Analytic vs. contingent meaning

- Compare:

  (1) *My dog is a mammal*

  (2) *My dog is a poodle*

- (1) is true analytically, that is, by pure logic.
- (2) is true contingently, that is, by evaluation of the outside world

Possible worlds

- Leibniz (~1700) noted that some statements can only be understood in the context of other possible worlds

  - *My dog is a mammal* is true no matter what is going on in the world

  - *My dog is a poodle* is true in some possible worlds, but not in others

- This affects our interpretation of the meanings of words

Varieties of meaning

- Consider these propositions:

  (1) *The president is the chief executive of the U.S.*

  analytic: true across all possible worlds

  (2) *The president pardons a Turkey every year.*

  contingent: true, but not necessarily

  (3) *The president wears a size 42 coat*

  contingent: true only of the current individual

- *The president* has different referents across possible worlds

Indexicals

- Indexicals are concepts that take on different meanings depending on the speaker or context

  - *I am hungry*

  - *She is tall*

- But consider also

  - *The dog likes to run*

  - *The weather is hot* (= more than 85°) vs.

  - *The coffee is hot* (= more than 140°)

Propositional logic

- Propositions are statements that are true or false

  A = *Dogs are mammals*

  B = *The sky is green*

- You can make combine propositions using connectives:

  - conjunction ("and"): $A \wedge B$ = "both A and B are true"

  - disjunction ("or"): $A \vee B$ = "either A is true or B is true"

  - negation ("not") $\sim A$ = "A is not true"

  - implication (if-then) $A \rightarrow B$ "If A is true than B is true" = $\sim A \vee B$

- Etc. to make more and more complex propositions, eg:

$$\sim(((A \vee B) \wedge \sim C) \wedge (D \vee E))$$

Predicate logic

- Predicate logic expands proportional logic by including predicates and quantifiers

  $f(x)$ (predicate) = "x has property f"

  $\forall x$ (universal quantifier) = "For all x,…"

  Ex.: $\forall x$: $f(x)$ means "All x's have property f"

  $\exists x$ (existential quantifier) = "There exists an x such that…"

- You can combine statements, e.g.

  $\forall x\, f(x) \rightarrow g(x)$ "Everything that is f is also g"

  $\exists x\, f(x) \wedge g(x)$ "Some things are both f and g."

Bertrand Russell: Definite descriptions

- Bertrand Russell (1919) sought to explain meaning in terms of predicate logic

- Consider a sentence like

  - *My dog is a poodle*

  In propositional logic, it is either true or false regardless of whether I have a dog!

- Compare:

  $\exists x$ s.t. dog(x) $\wedge$ mine(x) $\wedge$ poodle(x).

  It is false if I don't have a dog OR I have one and it isn't a poodle!

  Russell concluded that meaning is expressed through definite descriptions, e.g. *dog* means $\exists x$ s.t. dog(x);

  $$\text{dog}(x) = \text{furry}(x) \wedge \text{4-legged}(x) \wedge \text{barks}(x)$$

Problems with definite descriptions

- Ludwig Wittgenstein (~1920) argued that most word meanings do not have definite descriptions

  - Words have very vague referents

  - Referents of a word exhibit a general family resemblance, but do not obey a common definition

  - Furniture, game, …

- He argued instead for meaning as use.

  - Words mean whatever people mean by them when they say them.

  - = descriptivism rather than prescriptivism