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 project. He’s living on borrowed time.

Conceptual Metaphor Theory

- Metaphor – reference to one domain (target) with vocabulary more commonly associated with another domain (source)
- Cross-Domain Mappings – set of correspondences between source and target that result from mapping cognitive models or schemas from the source domain to the target

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. If you use that strategy, he’ll wipe you out. He shot down all my arguments.

Metaphor & Everyday Language

- CMT motivated by metaphors like TIME IS MONEY
- Use of MONEY verbiage to refer to TIME is pervasive and systematic
- Metaphor Clusters explained by cross-domain mapping between time and money
- Metaphoric language reflects connections between concepts

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More Mappings

- Source Analog
  - Strategy
  - Attack
  - Maneuvering
  - Defense

- Target Analog
  - Deciding the best way to convince opponent
  - Ask questions and raise objections so your opponent changes her opinion to yours
  - Changing the premise of the conversation so that you will be in a stronger position
  - Responding to questions and objections
• Counterattack
• Truce
• Stalemate
• Surrender
• Victory

• Raising new questions and objections
• Decide to stop arguing
• Both opponents maintain original opinions
• One participant changes her opinion
• Participant convinces her opponent to change her opinion

LOVE IS A JOURNEY

Look how far we’ve come. We’re at a crossroads. We’ll just have to go our separate ways. We can’t turn back now. I don’t think this relationship is going anywhere. We’re just spinning our wheels.

Mappings

Source
• Travelers
• Vehicle
• Destination
• Obstacles
• Speed
• Forward

Target
• Lovers
• Relationship
• Goal
• Difficulties
• Intensity
• Growth

Higher Level Regularities

• Long-Term Purposeful Activities are Journeys
• Love is a Journey
• Career is a Journey
• Life is a Journey

• Event Structure Metaphor
• States are locations
• Changes are movements
• Causes are forces
• Actions are self-propelled movements
• Purposes are destinations
• Means are paths
• Progress is forward movement

Anger Metaphors

• She got all steamed up.
• He was bursting with anger.
• She blew up at me.
• He managed to keep his anger bottled up inside.

Cognitive Model of Anger

• ANGER IS HEAT
• THE BODY IS A CONTAINER FOR THE EMOTIONS
• ANGER IS HEATED FLUID IN A CONTAINER
### Mappings in Anger Model
- Container
- Heat
- Temperature
- Pressure
- Agitating Fluid
- Container’s Structural Integrity
- Explosion
- Body
- Anger
- Intensity
- Internal Pressure
- Mental “agitation”
- Control over Anger
- Loss of Control

### Psychological Evidence
- Ask people to describe mental image evoked by idioms and non-idiomatic phrases
  - Blow your stack, flip your lid, hit the ceiling
  - Blow your tire, flip your hat, hit the wall
- Idioms
  - Share similar characteristics because all involve the involuntary release of pressure that causes an object to move in an upward trajectory
- Non-idiomatic phrases
  - Mental images more varied because no metaphor unites them

*(Gibbs & O’Brien, 1990)*

### Shared Inference Schemas
**Sealed Container w/Liquid**
- What would cause the container to explode?
- Does the container explode on purpose or does it explode through no volition of its own?
- Does the explosion of the container occur in a gentle or a violent manner?

**Anger**
- What causes someone to blow their stack?
- When someone flips their lid, do they get angry intentionally?
- When someone hits the ceiling, do they express their anger in a gentle or a violent manner?

*(Gibbs, 1992)*

### Priming Effects
- Carol had borrowed Bob’s car to take her brother to the airport. Unfortunately, Carol was rear-ended in the parking lot. When he found out about the car
  - Bob blew his stack.
  - heat (744 ms)
  - lead (886 ms)
- Carol had borrowed Bob’s car to take her brother to the airport. Unfortunately, Carol was rear-ended in the parking lot. When he found out about the car
  - Bob bit her head off.
  - heat (884 ms)
  - lead (877 ms)

### Time Metaphors
**Ego-Moving**
- We’re approaching the end of the quarter.
- We’re coming up on Christmas.
- Time-Moving
- The end of the quarter is almost here.
- Christmas is coming up.

**Ambiguous Temporal Statement**
Wednesday’s meeting has been moved forward 2 days. What day is it on?
- Ego-Moving
  - Friday
- Time-Moving
  - Monday
Do people use spatial concepts to think about time?

- If yes, thinking about space in a particular way should affect the way you think about time.
- If no, it shouldn’t.

