli are to be related.

This is called a *generalized operant.*

# Like Meanings

is a ball.

is the same as a ball.

is equivalent to a ball.

means ball.

equals ball.

is a picture of a ball.

refers to a ball

These phrases together make an equivalence class.

# Like Meanings

is a ball.

is the same as a ball.

is equivalent to a ball.

means ball.

equals ball.

is a picture of a ball.

refers to a ball.

- beach ball.
- sphere.
- toy.
- inflated ball.

# Applying Trained Relationships Arbitrarily

is a toy.


is a toy.

is a toy.

is a toy.

is not a toy.

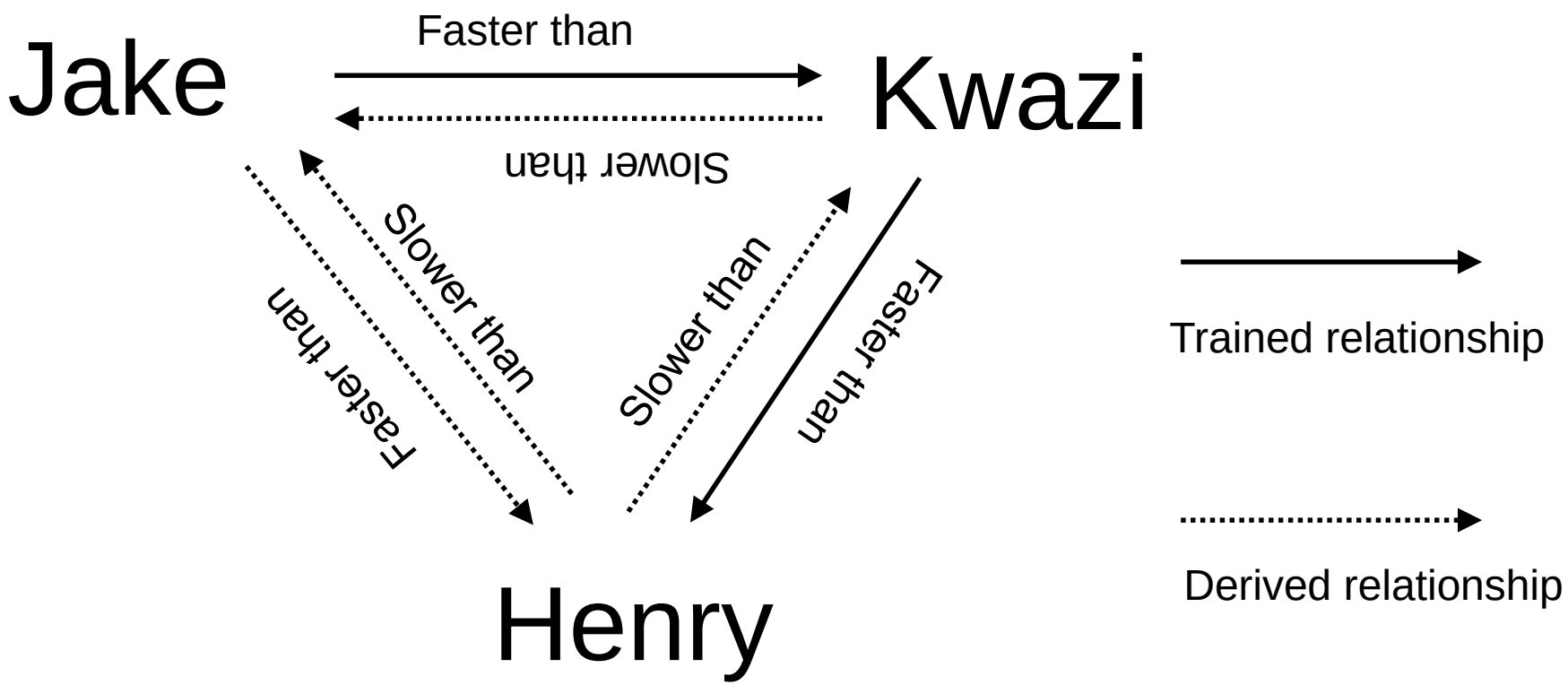
is not a toy.

is not a toy.

is not a toy.

Jake is faster than Kwazi.  Kwazi is faster than Henry.

Who will win the race between Henry and Jake?


Jake
Faster than
Kwazi
Slower than
Slower than
Faster than
Slower than
Faster than
Henry
Trained relationship
Derived relationship

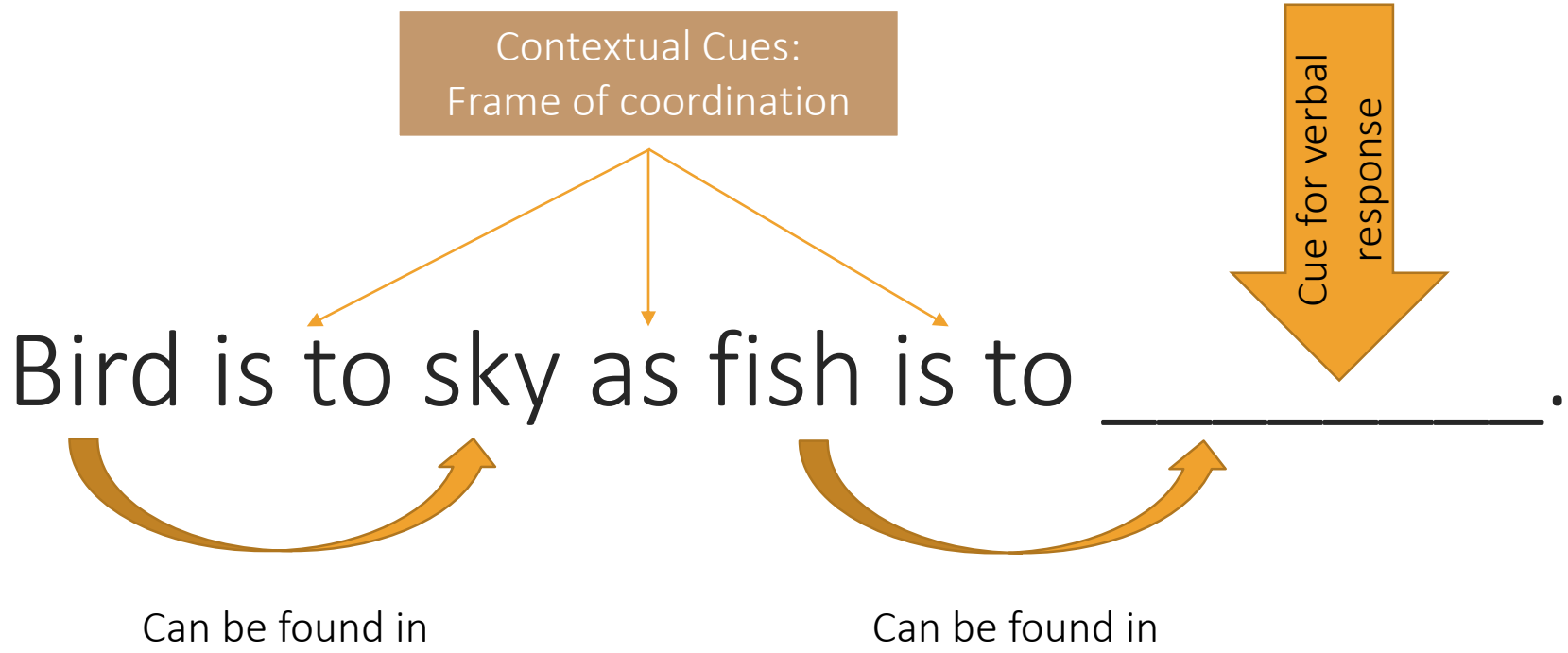
# Who will win the race?

A

B

C

# Verbal Relations and Problem Solving



# Verbal Relations and Problem Solving

Bird is to sky as fish is to _____.

*Solving analogies, riddles, or number problems is a generalized operant.*

# Verbal Relations and Problem Solving

Puppy is to dog as kitten is to _____.

*Solving analogies, riddles, or number problems is a generalized operant.*

# Verbal Relations and Problem Solving

Low is to quiet as high is to _____.

*Solving analogies, riddles, or number problems is a generalized operant.*

# Verbal Relations and Problem Solving

Low is to Captain Hook as high is to _____.

*Solving analogies, riddles, or number problems is a generalized operant.*

# Verbal Relations and Problem Solving

5 + 7 = ?

*Solving analogies, riddles, or number problems is a generalized operant.*

# Many Different Relations

- Same/Different
- Better/Worse
- Before/After
- Over/Under
- Smarter/Dumber
- Valuable/Worthless
- Stressful/Relaxing
- Happier/Sadder
- Thinner/Thicker
- Prettier/Uglier
- Responsible/Irresponsible
- Formal/Informal
- Healthy/Unhealthy
- Pleasurable/Painful

# The Fundamental Relations

- *Coordination* (e.g., same/different)
- *Spatial* (e.g., above/below)
- *Temporal* (e.g., before/after)
- *Causal* (e.g., if/then)
- *Perspectival* (e.g., I/you, here/there, now/then)

# Deriving Temporal Relations

# Deriving Temporal Relations

Before

After

Trained relationship

Derived relationship

# Relational Framing

All of these examples demonstrate the behavior of framing events relationally.  This is the crux of how behaviorists understand human language and cognition.

