



# Think 53: Food Talks

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## Metaphor

Thursday, April 27, 2017



Looking back on Weeks 1-4!

Section 1: Language and Thought

Section 2: Metaphor and Magic



# The common theme

The language we use reveals all sorts of hidden facts about our selves

Everyday behavior as an important object of study

# Language, thought, and culture

Language influences or reflects (depending on your position) thought in sometimes unexpected ways

- Whorf and the horizontal/vertical direction of time

How words are pronounced are (perhaps subconsciously) associated with their meaning

- Front vowels in food words like crackers and ice cream

The words we use in advertising reflect cultural attitudes and biases we may not have been aware of

- TV food ads in Korean, Japanese and ENglish

The meaning of individual words reflect the complex way we view the world

- Cup versus mug, basic level categories, frames

Today: Metaphor



# Today

One more way in which there is a hidden underlying structure to language that relates to thought

**Metaphor**



# Lakoff's claims

Metaphor is not just part of figurative or poetic language

It exposes conceptualizations built into the language

These reflect (or affect) how we think

# Argument is War

Your claims are *indefensible*.

He attacked *every weak point* in my argument.

His criticisms were *right on target*.

I *demolished* his argument.

I've never *won* an argument with him.

He *shot down* all of my arguments.



An alternate conceptualization

Argument as dance




# Lakoff's claim about metaphor

It's not just a way of speaking.

ARGUMENTS are partially structured, understood, performed, and talked about in terms of WAR.

The normal way to talk about **or think about** “attacking a position” is in terms of “attacking a position”.

The metaphor is built into our very concept of an argument



The essence of metaphor is understanding and experiencing one thing in terms of another.

# LOVE IS A JOURNEY

Our relationship has hit a *dead-end street*.

Love is conceptualized as a journey.

The implication is that the relationship is stalled

The lovers cannot keep going the way they've been going

They must turn back, or abandon the relationship altogether.

# LOVE IS A JOURNEY

Look *how far we've come*.

It's been a *long, bumpy road*.

We can't *turn back* now.

We're at a *crossroads*.

We may have to *go our separate ways*

The relationship *isn't going anywhere*

We're *spinning our wheels*

The marriage is *on the rocks*

# LOVE IS A JOURNEY

The lovers are travelers on a journey together, with their common life goals seen as destinations to be reached.

The relationship is their vehicle, and it allows them to pursue those common goals together.

The relationship is seen as fulfilling its purpose as long as it allows them to make progress toward their common goals.

The journey isn't easy.

There are impediments, and there are places (crossroads) where a decision has to be made about which direction to go in and whether to keep traveling together.

*The metaphor involves understanding one domain of experience, love, in terms of a very different domain of experience, journeys*



# The Love-as-Journey mapping

The lovers correspond to travelers.

The love relationship corresponds to the vehicle.

The lovers' common goals correspond to their common destinations on the journey.

Difficulties in the relationship correspond to impediments to travel.

# “We’re stuck”

How can knowledge from travel domain be applied to the love domain?

Two *TRAVELLERS* are in a *VEHICLE*, *TRAVELING WITH COMMON DESTINATIONS*. The *VEHICLE* encounters some *IMPEDIMENT* and gets stuck, that is, makes it nonfunctional. If they do nothing, they will not *REACH THEIR DESTINATIONS*. There are a limited number of alternatives for action:

1. They can try to get it moving again, either by fixing it or getting it past the *IMPEDIMENT* that stopped it.
2. They can remain in the nonfunctional *VEHICLE* and give up on *REACHING THEIR DESTINATIONS*.
3. They can abandon the *VEHICLE*.

The alternative of remaining in the nonfunctional *VEHICLE* takes the least effort, but does not satisfy the desire to *REACH THEIR DESTINATIONS*.

# “We’re stuck”

How can knowledge from travel domain be applied to the love domain?

Two *LOVERS* are in a *LOVE RELATIONSHIP, PURSUING COMMON LIFE GOALS*. The *RELATIONSHIP* encounters some *DIFFICULTY*, which makes it nonfunctional. If they do nothing, they will not be able to *ACHIEVE THEIR LIFE GOALS*. There are a limited number of alternatives for action:

1. They can try to get it moving again, either by fixing it or getting it past the *DIFFICULTY*.
2. They can remain in the nonfunctional *RELATIONSHIP*, and give up on *ACHIEVING THEIR LIFE GOALS*.
3. They can abandon the *RELATIONSHIP*.

