

# **DAS**

## **Semantics**

### **Introduction, Organization**

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# Welcome!

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- In this course we will introduce you to the study of meaning
  - How meaning is built up from words and phrases
  - How meaning depends on context
- We will ground the analysis with real examples from the Sherlock Holmes stories and the War with the Newts
  - I try to make this as enjoyable as possible
  - You get to read a great story

# Overview of today

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- How this course is organized
- What is **semantics** (and **pragmatics**)
- Why should we be interested in semantics
- Ways of looking at the world (**Views**)
- Words that change meaning when you use them! (**Deixis**)
- Syllabus; Administtrivia

# Textbook and Readings

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- No required text book and not much reading
- EXCEPT you must read the story assigned
- If you want to know more about semantics I recommend
  - Paul Kroeger (2022) *Analyzing meaning: An introduction to semantics and pragmatics*. 3rd edition. Language Science Press. DOI: [10.5281](https://doi.org/10.5281)
  - Saeed, John (2009) *Semantics*. 4rd Edition. Wiley-Blackwell.
  - Lyons, John (1977) *Semantics*. Cambridge University Press
- Between now and next week, I expect you to read the first chapter of the assigned story.

# Studying meaning

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- You'll learn to analyze meaning systematically, using examples from the *War with the Newts*
- Word Meaning (sense)  
*to knock up*
- Word and Sentence Meaning (sentiment)  
*Julia and I had no great pleasure in our lives*
- Idioms and metaphors  
*to cross someone's path*

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# Introduction to Semantics

# What is Semantics

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- Very broadly, semantics is the study of meaning
  - Word meaning
  - Sentence meaning
- Why do we want to study meaning?
- What kind of knowledge does it take for a speaker to produce language and for a hearer to comprehend language?

# Layers of Linguistic Analysis

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1. Phonetics & Phonology
2. Morphology
3. Syntax
4. **Semantics**
5. **Pragmatics**
6. Stylistics



# Do people share a common conceptual system?

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- What is a *high school*?
- What color is *blue*?
- What does *verb* mean?
- What is *carrot cake*?

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Japanese traffic lights are green (as required by international agreements). However they are typically called 青い *aoi* “blue”, the same word as the color of the sky. Historically this color historically covered both green and blue “grue”, with 緑 *midori* “green” being a later addition. For this reason, the Japanese government decided in 1973 to change the color of the go light to the bluest possible hue of green!

The Japanese traffic light blues: Stop on red, go on what?

# Word Meaning and Sentence Meaning

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- We store information about words in our **mental lexicon**
  - It is still unclear what exactly a word is!
- Words can be combined to form an infinite number of expressions
  - This building up of meaning is referred to as **composition**
  - If the meaning of the whole can be deduced from the parts then it is **compositional**

# Reference and Sense

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- Words **refer** to things in the world (like **unicorns**)
- The meaning of a word across different contexts is often referred to as its **sense**
- Same word can refer to different things
  - \* English: *I put my money in the bank*
  - \* English: *I fell asleep at the river bank*
- Same basic concept can have different boundaries
  - \* French: *mouton* “sheep/mutton”
  - \* English: *sheep* vs *mutton*
  - \* Japanese: *hato* “dove/pigeon”
  - \* English: *dove* vs *pigeon*

# Representing meaning

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- One of our goals will be to represent meaning
- There are various ways to do this
  - Syntactic trees
  - Logical forms
  - Thesauri and Ontologies
  - Translation
  - Paraphrasing

Can you think of others?

- At the end of this course you should be able to use these to describe many aspects of meaning