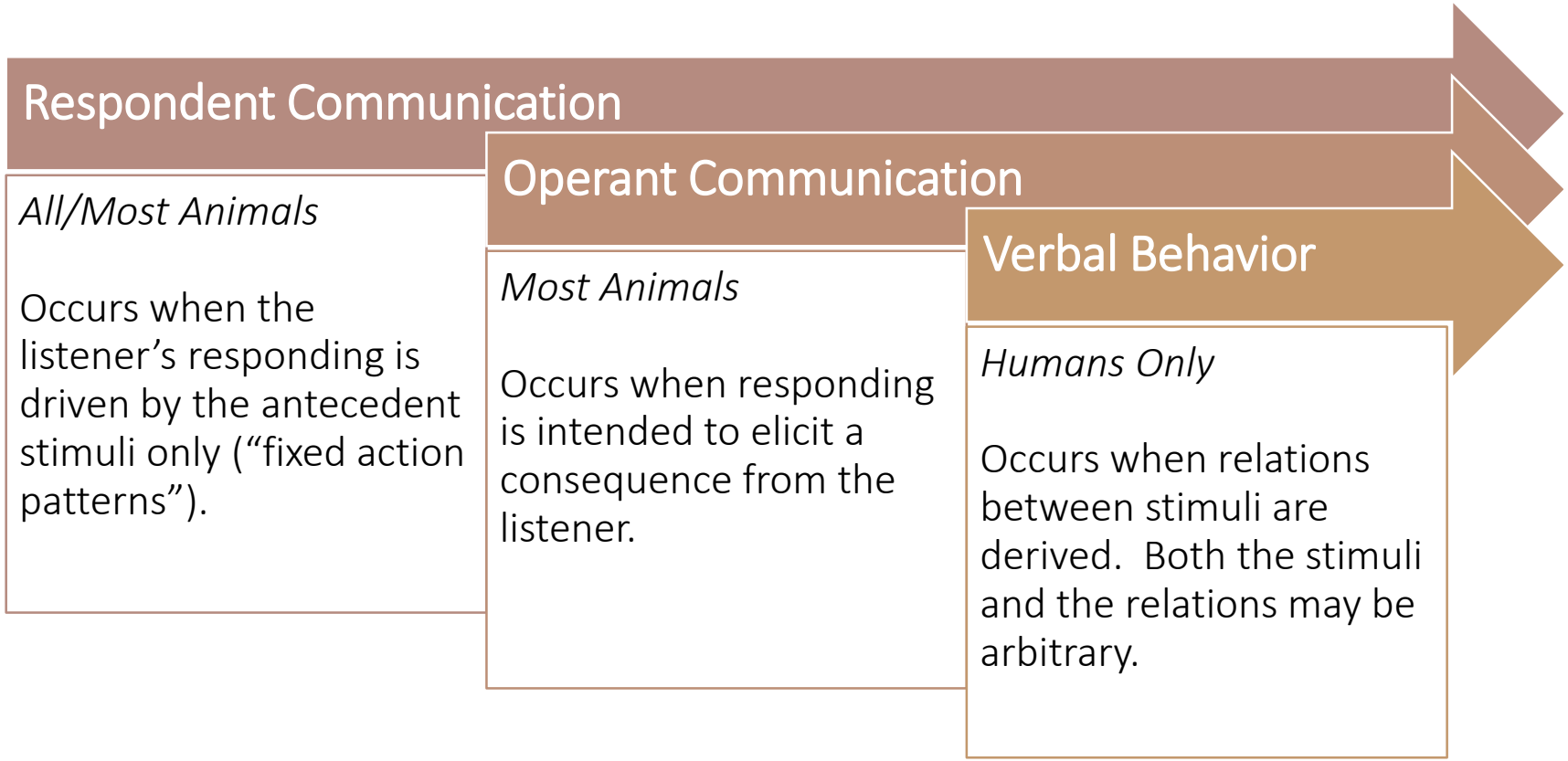
*Arbitrarily Applicable Relational Responding* is synonymous with relational framing in such that the framing that occurs necessarily involves arbitrary cues and stimuli.

Derived Relational Responding = Arbitrarily Applicable Relational Responding = Relational Framing

Verbal Behavior

# To Summarize:

Communication (Latin, “to share”) is when the behavior of one organism generates stimuli that influences the behavior of another organism (Baum, 2005).

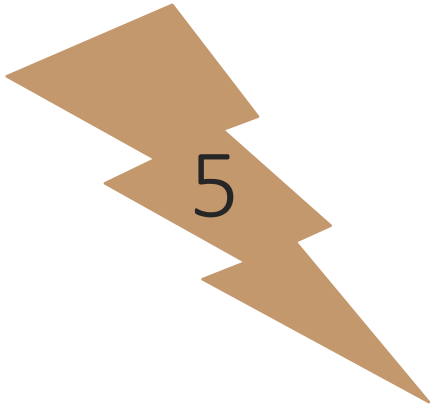


A

5 $ Bird

-$10

A




$

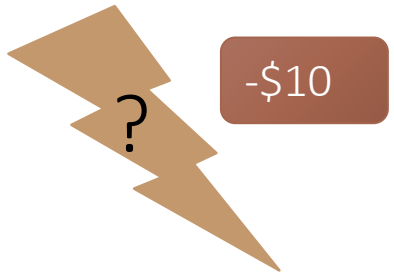
Bird

# Choose one:

G

Q

# Choose one:

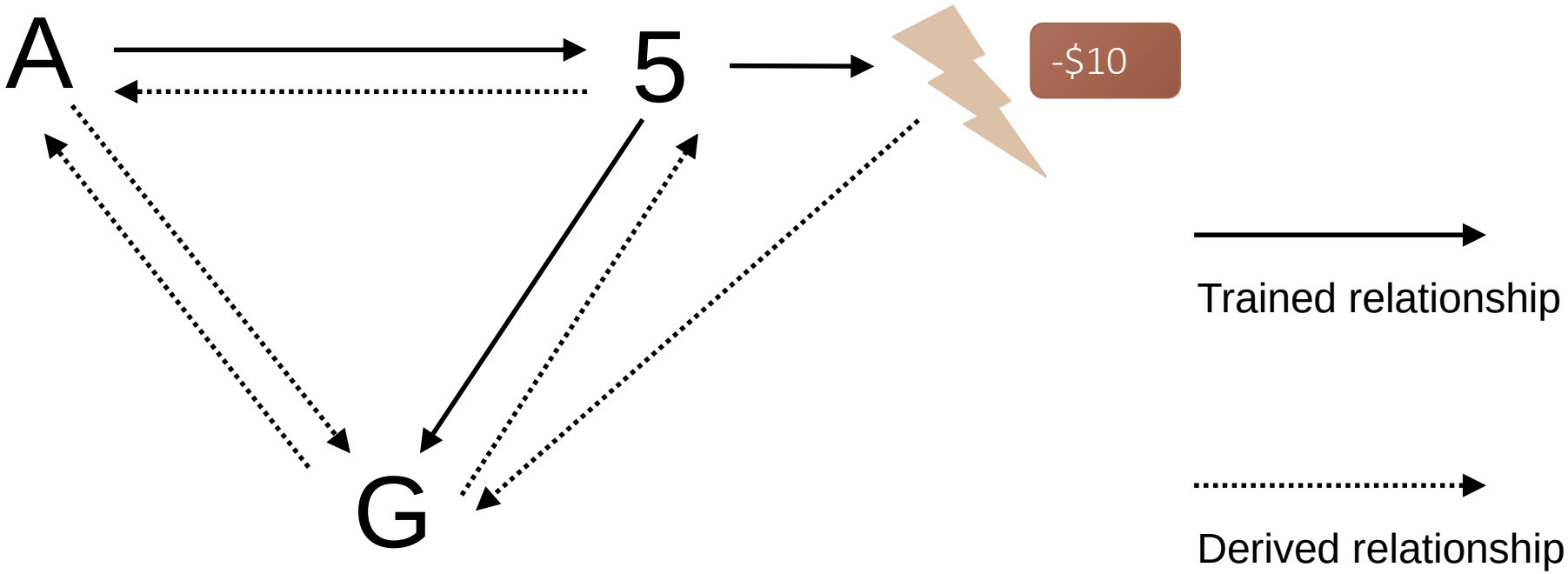



G

Q

(H. Robb, 2016)