The alternative of remaining in the nonfunctional *RELATIONSHIP* takes the least effort, but does not satisfy the desire to *ACHIEVE LIFE GOALS*.



# If metaphors were just linguistic expressions

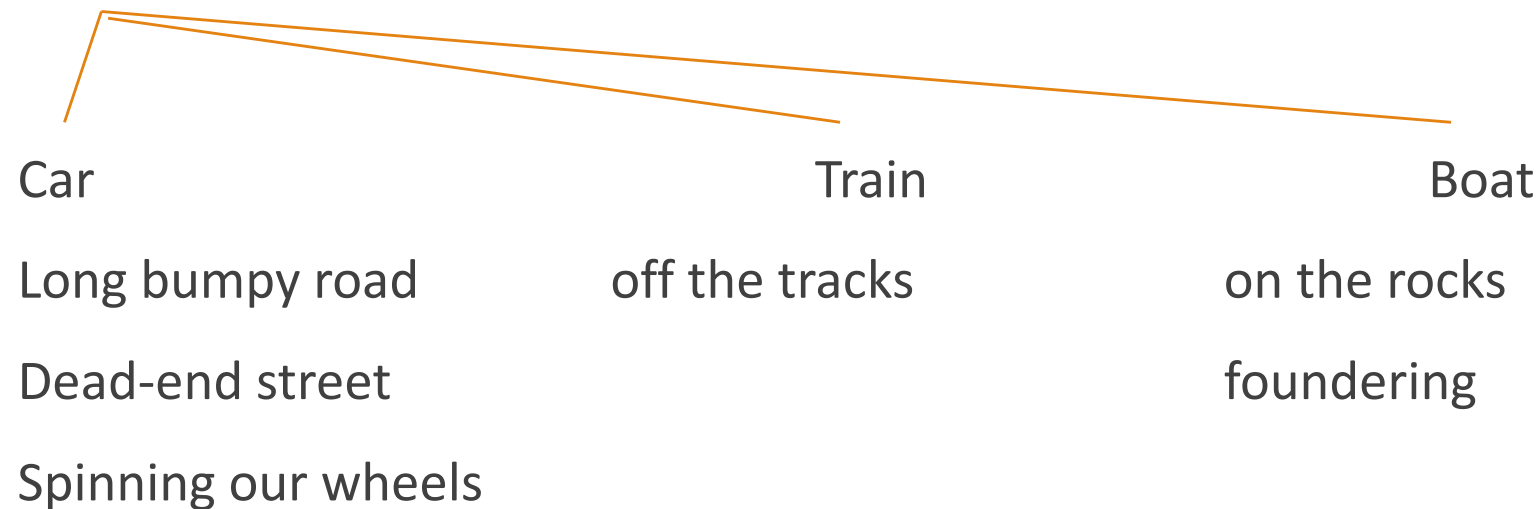
We would expect each one to act differently:

- "We've hit a dead-end street"
- "We can't turn back now"
- "Their marriage is on the rocks"

But they seem to act coherently

# Metaphors are at the superordinate level

Vehicle



Lakoff Claim: Don't tend to find metaphors at the basic level like "LOVE IS A BOAT"

# TIME IS MONEY

You're *wasting* my time.

This gadget will *save* you hours

I don't *have* the time to *give you*.

How do you *spend* your time these days?

That flat tire *cost* me an hour

I've *invested* a lot of time in this.

I don't *have enough* time to *spare* for that.

We're *running out* of time

I *lost* a lot of time when I got sick.



# Related metaphors

TIME IS MONEY

TIME IS A RESOURCE

TIME IS A VALUABLE COMMODITY



# Metaphorical structuring is partial, not total

TIME IS MONEY:

If you spend your time trying to do something and it doesn't work, you can't get it back.

There are no time banks.

I can give you time, but you can't give the exact same time back to me.



# So what? Part I: Implications for society



# Time is Money

Jeffrey Pfeffer and Dana Carney. 2017. *The Economic Evaluation of Time Can Cause Stress*. Academy of Management, in press.

# The Pfeffer and Carney Experiment

104 subjects paid \$57.50 to work for 2 hours for a fictitious company, and assigned the exact same tasks.

**Time-is-money group:** asked to calculate their **per-minute pay rate**

- focus on exact dollar value of each minute

**Control group:** not instructed to calculate their per-minute pay rate



# Pfeffer and Carney Results

Measured each subject's salivary cortisol level—physiological indicator of stress—at start and end of two hours

Time-is-money group:

- cortisol levels 25% higher
- found less pleasure during breaks
  - (when they could look at art or listen to music.)



