# Natural Language Processing from First Principles

The Purpose of Language

#### Critical to Civilization



Encode/transmit vital information

### Mind Boggling Variety



Evolved many times



Semantics + Syntax → Language

Written language is the linchpin of civilization

#### Critical Nuances



Many meanings

Set:

To put or apply

To put a price on

To resolve or decide on

To put a broken bone back

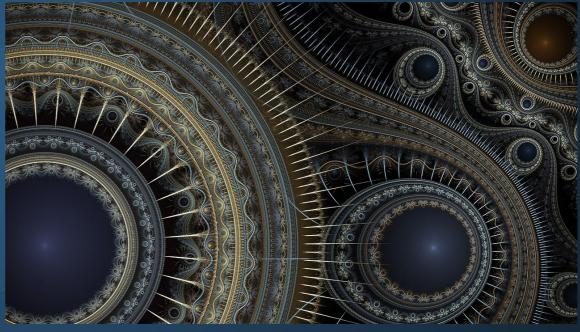
Arrangement of scenery on stage

Collection of things used together

Collection of similar objects

## Oh the Irony...





Perfect...

Complexity → Difficulty

### Quick Recap

- Language transmits meaning through time and space
- Evolved independently many times
- Semantics + syntax → language
- Multiple challenges for machines
  - Many definitions for one word
  - Meanings change depending on context

# Up Next