# Transformation of Stimulus Functions



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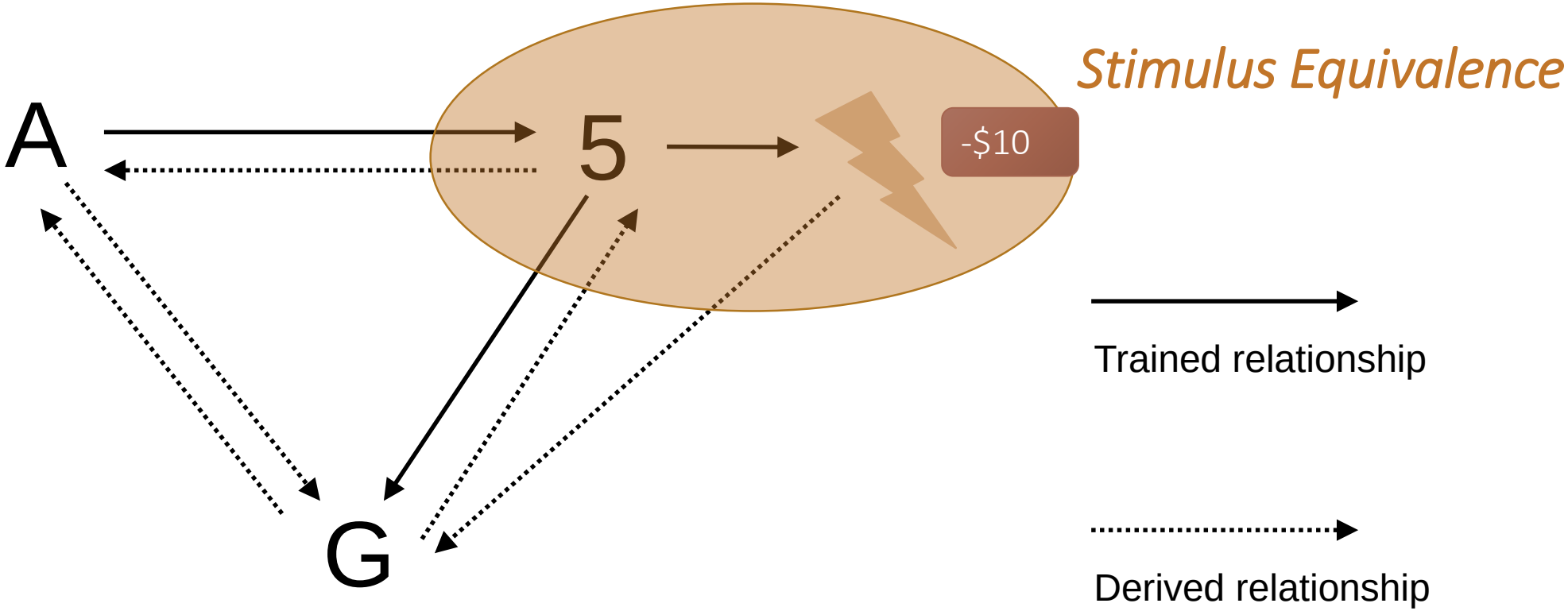
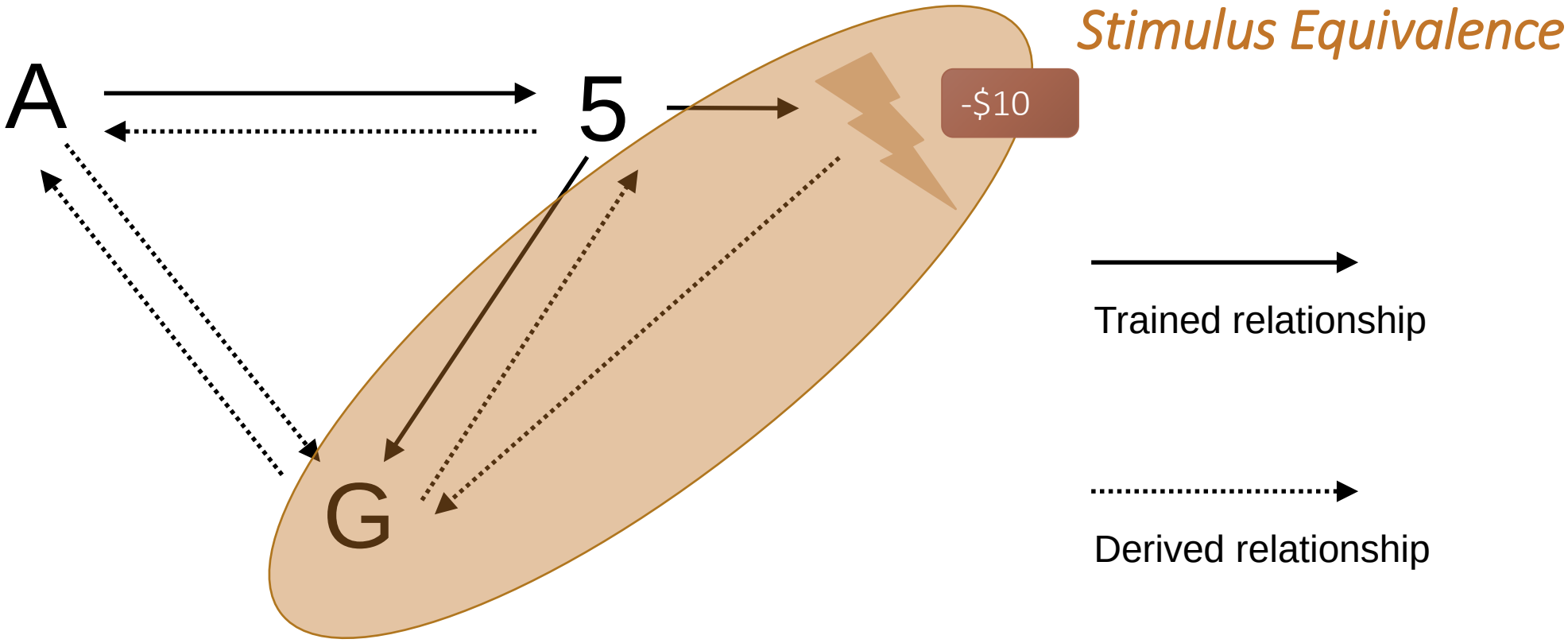
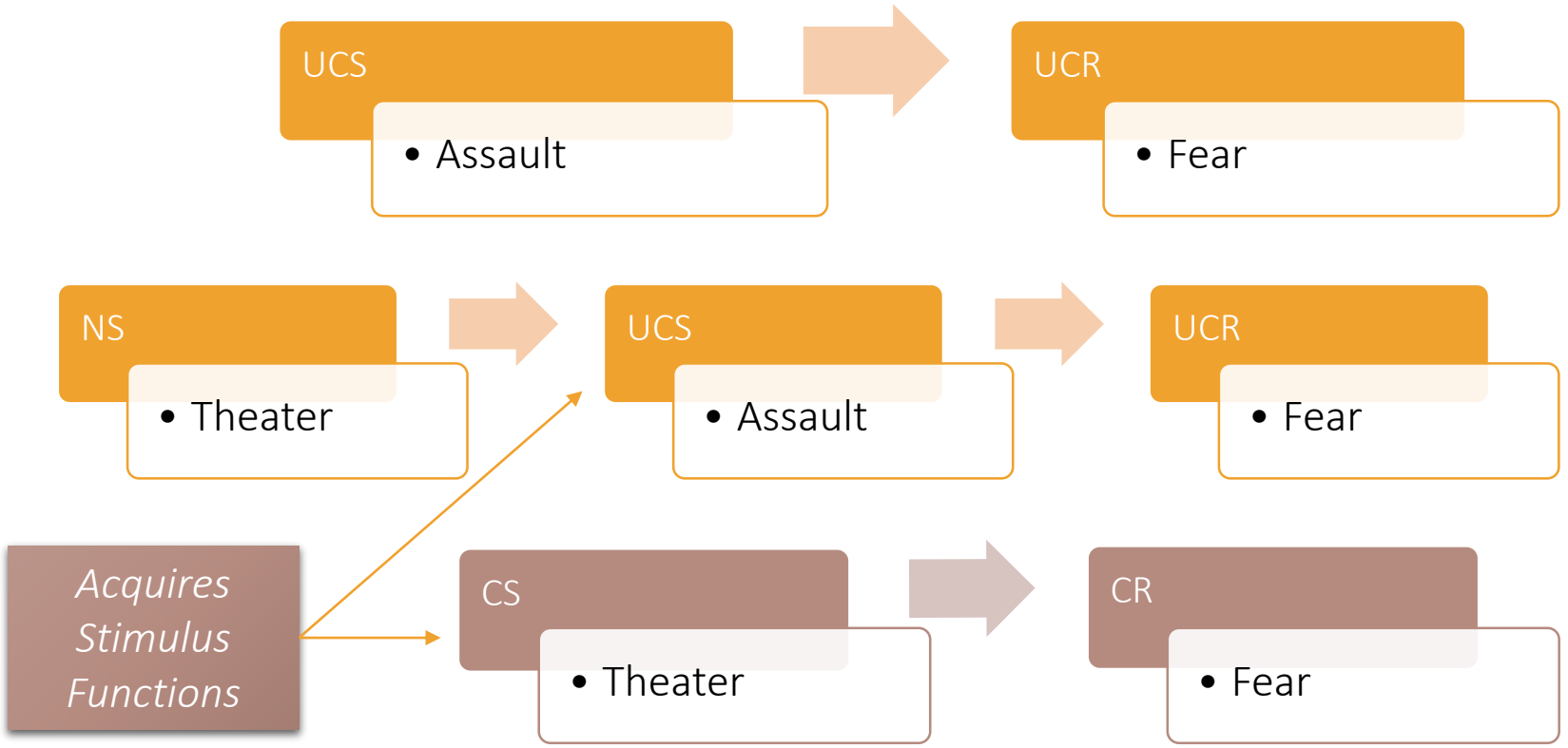


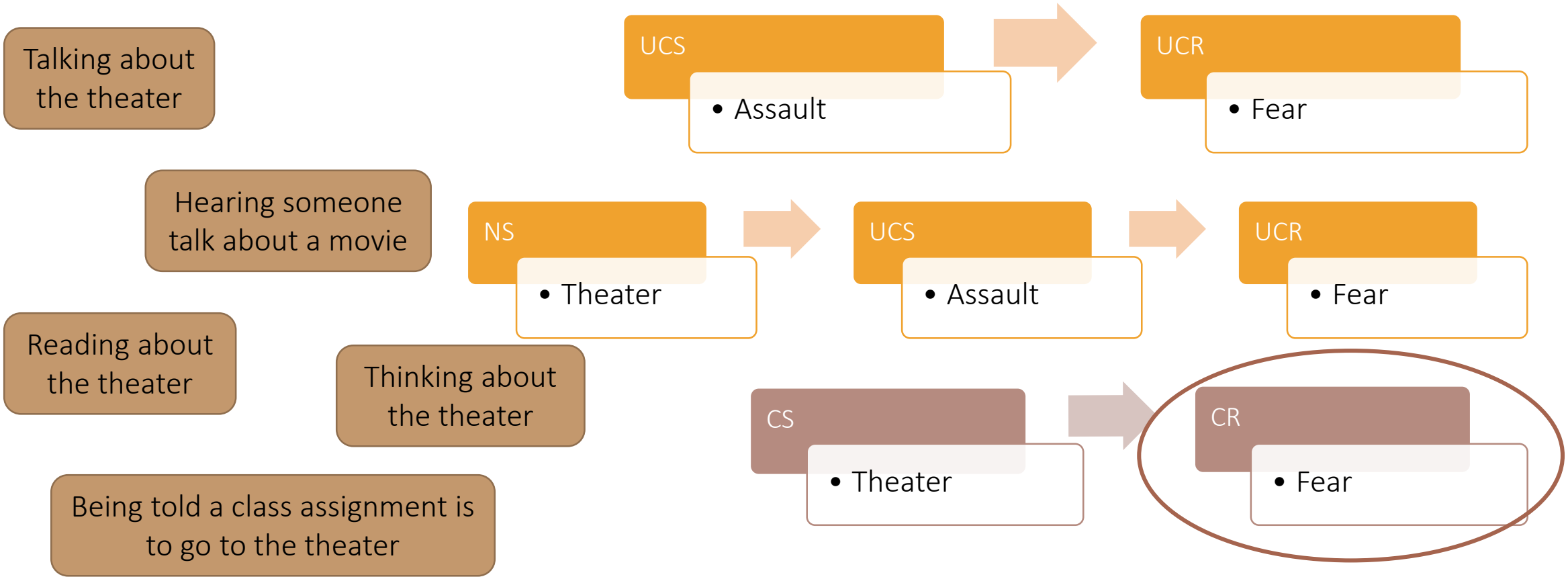
# Transformation of Stimulus Functions



# Classical Behaviorism:
# *Respondent Conditioning (S – R)*



# Derived Relational Responding and Transformation of Stimulus Functions



# Relational Framing Affecting other Behavioral Processes (Dougher, Hamilton, Fink, & Harrington, 2007)

Group 1

No Training – A < B < C

Training – Respond to "B" at certain rate

| A | B | C |
|---|---|---|
| *Slower Responding* | *Normal Responding* | *Slower Responding* |