# Implications

Having conscious awareness of the metaphor affected their body physiology!

And led to clear negative affects.

# The Conduit Metaphor

Reddy, M. J. (1979). The conduit metaphor: A case of frame conflict in our language about language. In A. Ortony (Ed.), *Metaphor and Thought* (pp. 284–310). Cambridge: Cambridge University Press.

It's hard to *get* that idea *across* to him

I *gave* you that idea

Your reasons *come through* to us

It's difficult to *put* my ideas *into* words

Try to *capture* your idea *in* similar words

Try to *pack* more thoughts *into* fewer words

The meaning *is right there in* the words

The idea is *buried in* terribly dense paragraphs



# The Conduit Metaphor

IDEAS (OR MEANINGS) ARE OBJECTS.

LINGUISTIC EXPRESSIONS ARE CONTAINERS.

COMMUNICATION IS SENDING.

# Implications from Reddy

**Conduit metaphor:** The meaning is there in the words

- All you have to do is think of words that express what you are thinking

I personally find that thinking this way leads to bad writing.

**Alternative metaphor:** the message is a set of cues to help the reader try to reconstruct the writer's meaning

- Brings the reader much more into the equation
- What would the reader think after seeing this sentence of mine?

# Metaphors for ANGER

When I told him, he blew up

She lost her cool

He's just letting off steam.

I almost burst a blood vessel

You make my blood boil

Watch out! He's on a short fuse.

He was red with anger

He channeled his anger into something constructive

He did a slow burn.

# Folk theory of anger

1. Physiological effects of anger are increased body heat, increased internal pressure (blood pressure, muscular pressure), agitation, interference with perception
2. As anger increases, its physiological effects increase.
3. There is a limit beyond which the physiological effects of anger impair normal functioning.
4. Relieving the pressure reduces the problem

# Folk theory → metonymies for anger

## Body heat

- Don't get hot under the collar
- He's a hothead
- They were having a heated argument

## Internal pressure

- I almost burst a blood vessel

## Redness in face and neck area

- She was scarlet with rage
- He got red with anger
- He was flushed with anger

## Agitation

- She was shaking with anger
- I was hopping mad
- He was quivering with rage.
- He's all worked up.

## Interference with accurate perception

- She was blind with rage
- I was so mad I couldn't see straight
- I was beginning to see red



# Metaphors for anger

ANGER IS FIRE

ANGER IS THE HEAT OF A FLUID IN A CONTAINER

- You make my blood boil
- Simmer down!
- I had reached the boiling point.
- Let him stew!
- Go cool off.

# ANGER IS HEAT OF FLUID IN A CONTAINER

When intensity increases, the fluid rises:

- His pent-up anger welled up inside him.
- We got a rise out of him.
- My anger kept building up inside me

Intense anger produces steam

- She got all steamed up
- He's just blowing off steam
- I was fuming

Intense anger produces pressure on the container

- He was bursting with anger
- I could barely contain my rage
- I suppressed my anger
- She kept her anger bottled up inside her

When pressure is too high, the container/person explodes

- She blew up at me
- We won't tolerate any more of your outbursts
- She erupted
- I blew a fuse

# Other metaphors for anger

## Anger is insanity

- You're driving me nuts
- One more complain and I'll go berserk
- She went into an insane rage
- I'm mad

## Anger is an opponent

- I'm struggling with my anger
- He was battling his anger
- She fought back her anger
- I was seized by anger
- I'm finally coming to grips with my anger

## Anger is a dangerous animal

- He has a fierce temper
- He unleashed his anger
- He lost his grip on his anger



# Anger in Japanese

Matsuki, K. (1995). Metaphors of anger in Japanese. In J. R. Taylor & R. MacLaury (Eds.), *Language and the cognitive construal of the world* (pp. 137–151). Berlin: Mouton.