# Language is normally under-specified

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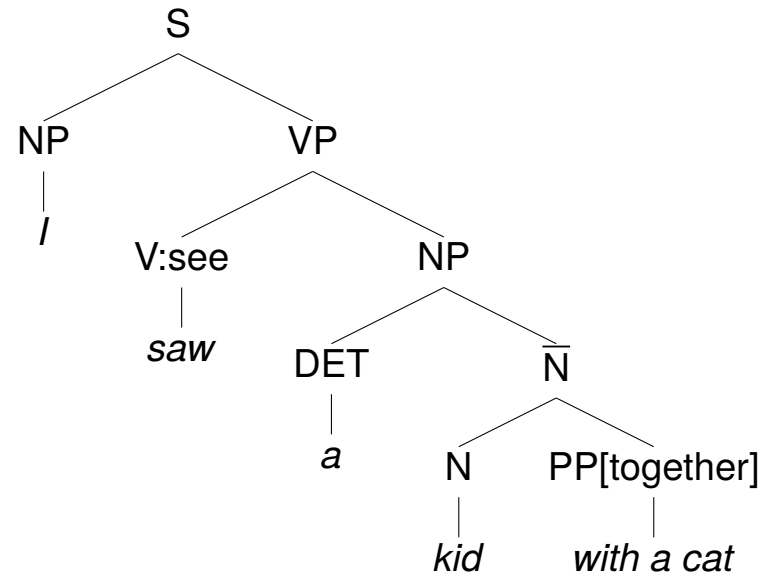
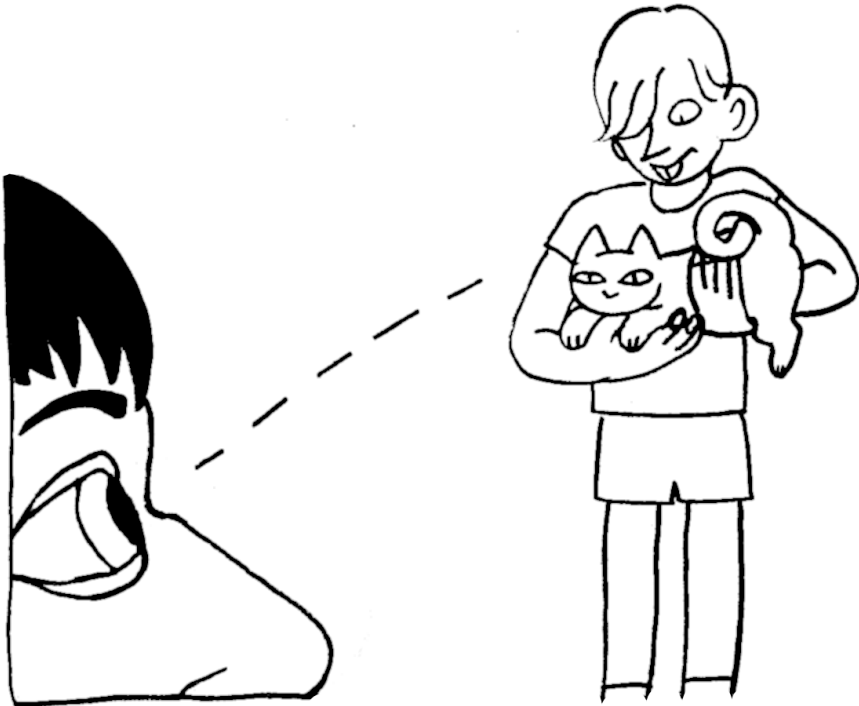
We get **words**:

*I saw a kid with a cat.*

We want **meaning**:



# I saw a kid with a cat<sub>1</sub>



`see(I, kid: past); with(kid,  
cat)`

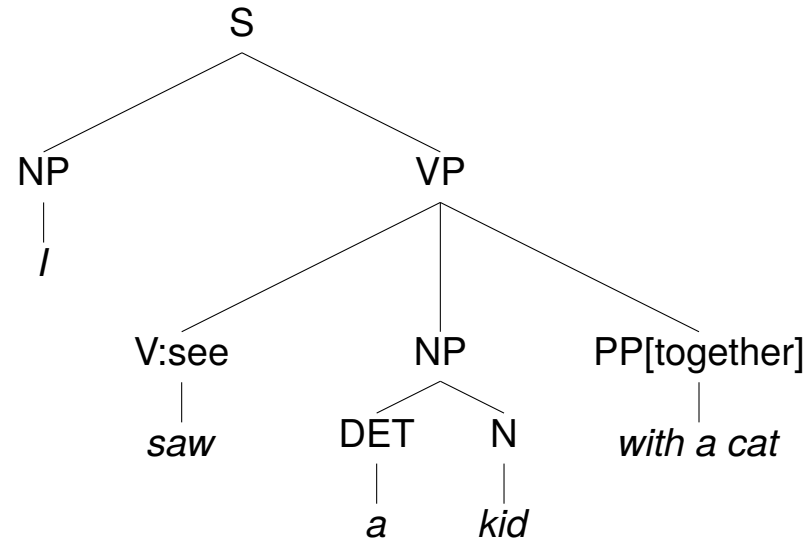
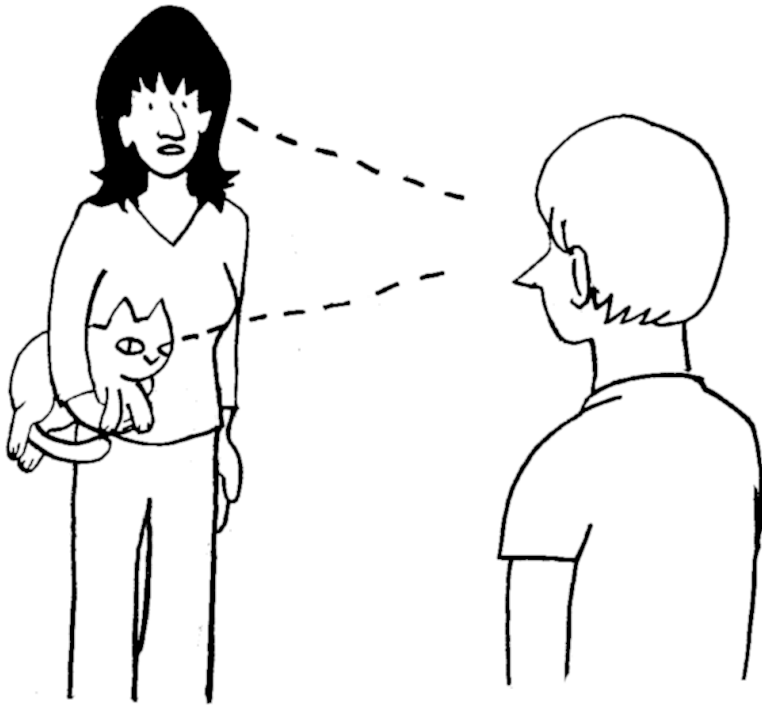
`see  $\subset$  perceive`

`kid  $\sim$  child`

`with  $\subset$  together`

# I saw a kid with a cat<sub>2</sub>

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`see(I, kid: past) with(I,  
cat)`