Group 2

Training – A < B < C

Training – Respond to "B" at certain rate

| A | B | C |
|---|---|---|
| *Slower Responding* | *Normal Responding* | *Faster Responding* |

# Relational Framing Affecting other Behavioral Processes (Dougher, Hamilton, Fink, & Harrington, 2007)

<u>Group 1</u>

No Training – A < B < C

Training: "B" → 

A B C

*Less Fear* *Fear* *Less Fear*

<u>Group 2</u>

Training – A < B < C

Training: "B" → 

A B C

*Less Fear* *Fear* *More Fear*

# Stimulus Equivalence

Via relational frames, words, language, and other symbols often share stimulus properties with the stimuli that they represent.

In this way, the thought “I have to give a presentation tomorrow” may share stimulus properties with an anxiety response (e.g., heart racing, sweating, nausea, difficulty breathing, etc.) if the stimulus enters a relational frame with other stimuli that elicit this conditioned fear response, even if the person has never given a presentation before. This explains why people worry about things that haven’t yet happened.

Similar to nonverbal stimuli, verbal stimuli are under contextual control. The word “horse” has different meanings depending on whether you are on a farm, on a basketball court, or in a drug rehabilitation program, and each context will carry different stimulus functions.

# Classical Conditioning and Generalization

=


=

# Classical Conditioning and Generalization

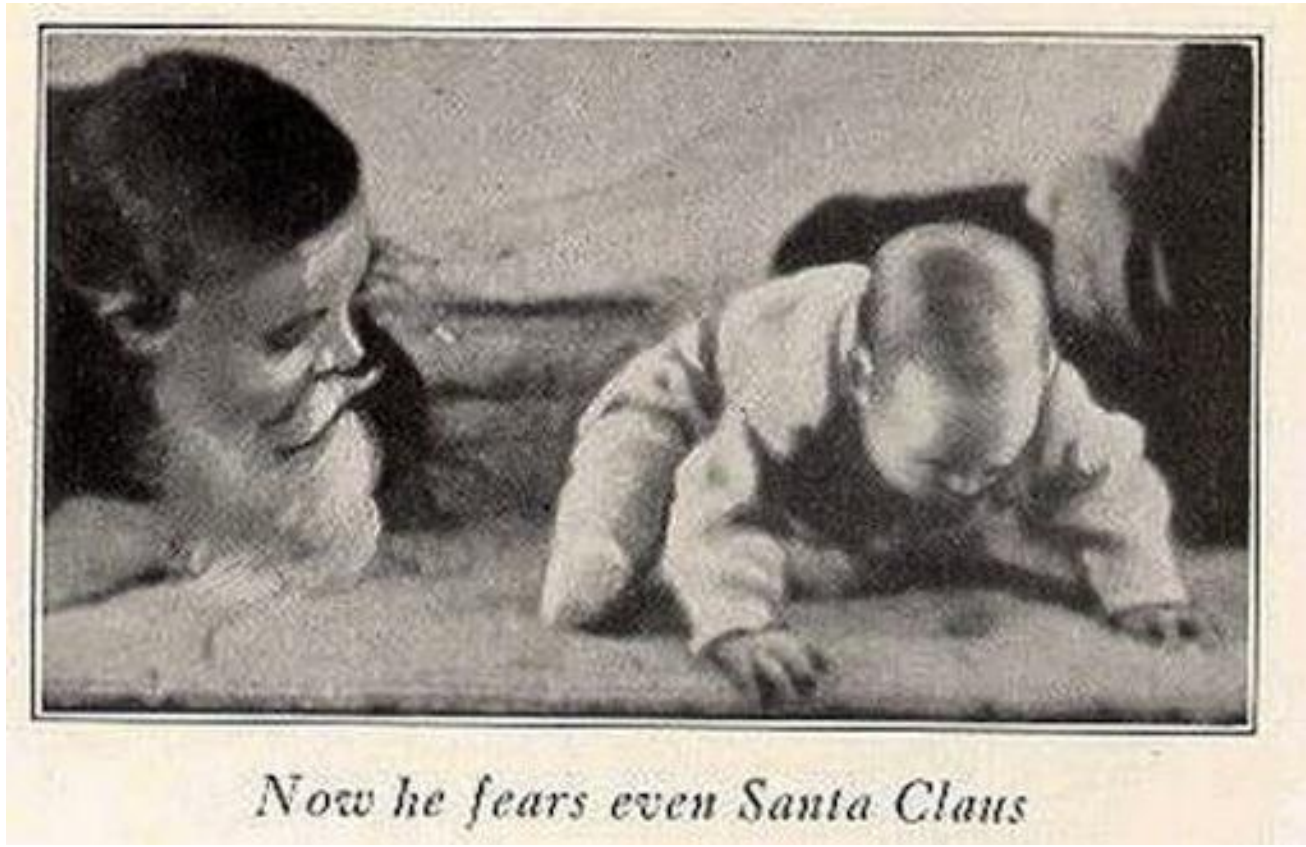
=

MEH…

# Classical Conditioning and Generalization

Nature has selected traits that allow animals to take advantage of these relations, known as *natural mimicry*.


# Classical Conditioning and Generalization



*Now he fears even Santa Claus*

# Transformation of Stimulus Functions

*I saw a large bees nest near your hotel room.*

# Homage to the Canadians

Humorous example of the Transformation of Stimulus Functions by *The Kids in the Hall ("Boo" sketch)*:

https://www.youtube.com/watch?v=OZS-sqw3nSE

# Match to Sample:

Jitensha

# Please say in Japanese:

# Please say in Spanish:

# Please say in English:

# What do you like about

# Think about your favorite time riding a

# Think about a time you fell off of a

# Please ride this to work next week.

# Stimulus Functions

The same stimulus can have different functions based on contextual cues, and each is dependent upon one's specific learning history (i.e., previous contact with the environment).

| Stimulus | Person 1 | Person 2 |
|---|---|---|
| Clock | Building wooden clocks with my grandfather – feelings of joy, sadness (at his passing), remembering certain aspects of the event, thinking about the smell of cut oak, the feeling of sawdust on my arms | Thinking about the clock during a timed test that I did poorly on. Feelings of anxiety, fear, and failure. Thoughts such as "I'm not good enough." |
| The clock in your car | Being late to work – feeling anxious, worry about getting caught by police for traffic violations, remembering the time I was once caught and had to pay a fine AND be late for work | Driving home from work and wondering if I'll make it in time to play with my kids. Feelings of pleasure, thinking about their laughter |

# Transformation of Stimulus Functions and Derived Relational Responding

If stimulus functions are transformed via languaging, then the stimulus functions are necessarily alterable.

In other words, how can we use language to influence, direct, or control the stimulus functions in others?

# Contextual Cues and Stimulus Functions

- Who first told you that you had a social anxiety disorder?
- What are you most worried will happen if you go to the party?
- What types of feelings do you get when you go to social functions?
- What types of sensations do you experience?
- Are you experiencing any of those feelings or sensations now as we talk about it?
- Tell me about a time when you decided to go to a party anyways.
- What was it like to walk with your anxiety at that time?
- Tell me about what going meant for your values.
- So if I understand correctly, not going helps you feel safe but prevents you from building the relationships that you want.
- Are you willing to risk feeling unsafe in order to move towards what is important to you?