Metaphoric Structuring

- Wednesday’s meeting has been moved forward 2 days. What day is the meeting on?
  - Ego-Moving
    - 73.3% Friday
    - 26.7% Monday
  - Object-Moving
    - 30.8% Friday
    - 69.2% Monday

(Boroditsky, 2000)

Imagined Motion

A You are sitting in the chair. While sitting in the chair, imagine how you would maneuver the chair to the X. Draw an arrow indicating the path of motion.

B You are holding a rope attached to the chair. With the rope, imagine how you would maneuver the chair to the X. Draw an arrow indicating the path of motion.

Imagine you are the person in the picture. Notice there is a chair on wheels, and a track.

Time Conception

- Next Wednesday’s meeting has been moved forward two days. What day is the meeting now that it has been rescheduled?
  - Ego Moving
    - 43% Monday
    - 57% Friday
  - Chair Moving
    - 67% Monday
    - 33% Friday

(Boroditsky & Ramscar, 2002)

Lunch Line

- Can your experience moving through space affect the way you think about time?
- Ask people waiting in lunch line the Wednesday meeting question
- People closest to the food have experienced the most motion and are more likely to adopt an ego-moving perspective
  - Does position in line affect the way the question is answered?

Results

(Boroditsky & Ramscar, 2002)
Airport

- Does experience of moving through space make you more likely to assume ego-moving perspective on time?
- Is actual experience of motion required, or does just thinking about it do it?
- Ask 3 groups Wednesday meeting question:
  - Just flown in
  - Waiting to depart
  - Waiting to pick someone up

Results

(Boroditsky & Ramscar, 2002)

Train

- For people in motion, does thinking about moving affect the way you understand statements about time?
- Ask 3 groups Wednesday meeting question:
  - Just got on train
  - Middle of journey
  - About to get off

Results

(Boroditsky & Ramscar, 2002)

Conceptual Metaphor Theory

- Pervasive
- Exhibits Systematicity
- Cross-Domain (Analogical) Mapping
- Metaphoric language reflects conceptual structure
- Abstract concepts understood by mapping from more concrete, experientially motivated ones

Frame Blends

Analogy

Frame Blend
**Conceptual Blending Theory**

- **Spaces**
  - WM buffer
  - "Contain" activated frames from LTM
- **Frames**
  - Go in spaces
- **Mappings** – correspondences between elements and relations in spaces
  - Analogy
  - Similarity
  - Identity

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**Primitive Waiting Rooms**

**Murphy Brown**

Murphy: let’s just say that the man and I have very strong feelings for each other. I was trying to avoid a physical relationship so my judgment wouldn’t get clouded. But you know me, Frank, I have sex about as often as we get a Democrat for president. *I was a walking time bomb.*

Frank: Oh God, Murph.

Murphy: Then one afternoon the man came to my office to take me to lunch. It was totally spontaneous. *I was like Mount Saint Helens, Frank!*
Time Bomb Input

- Bomb that detonates at a predetermined time
  - Dormant
  - Ticking
  - Explodes

Human Input

- Person
  - walks
  - rational behavior
  - can be overwhelmed by emotions

Walking Time Bomb

- Person who is about to lose control of his emotions any minute

Murphy Brown

<table>
<thead>
<tr>
<th>Dormant</th>
<th>Not Sexually Active</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ticking</td>
<td>Sexual Tension Building</td>
</tr>
<tr>
<td>Explodes</td>
<td>Has-Sex</td>
</tr>
<tr>
<td>Explosion Predetermined</td>
<td>Sex Inevitable</td>
</tr>
</tbody>
</table>

Walking Time Bomb – explodes when alone in its office with a man it is attracted to

Volcano Blend

<table>
<thead>
<tr>
<th>Mt. St. Helens</th>
<th>Murphy Brown</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volcano</td>
<td>Woman</td>
</tr>
<tr>
<td>Long Inactive</td>
<td>Sexually Inactive</td>
</tr>
<tr>
<td>Pent up lava</td>
<td>Pent up desires</td>
</tr>
<tr>
<td>Huge Eruption</td>
<td>Sex with “the man”</td>
</tr>
<tr>
<td>Deterministic</td>
<td>Voluntary</td>
</tr>
</tbody>
</table>

Blend

- Woman/Volcano
- Pent up desires
- Erupts & Has Sex with “the man”
- Deterministic

“I was like Mount Saint Helens, Frank!”
Conceptual Blending

• Some metaphoric language involves conceptual blends
  – structure of target domain not completely determined by source

• Analogical reasoning often involves a hybrid world (blended space) that
  – combines frames from different domains
  – contains emergent structure of its own