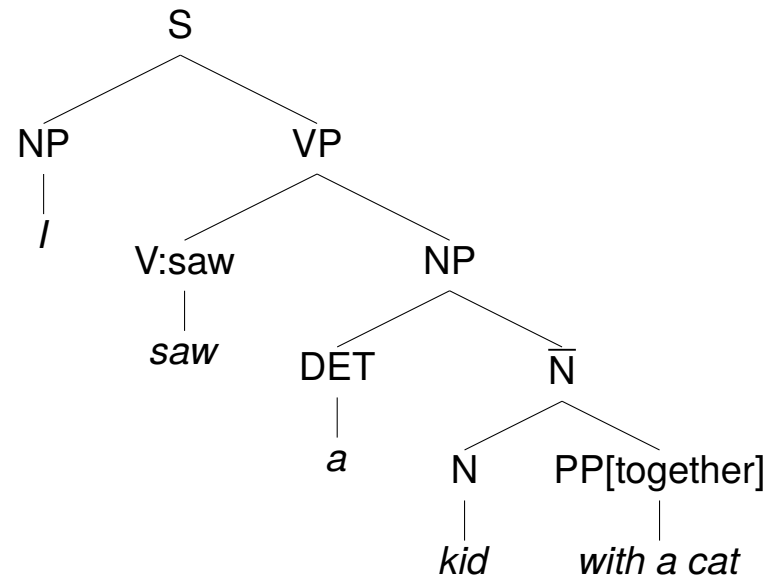
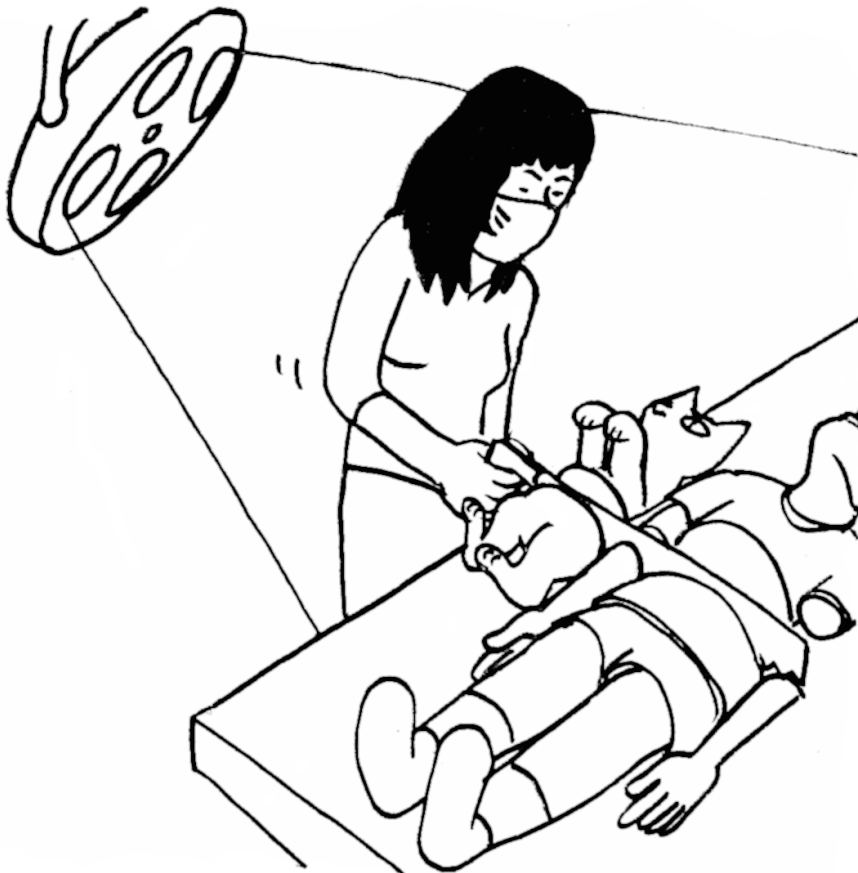
`see  $\subset$  perceive`