# Contextual Cues Define both RELATION and FUNCTION

$C_{func}$

Think about your favorite time riding a

$C_{rel}$

$C_{func}$

Think about a time you fell off a

$C_{rel}$

# Contextual Cues Define both RELATION and FUNCTION

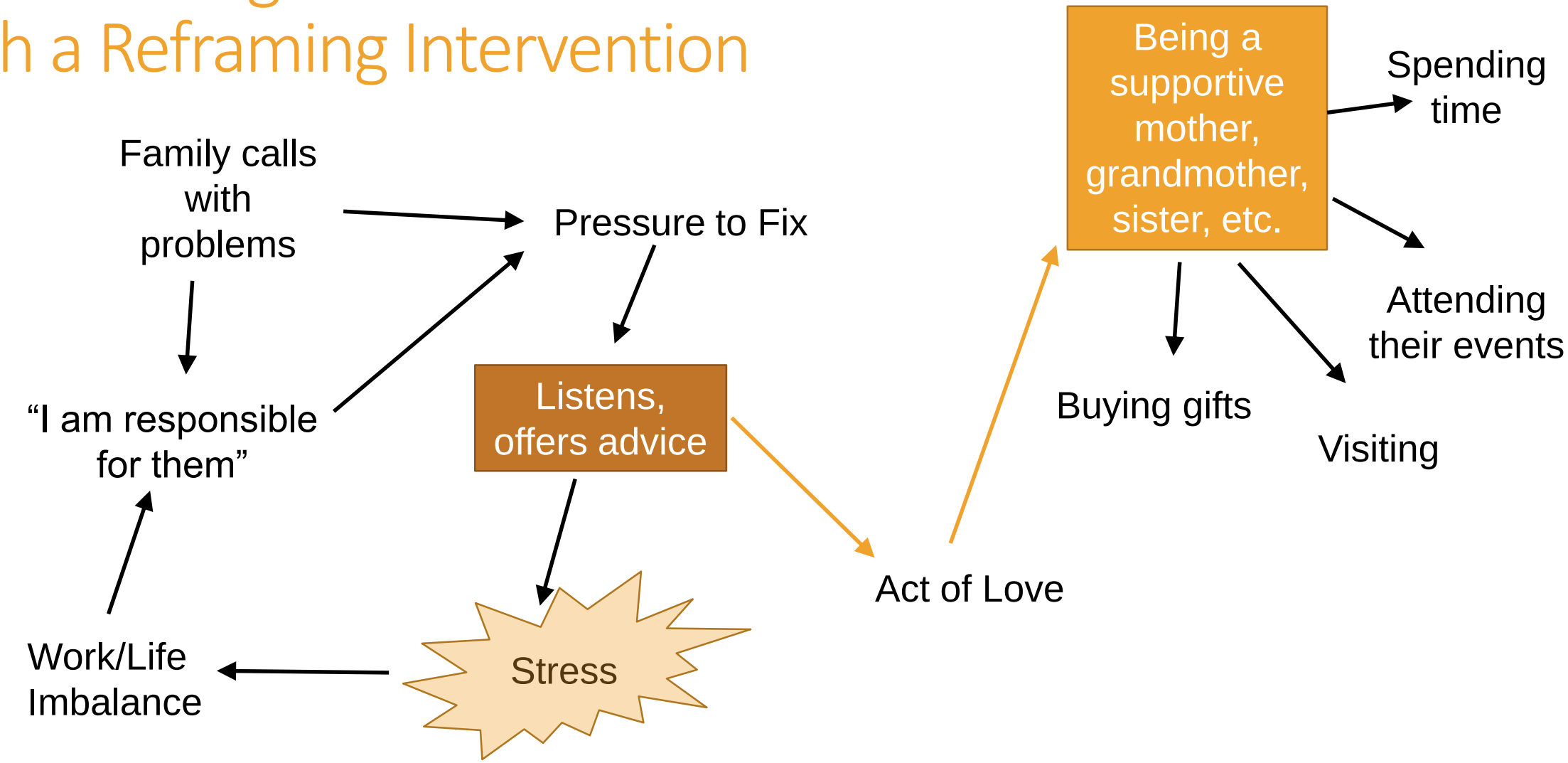
*Are you willing to risk feeling unsafe*

*in order to move towards what is important to you?*

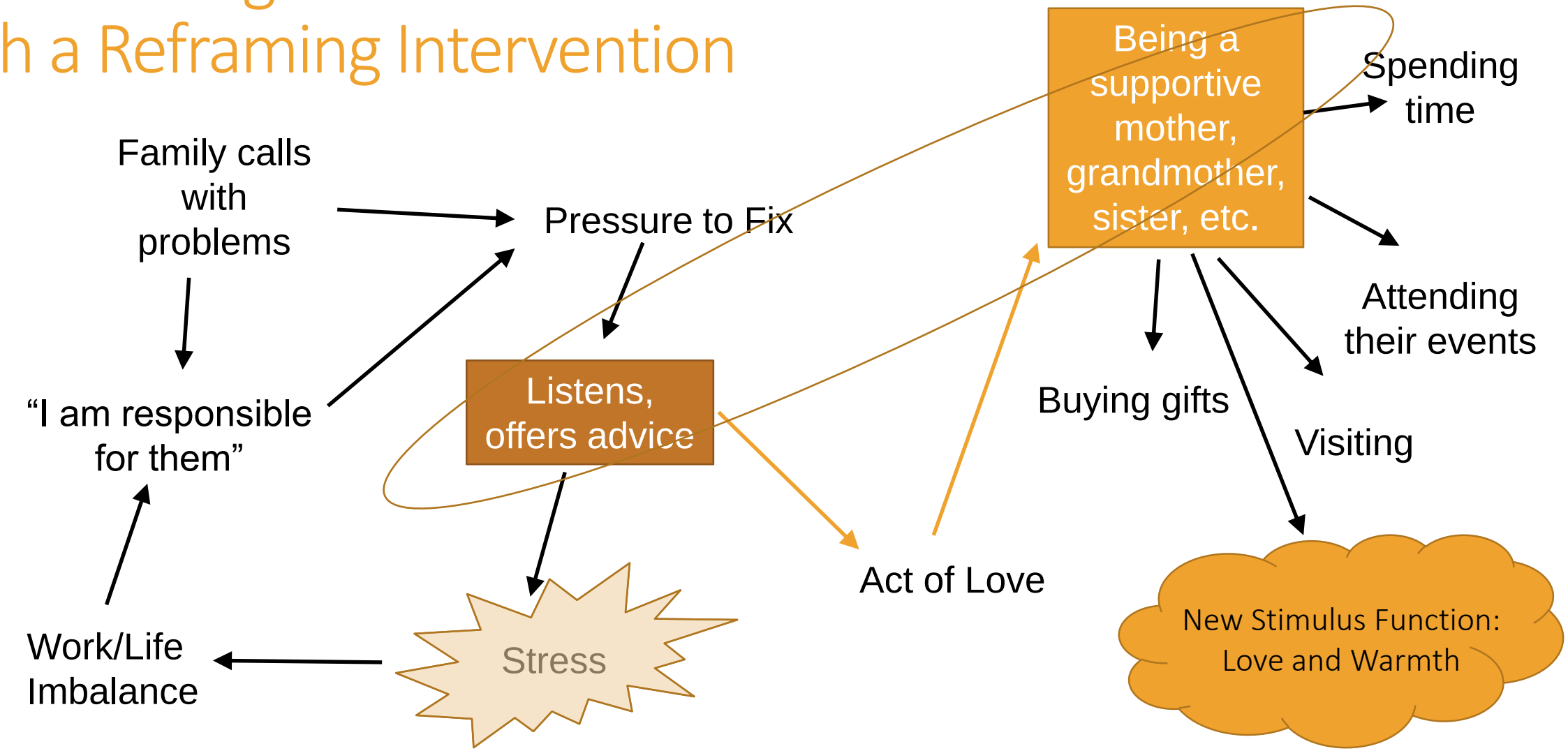
$C_{rel}$ = If…then coordination (if you go to the party, then you will feel anxiety)

$C_{func}$ = moving towards values (values as the reason for behavior)

# Transforming Stimulus Relations with a Reframing Intervention



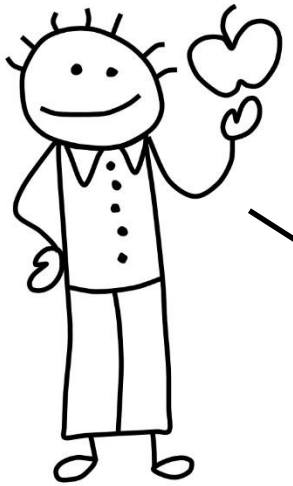
# Transforming Stimulus Relations with a Reframing Intervention