- (1) [body heat]  
*Mune ga atsuku naru hodo no ikari o oboeru.*  
'To experience anger to the degree that the chest becomes hot.'
- (2) [internal pressure]
- Ikari ga chooten nimade tassuru.*  
'Anger reaches the top.'
  - Fukureru.*  
'To swell up.'
  - Fukureta kao a suru/Future-ttsura o suru.*  
'To have a swelling face.'
- (3) [redness in face and neck]
- Kao a makka ni shite okoru.*  
'To get angry with a red/scarlet face.'
  - Makka ni natte okoru.*  
'To get red/scarlet and angry.'
- (4) [agitation]
- Ikari de furueru.*  
'To shake with anger.'
  - Koe ga ikari de furueru no o osaekirenai.*  
'To be unable to control the voice shaken by anger.'
  - Kobushi o furuwasete okoru.*  
'To get angry with shaking fists.'
- (5) [impeded perception]  
*Ikari de zengo no misakai ga tsukanai.*  
'To be unable to tell which side is front or back because of anger.'

- (7) [anger is the heat of a fluid in a container]
- a. *Harawata ga niekurikaeru.*  
'The intestines are boiling.'
  - b. *Ikari ga karada no naka de tagiru.*  
'Anger seethes inside the body.'
  - c. *Ikari ga hara no soko o guragura, saseru.*<sup>4</sup>  
'Anger boils the bottom of the belly.'
- (8) [intense anger produces steam]
- Atama kara yūge ga tatsu.*  
'Steam rises up from the head.'
- (9) [intense anger produces pressure on the container]
- a. *Ikari no kimochi o osaekirenai.*  
'To be unable to suppress the feeling of anger.'
  - b. *Atama ni chi ga noboru.*  
'Blood rises up to the head.'

# Hara (‘belly’) in Japanese

[hara is the container of the emotions]

- a. *Hara no naka de hidoku okoru.*  
‘To get terribly angry in(side) one’s *hara*.’
- b. *Hara ni suekaneru.*  
‘To be unable to keep it/anger in the *hara*.’
- c. *Kimochi wa wakaru keredo hara ni osamete kudasai.*  
‘I understand how you feel, but keep it inside your *hara*.’

When a person is offended and gets angry, *hara* is said to “rise up”.

- (26) *Hara ga tatsu.*  
‘*Hara* rises up.’

# Anger in Chinese seems different:

An excess of qi, energy or gas in the body

生氣

sheng qi

produce qi

To produce qi

氣得滿臉通紅

qi de man lian tong hong

qi DE full face through red

To have so much qi that one's whole face turns red

King, B. 1989. *The conceptual structure of emotional experience in Chinese*. Ph.D. dissertation, Ohio State University.



# But heat sometimes relevant too

火氣

Huo qi

“Anger”

**怒火中燒**

**nu huo zhong shao**

**anger fire in burn**

**To burn in angry fire**


**壓不住心頭的怒火**

**ya bu zhu xin tou de nu huo**

**press NEG hold heart head POSS anger fire**

**To be unable to control the anger fire in one's heart**

King, B. 1989. *The conceptual structure of emotional experience in Chinese*. Ph.D. dissertation, Ohio State University.



Is the metaphor a correct  
model?