`kid  $\sim$  child`

`with  $\subset$  together`



# I saw a kid with a cat<sub>3</sub>



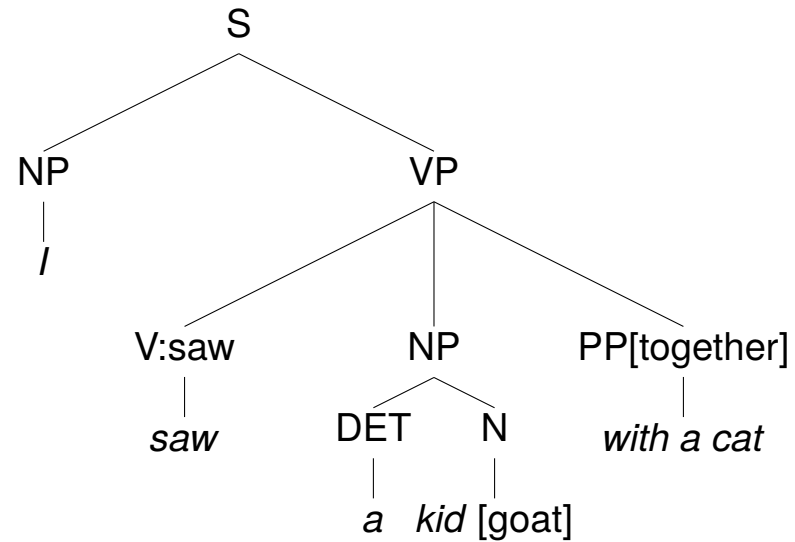
`saw(I, kid: pres); with(kid, cat)`

`saw  $\subset$  cut`

`kid  $\sim$  child`

`with  $\subset$  together`

# I saw a kid with a cat<sub>4</sub>



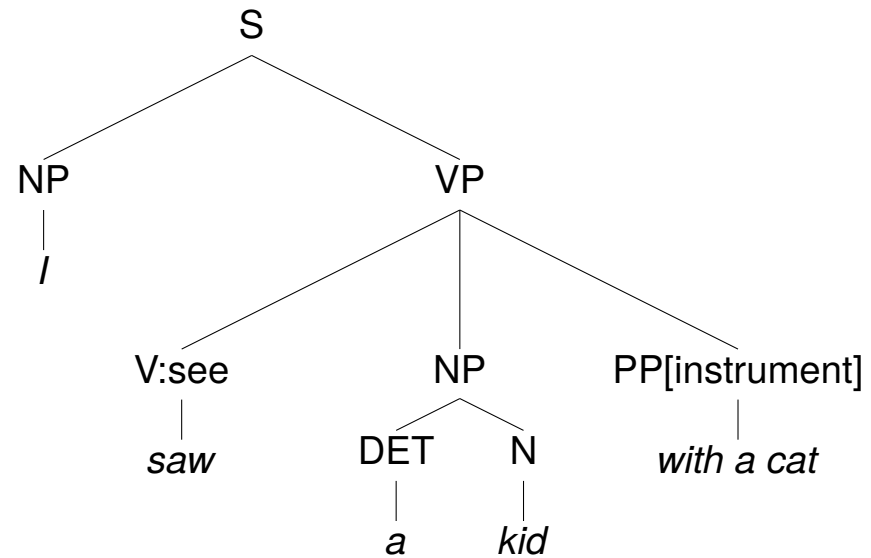
`saw(I, kid: present) with(I, cat)`

`saw  $\subset$  cut`

`kid  $\sim$  young goat`

`with  $\subset$  together`

# I saw a kid with a cat<sub>5</sub>



`see(I, kid: past) with(I, cat)`

`see  $\subset$  perceive`

`kid  $\sim$  child`

`with  $\subset$  instrumental`

## We can also use translations

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- (1) 我 看到了 一个抱着 猫 的 孩子  
wǒ kàndàole yīgè bàozhe māo de háizi.  
I saw one holding cat 's child  
I did see a child holding a cat
- (2) 我 抱着 猫 看到了 一个孩子  
wǒ bàozhe māo kàndàole yīgè háizi  
I holding cat saw one child  
I holding a cat did see a child
- (3) 我 锯锯一个孩子 和 他/她 的 猫  
wǒ jù yīgè háizi hé tā/tā de māo  
I saw one child and he/she 's cat  
I saw a child and their cat

- 
- (4) 我 和 一只 猫 锯锯一只 小 山羊  
wǒ hē yīzhǐ māo jù yīzhǐ xiǎo shānyáng  
I and one cat saw one small goat  
I and a child saw a young goat
- (5) 我 用 一只 猫 看到了 一个孩子  
wǒ yòng yīzhǐ māo kàndào le yīgè hái zi  
I use one cat saw one child  
Using a cat, I did see a child

Your turn: try to paraphrase — translate into English  
aim to be unambiguous, even if slightly disfluent



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# Where is the meaning?

# Referential or Representational?

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One view of meaning is to define it in terms of how it constrains reality.

➤ Picture the worlds in which these sentences are true:

(6) *I patted the dog.*

(7) *I did not pat the dog.*

Assuming that they were uttered at the same time, they are incompatible because they cannot refer to the same situation: the **referential** view.