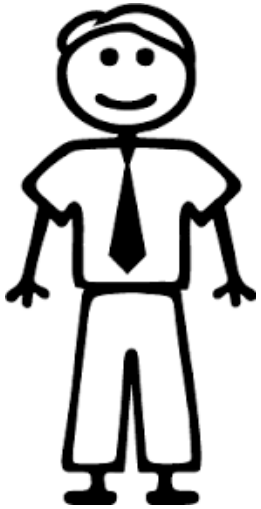
# Rule Governance

# A Love Story

Client



Ex Boyfriend



New Boyfriend

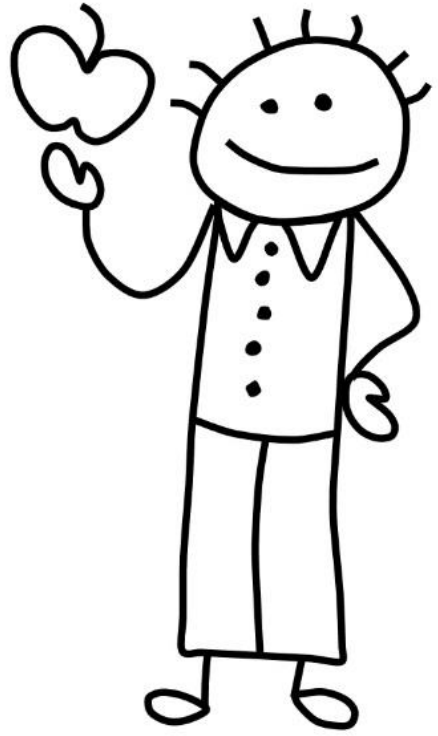
*Respondent Learning*

Learned relationship

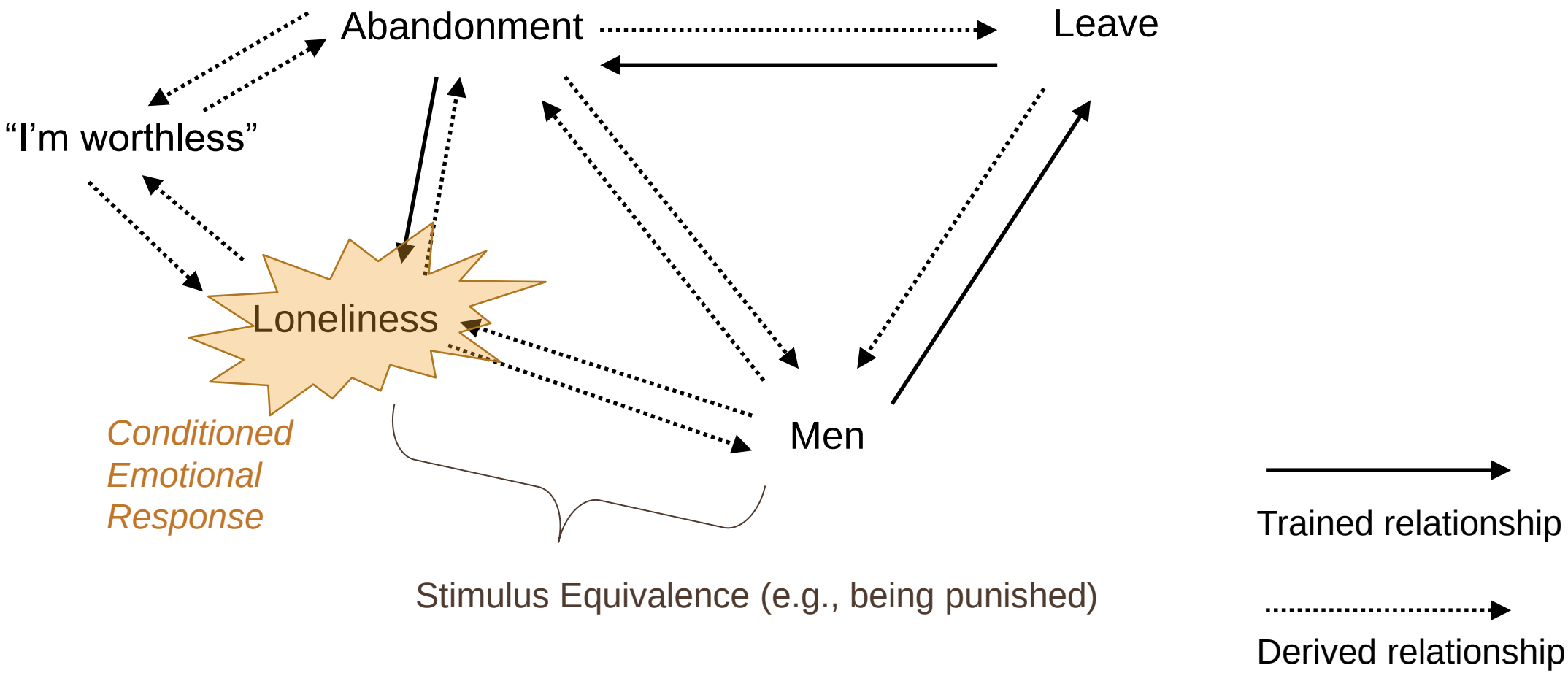
Generalization

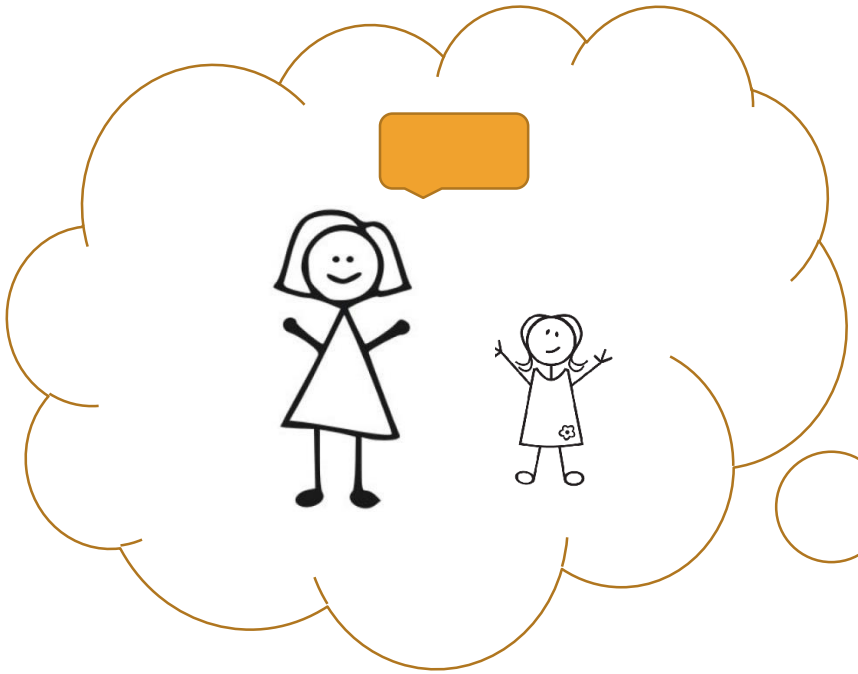
Men are jerks and will leave you!