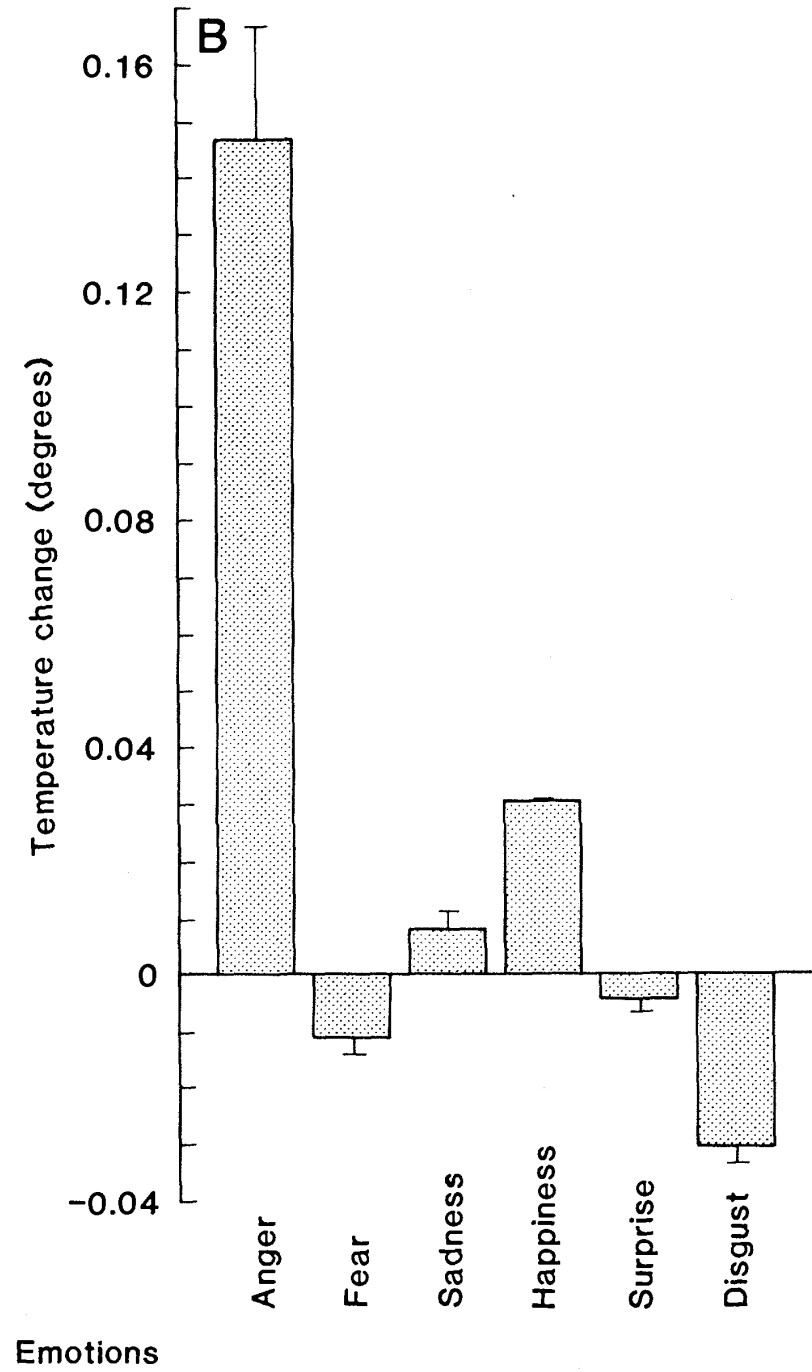
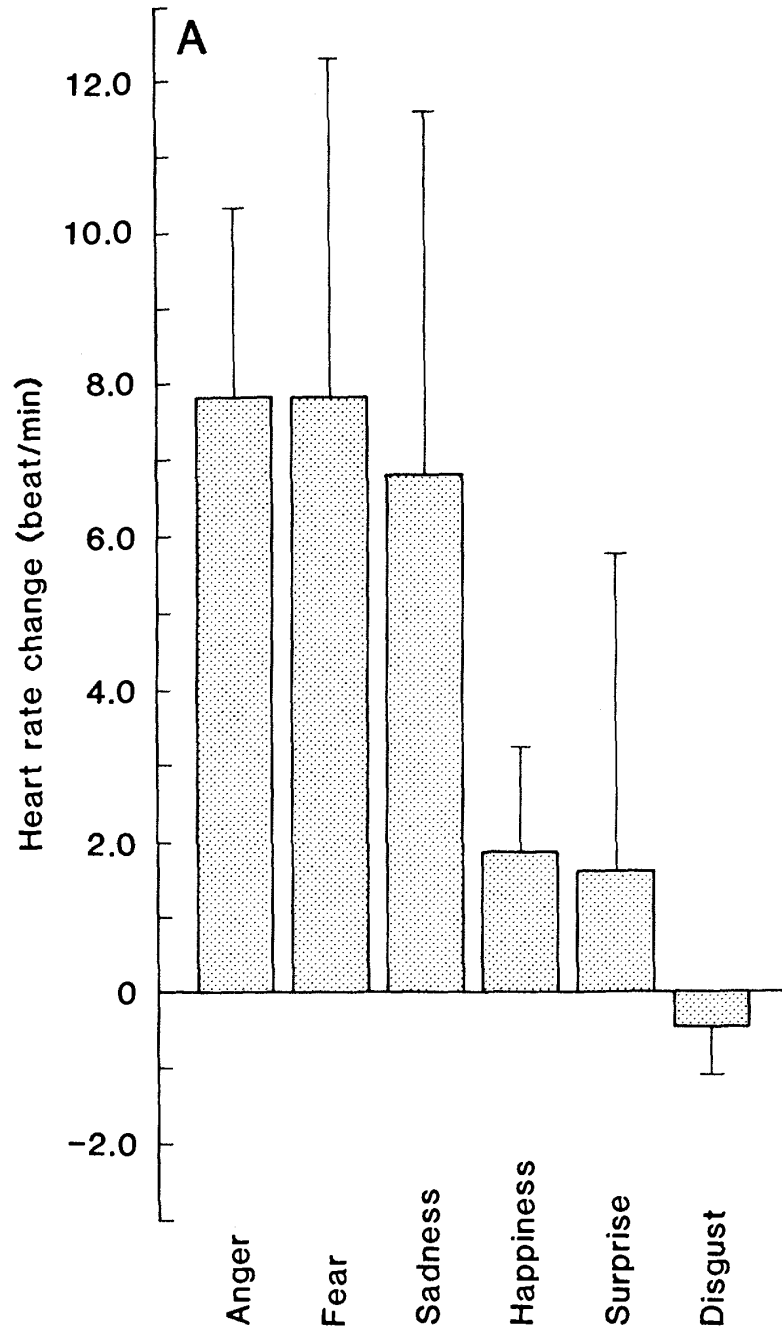