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But we can represent the same reality in different ways:

(8) *Ich habe Hunger* “I have hunger”

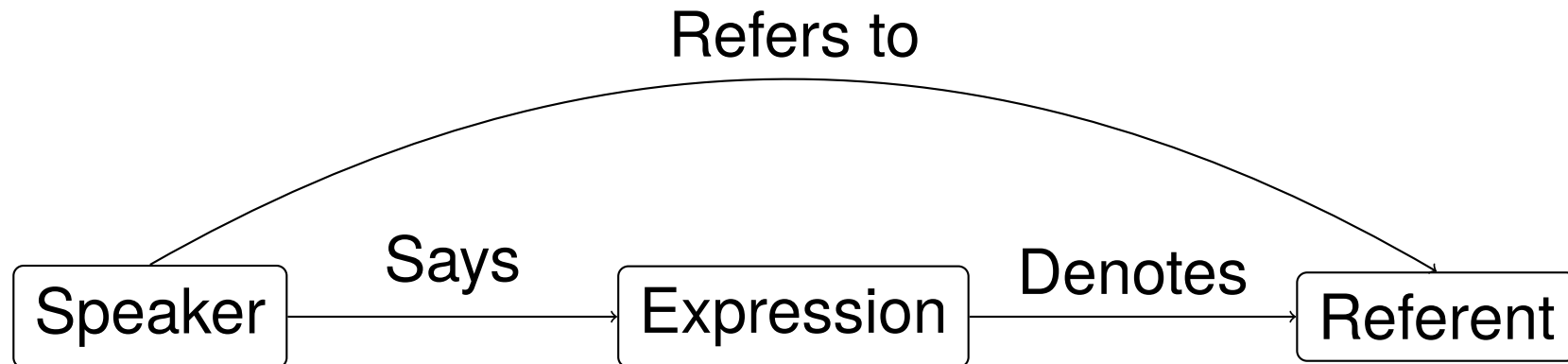
(9) *I am hungry*

**Representational** theories are interested in how we represent reality, and how our representations are influenced by conceptual structures conventionalized in language.



# Referential View

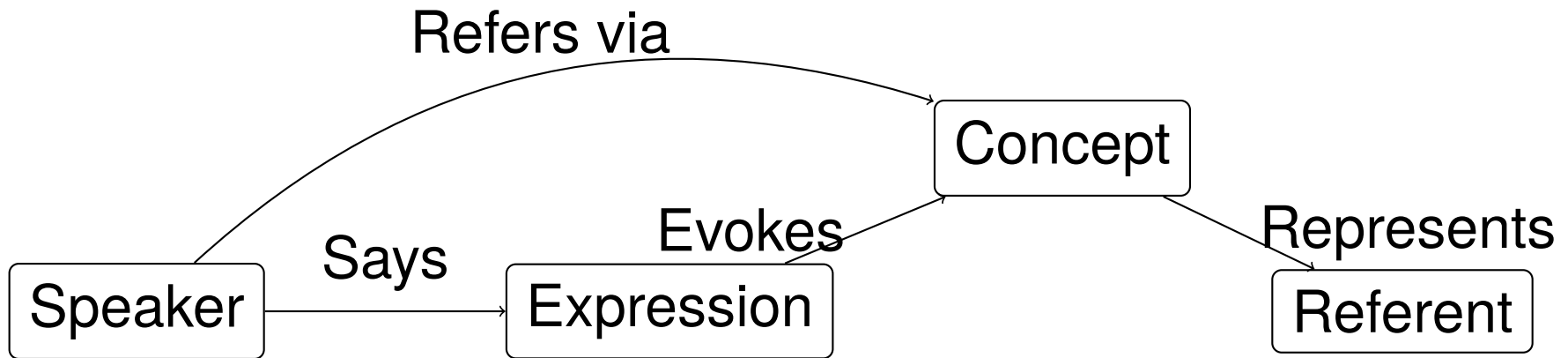
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The **referential view** is focused on direct relationships between expressions (words, sentences) and things in the world (realist view).

# Representational View

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The **representational view** is focused on how relationships between expressions (words, sentences) and things in the world are mediated by the mind (cognitive linguistics).

This gives a more complex, but richer model.

# Referring vs Non-Referring

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- **Referring expressions** are expressions that identify entities in the world (typically **nominals**)

(10) *cat, ano kiir kaban* “that yellow bag”

(11) *London Bridge, Xiao Ming*

- **Non-referring expressions** don't have referential properties

(12) *maybe, if, is, but*

- Not all nominals refer

(13) *That is an ugly dog*

(14) *If only I had a dog*

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- And, of course, all this is made more confusing if we model the fictional world and our interpretation of it as separate from the characters' interpretations, ...