10 years later



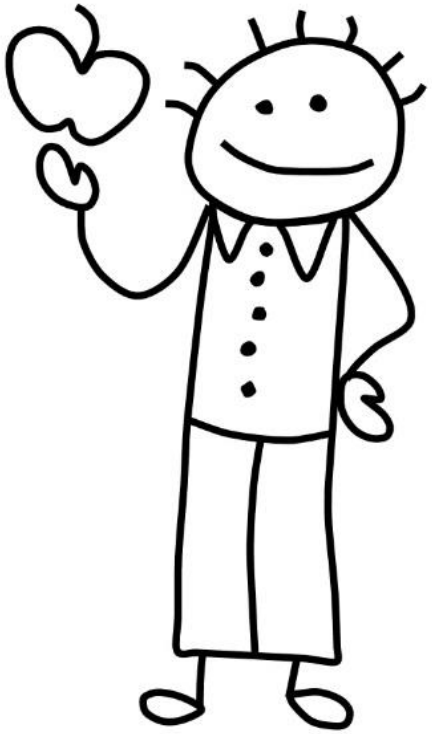
# Transformation of Stimulus Functions



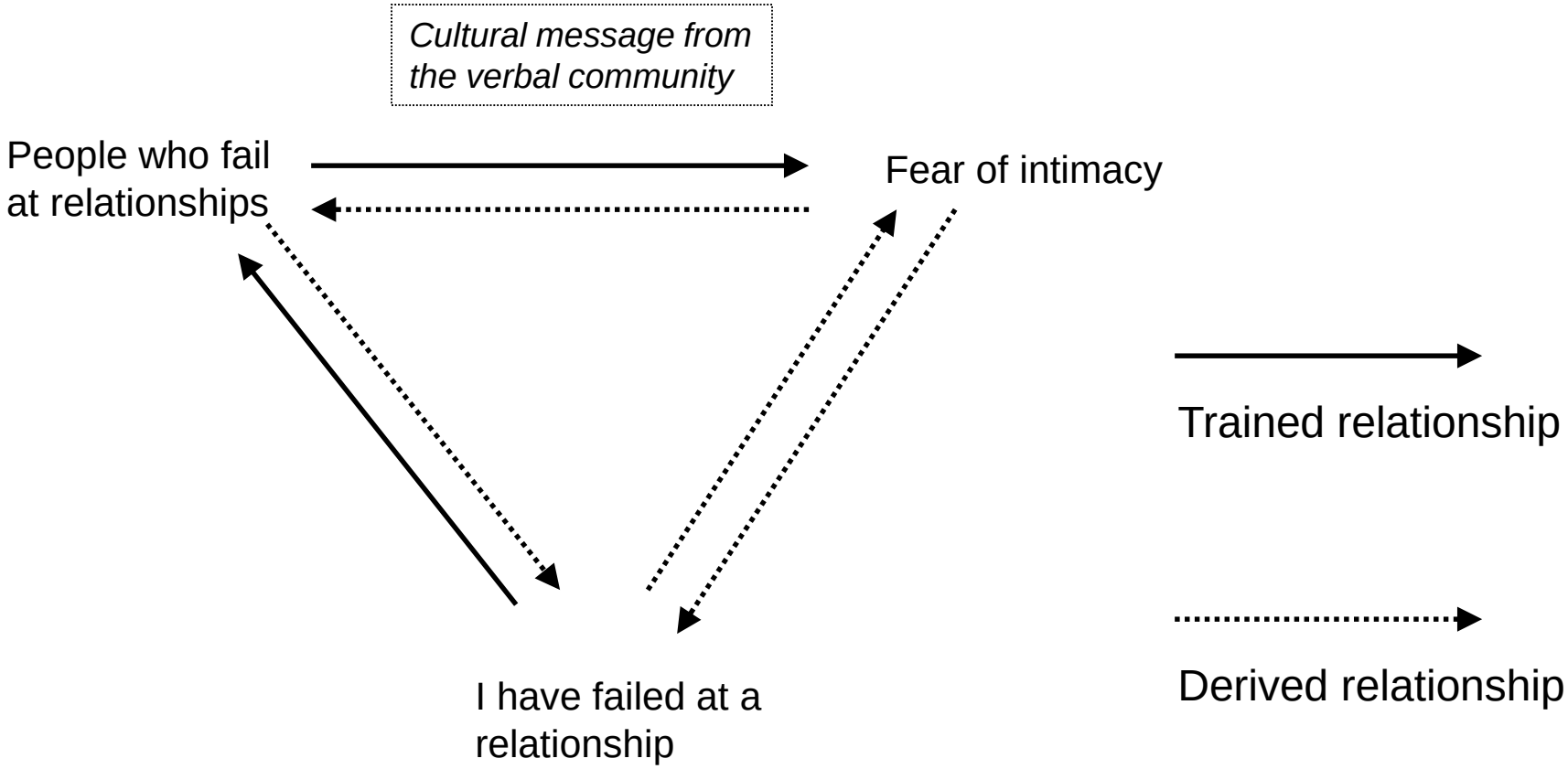


Verbal Knowing

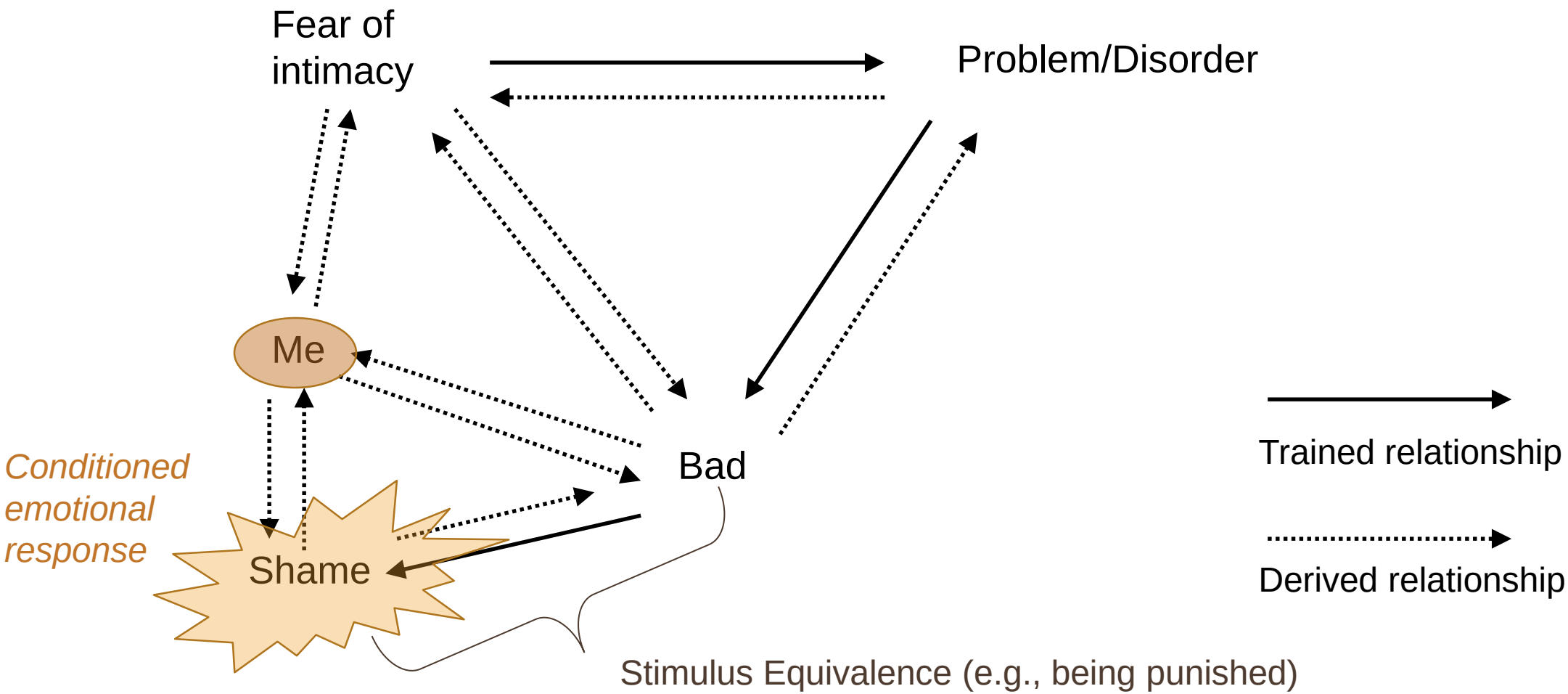
Non-Verbal Knowing



# Transformation of Stimulus Functions



# Transformation of Stimulus Functions



# Rule-Governed Behavior

In operant learning, anticipated consequences are the result of generalization based on the individual's learned history and contact with previous consequences. *The past as the future in the present.*

In the case on the previous slides, arbitrarily applicable relational responding has replaced responding directly to the environment. That is, consequences can be expected without any direct contact with them.

If my telling you that "there are a lot of cops on the highway today" changes your driving behavior (e.g., driving more slowly, looking at your speedometer more frequently), then these behaviors are said to be ***rule governed***. That is, your behavior is being controlled without having any direct contact with being pulled over by police.

Note that this example requires arbitrarily applicable relational responding because there is nothing similar between (1) being pulled over by a cop and (2) the sound that comes out of my mouth when I say, "there are a lot of cops on the highway today." Regardless, both of these now share a *stimulus function*.

# Rule-Governed Behavior (cont'd)

As an example of the arbitrariness of "there are a lot of cops on the highway today," I could tell you that "yarbel" is another word for policeman (which you already know equivalent to "cop").

If I said, "there are a lot of yarbels on the highway today," the word "yarbel" now acquires the stimulus functions of "policeman," even though there's been no training between the word "yarbel" and an actual policeman.

*So how does a rule specify behavior and consequences that are not current and that the person has not experienced earlier?*

> "A rule puts the listener in contact with a relational network that transforms the functions of the stimuli that are related to the network." (Törneke, p. 116)

# Rule-Governed Behavior (cont'd)

Because relations like this are made *irrespective of the stimulus features*, the stimuli can be related in any way. These relations are *arbitrarily applicable*.

A natural consequence of this is that stimulus functions transform *easily* and *rapidly*.

"A yarbel was just here looking for you."

"I'm going to put a bees nest in your hotel room if you don't give me a positive evaluation."
*(Kidding, of course.)*

# Rules Can Be Useful



# Rule-governed Behavior

**Contingency-shaped behavior** – behavior shaped by direct contact with contingencies in the physical environment (*nonverbal knowing*)

**Rule-governed behavior** – behavior that is shaped by the specification of contingencies without direct contact with them (*verbal knowing*)

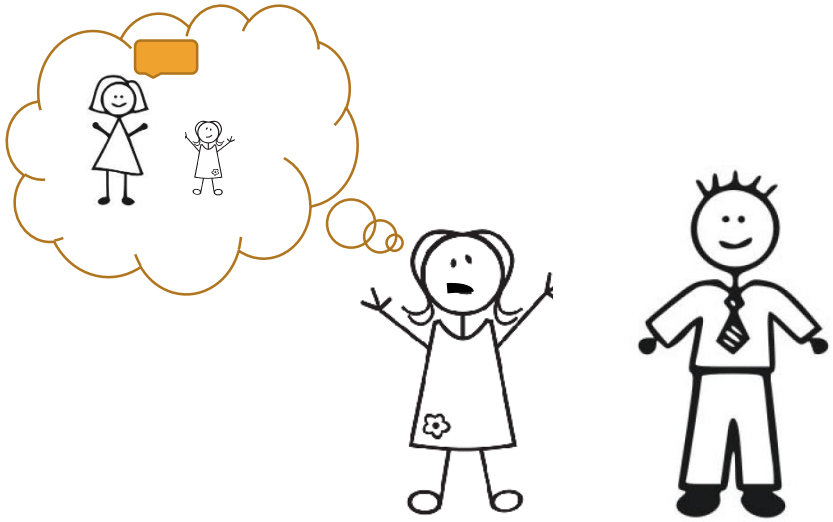
Consider the power of delayed consequences in each of these situations.

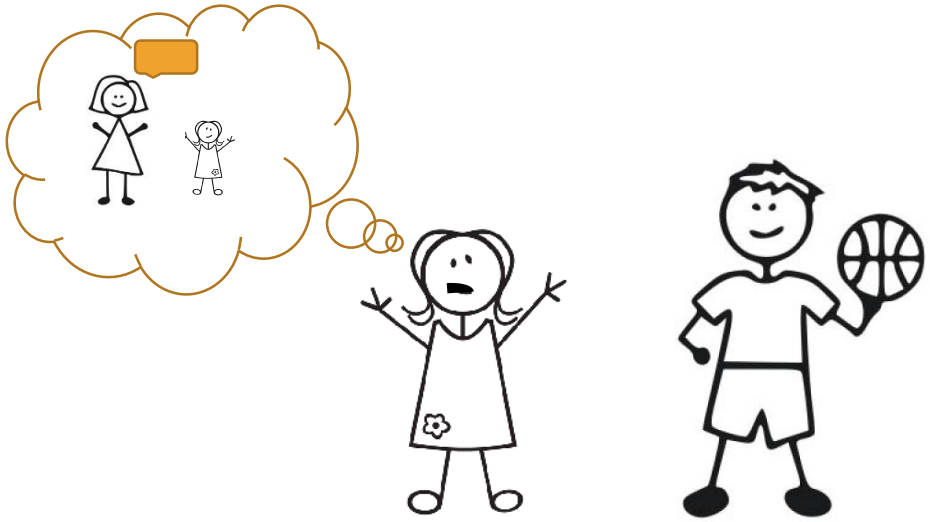
# Problems with Rule-Governance

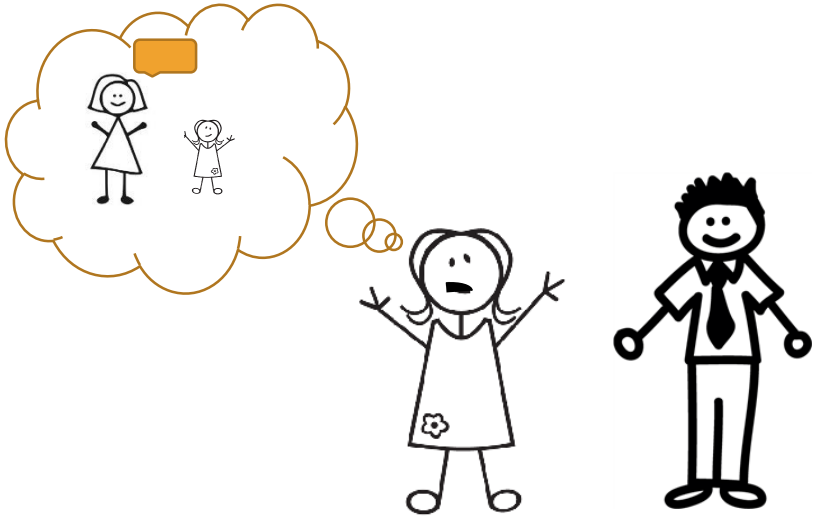
A noted problem of rule-governed behavior is that responding in this condition makes one less sensitive to changes in environmental cues and consequences.

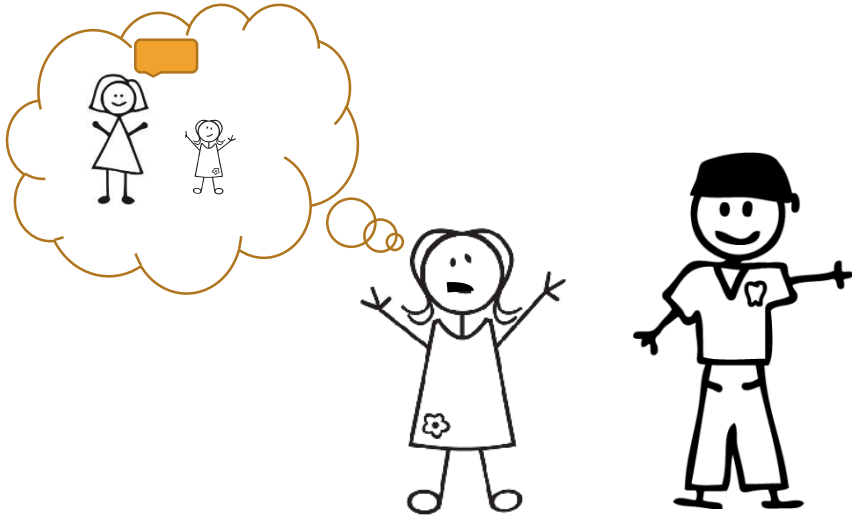
Hayes, Brownstein, Haas, & Greenway (1986) found that respondents told to "push this button to receive points" continued to do so even when no points were awarded following the reinforcement schedule. Consequently, respondents pushing the button only to receive points stopped doing so after the reward was withdrawn.