# Embodiment of Anger

Ekman, Levenson, and Friesen (1983)

Had actors simulate emotions

Then measured heart rate, skin temperature





# Ekman results

Suggest that some of the folk theory (heat, pressure) may actually be correct:

- When people get angry their skin temperature and pulse rate rises



# So what? Part II: Implications for psychology

Despite Ekman's indications that there is something to the "heat" component

What if this naïve theory makes incorrect predictions about how to deal with anger?

Hot-fluid-under-pressure theory of dealing with anger: **Catharsis**

- Relief from anger by releasing it

# Does catharsis reduce anger?

Bushman, Brad J., Roy F. Baumeister, and Angela D. Stack. "Catharsis, aggression, and persuasive influence: Self-fulfilling or self-defeating prophecies?." *Journal of personality and social psychology* 76, no. 3 (1999): 367.

If the metaphor of anger-as-hot-fluid-under-pressure is correct

Then "letting off some steam" should make people less angry.

- Say hit a punching bag to release some of your anger

# Bushman, Baumeister, Stack Experiment

- 1) People write an essay on a sensitive topic
- 2) Tell them it's "the worst they had ever read."
- 3) Two groups:
  - Let-off-steam-group: hit a punching bag for 2 minutes
  - Control group: Don't hit a punching bag
- 4) Then play a game in which you can punish your opponent with loud blasts of noise.

Guess which group played louder blasts of noise?

- The Let-off-steam-group

The opposite of the catharsis theory



# So What?

Here is a folk theory of a psychological process:  
anger

Revealed through language

That makes predictions about how to behave

Which people use, because we are linguistically  
surrounded by this naïve theory

But the predictions of this folk theory turns out to  
be a bad model of actual psychology!




# So What? Part III: Implications for public policy



# How do metaphors affect reasoning in public policy cases?

Thibodeau, Paul H., and Lera Boroditsky.

["Metaphors we think with: The role of metaphor in reasoning." PLoS One 6, no. 2 \(2011\):](#)



Let's start with a norming study to generate some predictions

1. Imagine a “virus infecting a city” or
2. Imagine a “wild beast preying on a city”

Now describe the best way to solve the problem that you imagined.

# T+B: Proposals to deal with virus infecting a city

## Investigate the source of the virus

- Find out where the virus was coming from
- Find out how the virus was spreading.

## Implement social reforms and prevention measures to decrease the spread of the virus.

- Find out whether the city could develop a vaccine
- Institute educational campaigns
  - Inform residents about how to avoid or deal with the virus
  - Encourage residents to follow better hygiene practices.



# T+B: Proposals to deal with wild beast preying on a city

Capture the beast and then kill or cage it.

Organize a hunting party or hire animal control specialists to track down the beast and stop it from ravaging the city

# Materials for Expt 1

Crime is a {wild beast preying on/virus infecting} the city of Addison. The crime rate in the once peaceful city has steadily increased over the past three years. In fact, these days it seems that crime is {lurking in/plaguing} every neighborhood. In 2004, 46,177 crimes were reported compared to more than 55,000 reported in 2007. The rise in violent crime is particularly alarming. In 2004, there were 330 murders in the city, in 2007, there were over 500.

Follow-up questions:

- 1) In your opinion what does Addison need to do to reduce crime?
- 2) Please underline the part of the report that was most influential in your decision

# Materials for Expt 2

Crime is a {beast/virus} ravaging the city of Addison. Five years ago Addison was in good shape, with no obvious vulnerabilities. Unfortunately, in the past five years the city's defense systems have weakened, and the city has succumbed to crime. Today, there are more than 55,000 criminal incidents a year - up by more than 10,000 per year. There is a worry that if the city does not regain its strength soon, even more serious problems may start to develop.