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# Deixis

# What is Deixis

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- any linguistic element whose interpretation necessarily makes reference to properties of the extra-linguistic context in which it occurs is **deictic**

**Person** relative to the speaker and addressee; *you, me, them*

**Spatial Location** demonstratives; *this, that, over there, here*

**Temporal Location** tense; *yesterday, today, tomorrow*

**Social Status** relative to the social position: *professor, you, uncle, boy*

- **Discourse deixis**: referring to a linguistic expression or chunk of discourse

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More than 90% of the declarative sentences people utter are indexical in that they involve implicit references to the speaker, addressee, time and/or place of utterance in expressions like first and second person pronouns, demonstratives, tenses, and adverbs like *here*, *now*, *yesterday* (Bar-Hillel, 1954, p366).

# Spatial Deixis

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- Two way systems (English, ...)

<b>proximal</b>	<i>this</i>	<i>here</i>	close to the speaker
<b>distal</b>	<i>that</i>	<i>there</i>	far from the speaker

- Three (four) way systems (Japanese, ...)

	Gloss	THING	PLACE
<b>proximal</b>	close to speaker	<i>kore</i> “this”	<i>koko</i> “here”
<b>medial</b>	close to addressee	<i>sore</i> “that”	<i>soko</i> “there”
<b>distal</b>	far from both	<i>are</i> “’tother”	<i>asoko</i> “over there”
<b>Q</b>	interrogative	<i>dore</i> “what”	<i>doko</i> “where”

- Can you do English TIME?





# More Spatial Deixis

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- Often lexicalized:
  - *go, come, foreign, home, local, indigenous, national language*
- Can lead to **discourse/textual deixis**
  - (15) *Here we begin explaining textual deixis*
- Often also used for time
  - (16) *This year we are trying a new kind of assignment*

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➤ Spatial expressions extend to possession in many languages

(17) *NICT-ga Kyoto-ni aru*

NICT-NOM Kyoto-LOC be

NICT is in Kyoto

(18) *watashi-ni musuko-ga aru*

I-LOC son-NOM be

I have a son (lit. a son is in me)

# Person Deixis

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- Minimally a three way division

First Person	Speaker	<i>I</i>
Second Person	Addressee	<i>you</i>
Third Person	Other	<i>he/she/it</i>

- Often combined with

- **gender:** *he/she/it*
- **number:** *I/we*, *'anta* “you:m”, *'antumaa* “you:dual”, *'antum* “you:m:pl”  
(Arabic)
- **inclusion:** *núy* “we including you”, *níi* “we excluding you”  
(Zayse)

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- **honorification:** *kimi* “you:inferior”, *anata* “you:equal”,  
don’t use pronouns for superiors: *sensei* “teacher”,  
...(Japanese)

# Social Deixis

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In European languages, a two-way choice in 2nd person pronominal reference: the T/V distinction

➤ T/V distinctions in European languages

	Familiar 2sg	Polite 2sg
French	<i>tu</i>	<i>vous</i>
German	<i>du</i>	<i>Sie</i>
Czech	<i>ty</i>	<i>vy</i>

➤ Shift from asymmetric use showing **power** (superior uses *tu*; inferior uses *vous*) to symmetric use showing **solidarity** (strangers use *vous*; intimates use *tu*): typically the socially superior person must invite the socially inferior person to use the familiar form

# Social Deixis can be marked on other words

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(19) *Tanaka-san-ga kudasaimashita* [addressee and subject hon.]

Tanaka gave it to me (and I honor him and you)

(20) *Tanaka-san-ga kudasatta* [subject honorification]

Tanaka gave it to me (and I honor him)

(21) *Tanaka-kun-ga kuremashita* [addressee honorification]

Tanaka gave it to me (and I honor you)

(22) *Tanaka-kun-ga kureta* [no honorification]

Tanaka gave it to me (implies I am higher status than him)

➤ Find examples in *Válka s Mloky* where *ty* and *vy* are used: what is the difference?