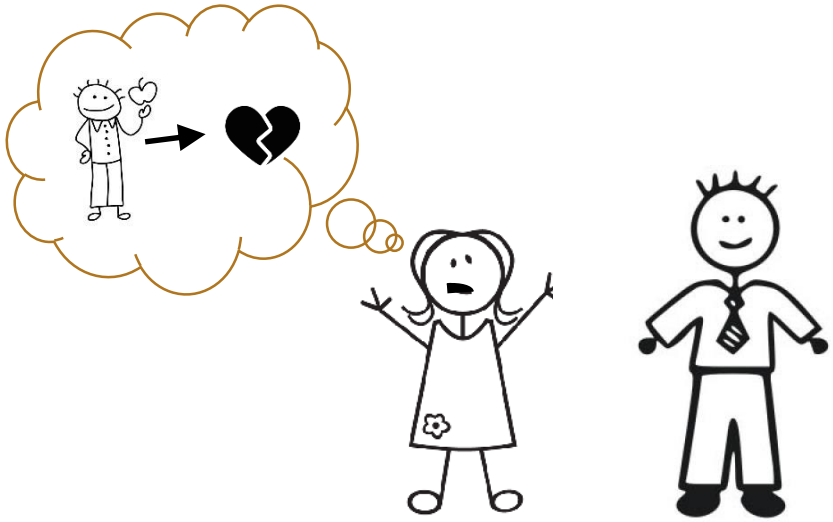
At clinical extremes, for example, clients continue to respond to rule-governed contingencies even when those contingencies may not be present or operating in their environmental context.

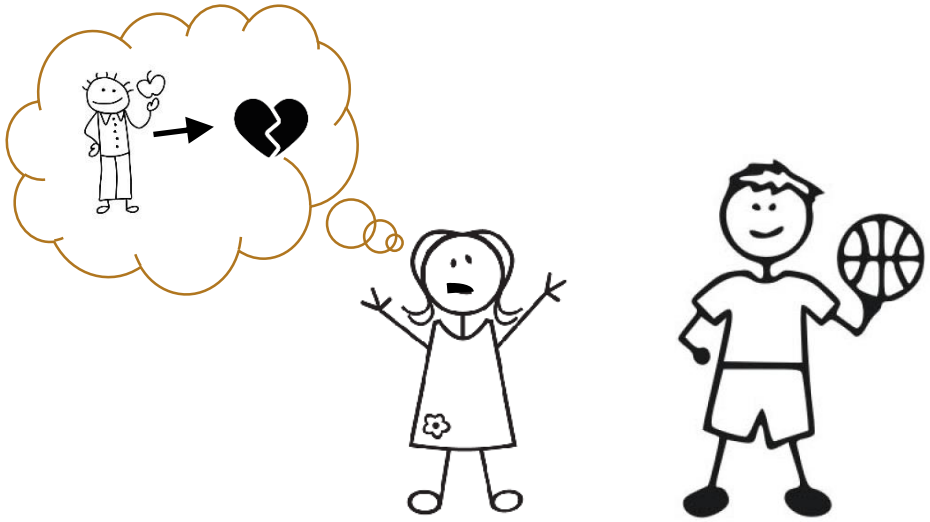


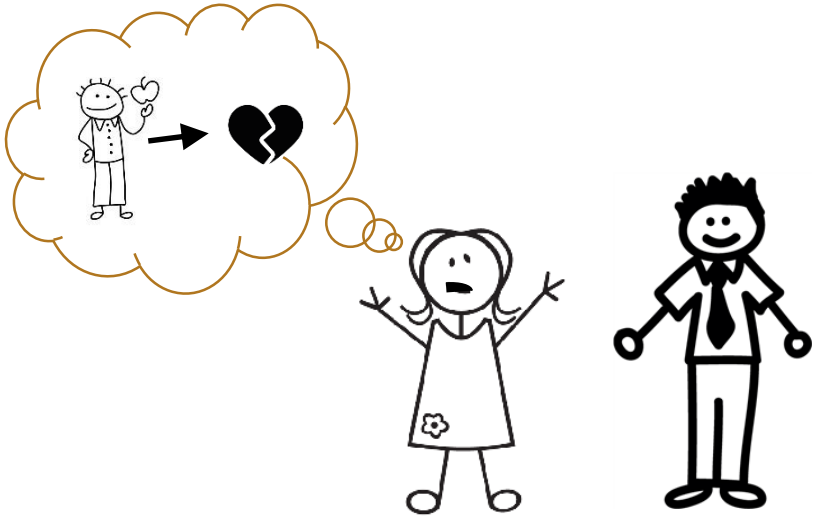


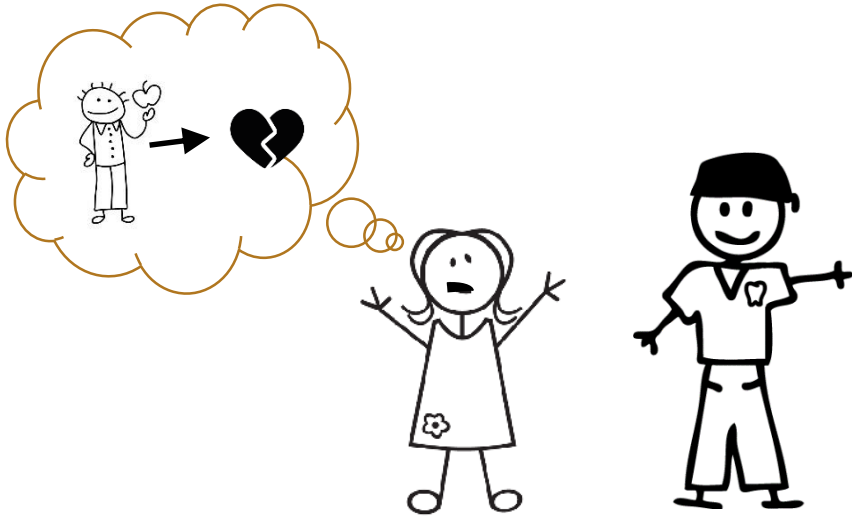




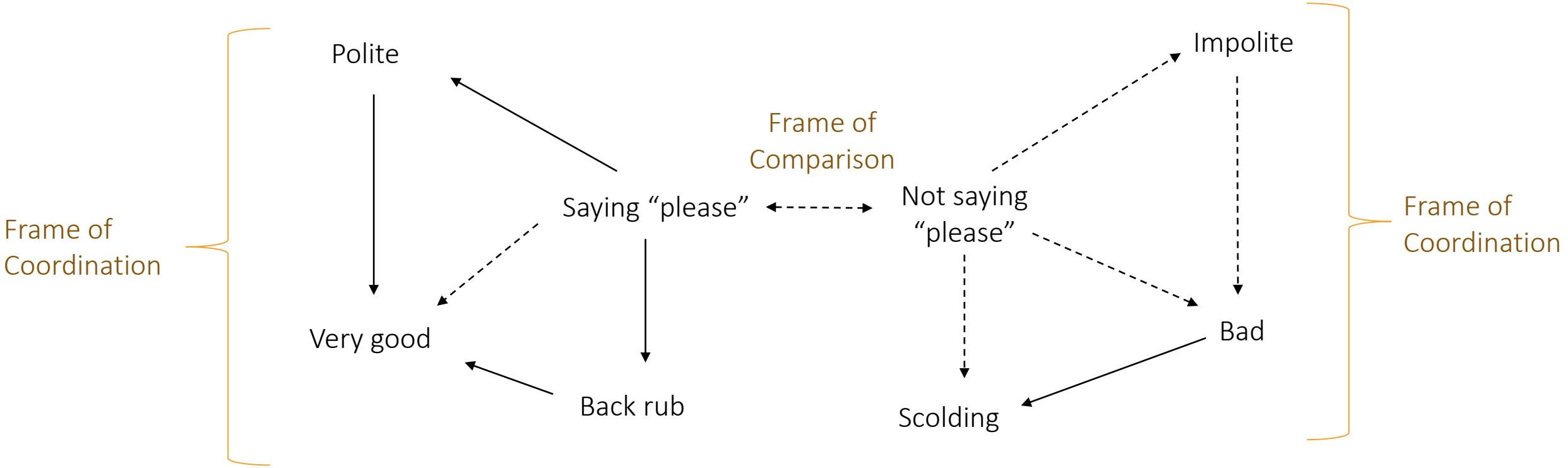








# Verbal Behavior – For Better *and* Worse



# The Two Universe System

| Non-verbal Knowing | Verbal Knowing |
| --- | --- |
| Respondent and Operant Conditioning | Arbitrarily Applicable Relational Responding |
| Generalization | Transformation of Stimulus Functions |
| Contingency-Shaped Behavior | Rule-Governed Behavior |

"…a universe of which we speak and a universe of speaking. The insurmountable problem for two-universe systems is their inability to contact the existence of that about which we speak except by speaking about it. This is to say that what anyone observes is not known until some sort of report is provided. In other words, we cannot compare our observations with our descriptions of observations, so as to assess their correspondence, because in order to do so we must first convert our observations into descriptions, with the result that we are no longer comparing descriptions with observations but descriptions with other descriptions." (L. Hayes, 1997, p. 585)

# Motivating Augmenting –

Rules that increase the degree to which previously established consequences function as reinforcers or punishers.

## Don’t Forget Your CEs!

## PLEASE SIGN OUT TO HAVE YOUR ATTENDANCE TRACKED.

If you don’t, you might lose your license!