Follow-up questions:

- 1) In your opinion what does Addison need to do to reduce crime?
- 2) What is the role of a police officer in Addison?
- 3) Please copy the part of the report that was most influential and paste it in the text area below.



# Results of Expt 1

Participants given the crime-as-beast metaphorical framing were more likely to suggest enforcement (74%) than participants given the crime-as-virus framing (56%)

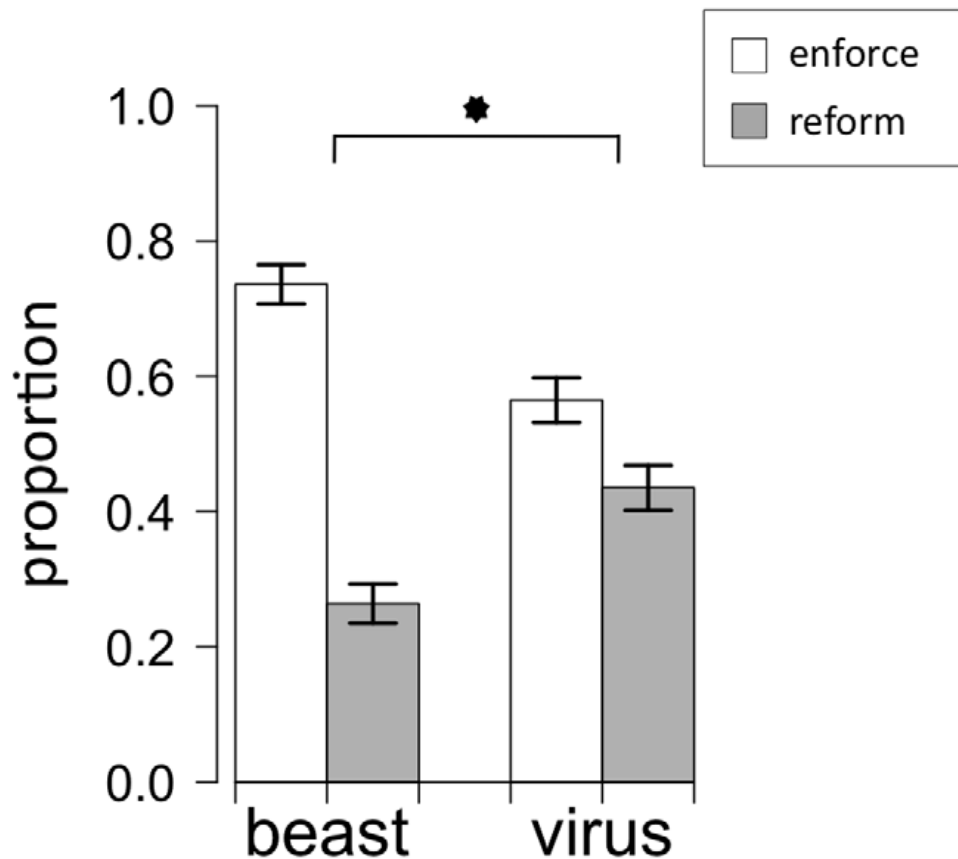


Figure 1. Proportion of proposed solutions to crime by metaphor frame.

