An Example (Hobbs, 1990)

Richards (1936): “Literal language is rare outside the central parts of the sciences”

(1) Given a pointer $P_0$, this algorithm sets the MARK field to 1 in $\text{NODE}(P_0)$ and in every other node which can be reached from $\text{NODE}(P_0)$ by a chain of ALINK and BLINK pointers in node with $\text{ATOM} = \text{MARK} = 0$. The algorithm uses three pointer variables, $T$, $Q$, and $P$, and modifies the links and control bits during its execution in such a way that all $\text{ATOM}$, $\text{ALINK}$, and $\text{BLINK}$ fields are restored to their original settings after completion, although they may be changed temporarily.
An Example

- In this description, the algorithm is apparently a purposive agent that can perform such actions as:
  - Receiving pointers
  - Setting, changing, and restoring fields
  - Reaching nodes
  - Using variables for some purpose
  - Modifying links and bits
  - Executing and completing its task
Metaphor

- Two domains involved (Richards, 1936):
  - a tenor (or “new domain”) being described
  - a vehicle (or “old domain”), which the tenor is being described in terms of

- The tenor is seen in a perspective provided by the vehicle, either bringing to the fore certain aspects of the tenor or allowing the tenor to be viewed in ways that would not have been possible without the metaphor. (Hobbs, 1990)

- The role of the domain highlights the centrality of metaphor schemas (in Lakoff and Johnson’s sense)
Metaphor

• Metaphor is *not* merely semantic deviance

(2) The ship plowed through the sea.

\[ \text{plow-through}(x,y) \rightarrow \text{earth}(y) \]

• Need to notice the similarity of:

  – The wedge-shaped plow and wedge-shaped bow of a ship
  – The wake that each leaves
  – The ship’s/plow’s steady, inexorable progress

• Not a matter of *avoiding* certain inferences, but *selecting* certain others
Metaphor

- One can break down knowledge about the vehicle into three types of facts (Ortony, 1979)
  - Classification facts
  - High salience facts
  - Low salience facts

- Classification facts do not get transferred from vehicle to tenor

- Instead, high-salience facts about the vehicle are transferred to ordinarily low-salience facts about the tenor
Metaphor

- An example:

  \[(3) \text{ John is an elephant.} \]

- The largeness of elephants is of high salience

- John’s size would ordinarily be of low salience

- One draws the high-salience inferences associated with the vehicle that are not contradicted (or confirmed) by high-salience inferences about the tenor
The interpretation of metaphor requires (context-dependent!) inference

- Some (high-salience) facts about elephants:
  - They are large
  - They have trunks
  - They have good memories
  - They have thick skin
  - They are clumsy
**Metaphor**

- We will most likely *not* infer that John has a trunk, given strong reason to believe the contrary

- So what *will* we infer?

  (4) Patricia is small, but John is an elephant.

  (5) Susan forgets everything, but John is an elephant.

  (6) Mary is graceful, but John is an elephant.

- Inference processes required for metaphor interpretation must interact with those for other interpretation problems, such as coherence establishment
Metaphor

- Novel metaphors

(7) We insist on serving up these veto pitches that come over the plate the size of a pumpkin.

- Sets up an analogy between:

  - Congress sending a bill to the President to sign or veto

  - a pitcher throwing a baseball past a batter to miss or hit.
Metaphor

- A more structured domain can impart structure to a less structured one through metaphor

- A new metaphor: “Love as a collaborative work of art” (Lakoff and Johnson, Ch. 21)
  - Love is work
  - Love requires cooperation
  - Love requires compromise
  - Love involves shared responsibility
  - Love requires patience
  - Love regularly brings frustration
Metaphor

Three types of inferences with respect to the vehicle

1. The *grounds*
   - the inferences that must be drawn to make sense of the metaphor
   - these *warrant* the metaphor
   - e.g., John is clumsy

2. *Disparities*
   - the inferences that *should not* be drawn (contradictory or irrelevant)
   - e.g., John has a trunk

3. *Suggestions*
   - inferences that may or may not be drawn
   - e.g., John is large
Metaphor

• The problem is to determine for each inference, which class it falls into.

• Much of what is required comes from the same knowledge-based interpretation processes already required for non-metaphorical discourse

• These inferences are *not* just a backup strategy when a literal interpretation fails

  (8) People are not cattle.

  (9) Whales are not fish.

  (10) I’m not Donald Trump.
The life story of a metaphor in four stages

1. A novel metaphor
   - Must decompose the complex expression into basic concepts in the old domain
   - Inference intensive

2. A familiar metaphor
   - Like novel metaphors, but the salience of the required inferences allows for direct and fast computation
   - Hard not to follow the “standard” inferential path
3 A *tired* metaphor

- A direct link is established between the basic and complex levels in the new domain.
- The expression acquires a new sense in the new domain (like technical terminology).

(11) I live at the foot of a mountain.

(12) Right next to the big toe.
Metaphor

4. A *dead* metaphor

- The hearer can no longer recover the path that makes sense of the metaphor
- It exists only as an expression in the new domain

\[(13)\] Set a variable to a value

- One could not employ the underlying ‘dial metaphor’ to say:

\[(14)\] Twist a little more

- The metaphor no longer plays a role in interpretation; only a *historical* motivation remains

- One can debate whether such expressions are still metaphor or not, but clearly metaphor plays a role in their evolution
What is a metaphor?

- The central cases are relatively clear
- What else counts depends on your theory
- In Hobbs’s analysis, a metaphor is:
  “...a linguistic expression which involves in its interpretation a mapping from one domain to another via identity for the purpose of making available a new, otherwise unavailable set of inferences”
- But what counts as a distinct domain?

  (15) People are not cattle.

  (16) Whales are not fish.

  (17) I’m not Donald Trump.
Why is metaphor so pervasive?

- Any discourse is build on a shared knowledge base of possible inferences
- With his/her utterances, a speaker triggers certain of these inferences in the listener’s head
- The richer the shared knowledge base, the more econominal (or suggestive) the discourse can be
- Metaphor is a deceptively simple device for enlarging the hearer’s knowledge base
By using an apt metaphor to map a new, uncertainly understood domain into an old, well-understood domain, we:

- Gain access to a more extensive collection of axioms connecting the basic and complex levels
- Secure a more certain grasp on the new domain conceptually
- Provide it with a richer vocabulary linguistically

A metaphor is only as good as it allows us to see something in a new light, by virtue of a rich collection of inferences in a known domain