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# Administrivia

# Administrivia

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**Coordinator** Francis Bond <bond@ieee.org>

!<francis.bond@upol.cz>

Details will all be online:

<https://bond-lab.github.io/Semantics/>



# Extra Credit

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- If you submit a correction that gets accepted for one of the resources we use then it shows good mastery of the material
- you can get 1-5% extra credit (depending on the size/difficulty)  
Mark  $n \propto 10^{n-1}$  lines of code/documentation
- You can't go over 100%
- A correction can involve
  - fixing an error in transcription or annotation
    - \* spelling error
    - \* wrong sense
    - \* error in the dictionary
  - making the documentation easy to read
  - pointing out an error in a translation / finding a new translation

# Student Responsibilities

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By remaining in this class, the student agrees to:

1. Make a genuine effort to learn and engage.
2. Read messages and participate.
3. Do assignments on time.
4. Attend regularly.
5. Seek help early, not last minute.
6. Treat peers respectfully.

# Attendance

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1. You are expected to attend all classes.
2. Be on time - lateness is disruptive to your own and others' learning.
3. Valid reasons for missing class include the following:
  - (a) A medical emergency (including mental health emergencies)
  - (b) A family emergency (death, birth, natural disaster, etc).
4. There will be significant material covered in class that is not in your readings. You cannot expect to do well without coming to class.
5. If you miss a class, it is your responsibility to get the notes, any handouts you missed, schedule changes, etc. from a class-mate.

# Remediation and Academic Integrity

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1. No late work will be accepted, except in the case of a documented excuse.
2. For planned, justified, absences on class days or days on which assignments are due, advance notice must be provided.
3. Cheating will not be tolerated. Violations, including plagiarism, will be seriously dealt with, and could result in **a failing grade for the entire course**.
4. Refer to the University Honour Code
5. As always, use your common sense and conscience.

# Assessment

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- Participate in tutorials, hand in answers 20%
- Projects 1 & 2 30% or 25% (5UJ2)
  - 1. Annotate text individually
  - 2. Compare annotations and write up result (in groups of four)
- Project 3 5% (5UJ2)
  - Identify interpretations that are not strictly compositional:  
idioms and metaphors

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You can chose your language and group in moodle  
by next Friday  
or I will randomly assign you to a language and group

# The winning strategy

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- Read the stories before class (and after again, if necessary)
- Work together: make study groups
- Tasks: Discuss as much as you want (but not project 1), annotate your own answers
- Ask questions ... early and often!



## References

Yehoshua Bar-Hillel. 1954. Indexical expressions. *Mind*, 63:359–379.

# Glossary of Key Terms (English–Czech)

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English	Čestina
Q	otázka (Q)
analysis	analýza
autonomous	autonomní
collocation	kolokace
communication	komunikace
composition	kompozice
compositional	kompoziční
concordance	konkordance
connotation	konotace
context	kontext
corpus	korpus
deictic	deiktický
deixis	deixe
denotation	denotace
discourse	diskurz
distal	distální
expression	výraz



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English	Čestina
gender	(gramatický) rod
honorification	honorifika
idiom	úsloví
inclusion	inkluze
lexical	lexikální
meaning	význam
medial	mediální
mental lexicon	mentální lexikon
metaphor	metafora
nominals	nominální výrazy
non-referring expressions	nereferenční výrazy
number	číslo
person	(gramatická) osoba
phrase	slovní spojení
power	moc
pragmatics	pragmatika
proximal	proximální

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English	Čestina
refer	odkazovat
reference	reference
referential	referenční
referential view	referenční pohled
referring expressions	referenční výrazy
representational	reprezentační
representational view	reprezentační pohled
semantics	sémantika
sense	význam (smysl)
sentence meaning	význam věty
sentiment	sentiment
social status	společenský status
solidarity	solidarita
spatial location	prostorová lokalizace
temporal location	časová lokalizace
textual deixis	textová deixe
utterance	výpověď

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English	Čestina
word meaning (sense)	slovní význam

# Further Reading

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➤ Introduction What does it mean to mean?

➤ Saeed: § 1

➤ Meaning, Thought and Reality

➤ Saeed: § 2

➤ Deixis

➤ Saeed: § 7.2