# People's solutions coded into two:

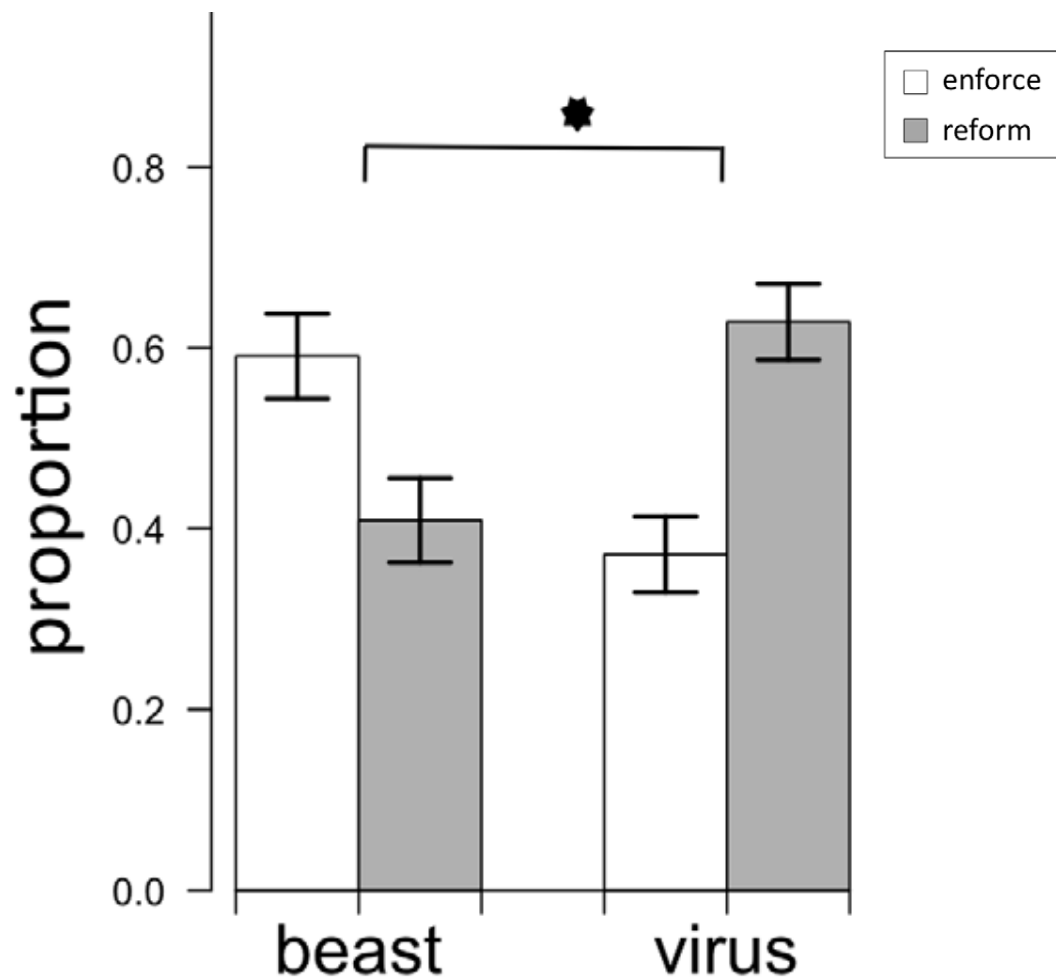
## **Reform:** diagnose/treat/ inoculate


- suggested investigating the underlying cause of the problem (e.g., “look for the root cause”)
- suggested a particular social reform to treat or inoculate the community (e.g., fix the economy, improve education, provide healthcare).

## **Enforce:** capture/enforce/punish

- focused on the police force or other methods of law enforcement (e.g., calling in the National Guard)
- focused on modifying the criminal justice system (e.g., instituting harsher penalties, building more jails).

# Results of Expt 2





Were they aware of the metaphor?

When asked to identify “the most influential aspect of the report”, subjects ignored the metaphor.

- Generally said they were influenced by the statistics.



# Thibodeau and Boroditsky

## Conclusions

“Our results suggest that even fleeting and seemingly unnoticed metaphors in natural language can instantiate complex knowledge structures and influence people’s reasoning”

# But is metaphor significant compared to other factors?

- 1) Republicans tended to emphasize enforcement (48%) more than Democrats (40%)
- 2) Men tend to emphasize enforcement (46%) more than women (38%)

**Differences caused by metaphor were more than twice as large as these differences!**

- (20% difference between people who saw the beast/virus metaphor versus 8% for gender or political party)



# Conclusions

Metaphors exposes conceptualizations built into the language

Metaphors both reflect and affect how we think

# Language, thought, and culture

Language influences or reflects (depending on your position) thought in sometimes unexpected ways

- Whorf and the horizontal/vertical direction of time

How words are pronounced are (perhaps subconsciously) associated with their meaning

- Front vowels in food words like crackers and ice cream

The words we use in advertising reflect cultural attitudes and biases we may not have been aware of

- TV food ads in Korean, Japanese and English

The meaning of individual words reflect the complex way we view the world

- Cup versus mug, basic level categories, frames

The metaphors reflected in our language affect our reasoning and behavior (not always in good ways)






# The common theme

The language we use reveals all sorts of hidden facts about our selves

Everyday behavior is an important object of study



Looking forward to the next few weeks: a bit more focus on food

How the language of food reveals more about social relations: social class, gender, identity, migration.