

# HG2002 Semantics and Pragmatics

## Meaning, Thought and Reality

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### Lecture 2

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

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# Overview

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- Revision
  - Introduction to Semantics
  - Information Theory
- Reference
- Reference as a Theory of Meaning
- Mental Representations
- Deixis
- Words, Concepts and Thinking

A lot of material will be covered, we will revisit most of it

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# Revision: Introduction to Semantics

# What is Semantics

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- Very broadly, semantics is the study of meaning
  - Word meaning
  - Sentence meaning
- Layers of Linguistic Analysis
  1. Phonetics & Phonology
  2. Morphology
  3. Syntax
  4. **Semantics**
  5. Pragmatics
- Semantics could be **autonomous** or **integrated** with other knowledge

# Meaning in the larger context

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- **Semiotics** is the study of interpreting symbols, or **signification**
  - We refer to the **signified**
  - Using a **signifier** Saussure
- Problems with defining meaning
  - The **grounding** problem and **circularity**
  - The boundaries of meaning: **linguistic** vs **encyclopedic knowledge**
  - Individual variation in meaning: **idiolects**
  - 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 built up from the parts then it is **compositional**

# Metalanguages and Notational Conventions

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We use language to talk about language, which can get messy. So we try to use certain words with very specific technical senses.

➤ **technical term** ← remember me!

➤ *word* “gloss” or *utterance*

➤ *lexeme*

➤ *predicate*

➤ CONCEPT

# Utterances, Sentences and Propositions

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➤ **utterance**: an actual instance of saying (or writing or ...) something

➤ **sentence**: an abstraction, the type of what was said

(1) *Caesar invades Gaul*

➤ **proposition**: a further abstraction, normally ignoring some non-literal meaning

(2) `invade(Caesar, Gaul)`

➤ **information structure**: what part of a proposition is emphasized

(3) *Caesar invaded Gaul*

(4) *Gaul was invaded by Caesar*

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- (5) *It was Gaul that Caesar invaded*
  - (6) *It was Caesar who invaded Gaul*



# Information Theory

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- Language has many uses, only one of which is to convey information
  - but surely transferring information is important
- We can measure information in a limited, technical, and very useful, sense
  - Think of a **signal** being transmitted from a source to a destination, possibly with **noise** in the channel
  - Measure Information in **bits**:  
the number of yes/no questions needed to determine a term
  - Context can help decoding due to **Mutual Information**

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- How can we get our message across efficiently and safely?
    - **Optimal encoding** can make the transmission efficient  
Frequent expressions should be short
    - **Redundant encoding** can make the transmission robust

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# Meaning, Thought and Reality

# Referential or Representational?

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- (7) *I kicked the dog.*
- (8) *I did not kick the dog.*

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

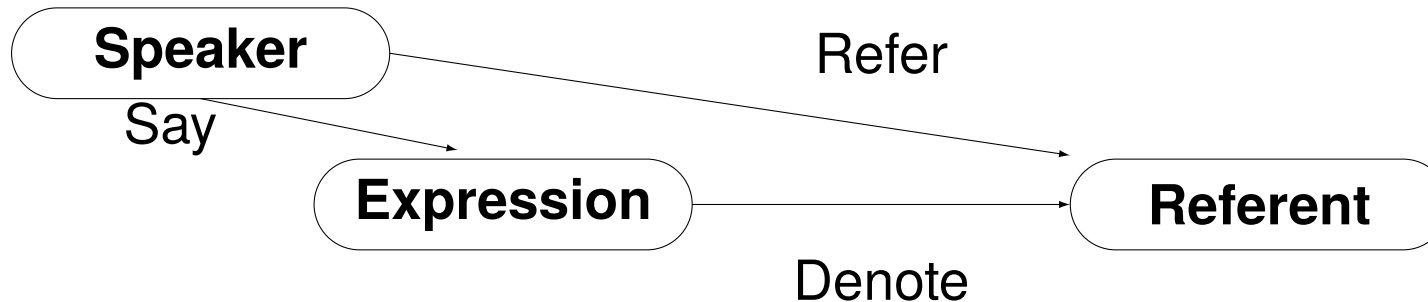
But we can represent the same reality in different ways:

- (9) *Ich habe Hunger* “I have hunger”
- (10) *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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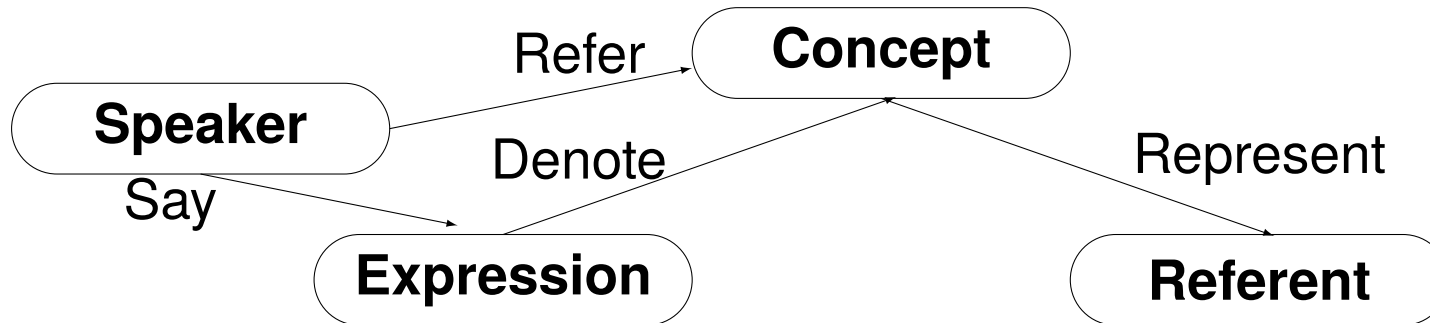


**Referential view** is focused on direct relationships between expressions (words, sentences) and things in the world (realist view).

(More in Chapter 10: Formal Semantics)

# Representational View

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

(More in Chapters 9 and 11: Meaning Components and Cognitive Linguistics)

# Referring vs Non-Referring

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

(11) *cat, ano kiirō kaban* “that yellow bag”

(12) *London Bridge, Xiao Ming*

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

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

- Not all nominals refer

(14) *That is an ugly dog*

(15) *If only I had a dog*

# Constant vs Variable Reference

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- Expressions with **constant reference** are independent of context of utterance

(16) *Ang Mo Kio, Great Wall of China, NTU Provost*

Although possibly time dependent.  
And what about models?

- Expressions with **variable reference** are dependent on the context of utterance (**deixis** Ch 7)

(17) *I, you, he, she, them*



# What does it mean to know Shakespeare?

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# The description theory (Frege/Russell/Searle)

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Names are like abbreviations for descriptions:

*William Shakespeare* = “the playwright who wrote Hamlet”

- They give the necessary conditions to identify someone
- This emphasises that to know the referent of a name, you have to have some knowledge of that referent.
- understanding a name and identifying a referent are dependent on associating the name with the right description

# The causal theory (Kripke)

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Names begin with some event of naming (e.g. a christening) before becoming commonly accepted. They are just labels.

*William Shakespeare* = “the guy other people call William Shakespeare”

- This emphasises that to know the meaning of a name is the result of this original event or grounding of the name.
- The name itself doesn't really “mean” anything- it “points” to an individual.
- It explains somewhat why names are arbitrary

# Nominal Reference

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- (18) *I read a book* (indefinite)
- (19) *I read a book about semantics*
- (20) *I read the book* (definite)
- (21) *I read the book recommended by Lyons*
- (22) *The king of France is bald*  
a. *There is a king of France* (presupposition)
- (23) *The students mistrusted each other* (distributive)
- (24) *The students couldn't fit into the lift* (collective)
- (25) *Every student enjoyed the lecture* (quantification)
- (26) *All students enjoyed the lecture* (quantification)
- (27) *No students enjoyed the lecture* (quantification)
- (28) *Every student didn't enjoy the lecture, it was really dull*  
(quant.)
- (29) *Every student didn't enjoy the lecture, but most did*  
(quant.)

# Reference as a Theory of Meaning

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- Meaning as denotation (the link between expression and the world)

names	denote	individuals
common nouns	denote	sets of entities
verbs	denote	actions
adjectives	denote	properties of entities
adverbs	denote	properties of actions

- Doesn't account for *no, some, up, if*

- What about things that don't exist?

(30) *I like paintings of unicorns*

- What about different descriptions of the same referent?

(31) *Soylent Green is people*

# Mental Representations

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- Divide meaning into
  - **reference**: the relation to the world
  - **sense**: the rest of the meaning
- Introduce **concepts** (meaning as font-change)
  - How can we represent concepts?
  - How do we learn them?
    - \* Typically children start off by **underextending** or **overextending** concepts

# Necessary and Sufficient Conditions

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➤ Can we define words in terms of **conditions**?

➤ *zebra*

- \* quadruped
- \* animal
- \* black and white striped
- \* herbivore

(redundant)

➤ These are **generic** properties

➤ Can we use words even if we don't know their properties?

➤ *Kway Teow*

➤ We seem to have fairly vague definitions

# Video: The Blackberry Sketch

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- Define the following:
  - *blackberry*
  - *orange*
  - *apple*
  - *date*
- How similar are your definitions to the use in the video?



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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 they occur 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

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

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and second person pronouns, demonstratives, tenses, and adverbs like *here*, *now*, *yesterday* (Bar-Hillel, 1954, p366).

# Spatial Deixis

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- Two (three) 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 to the speaker
<b>Q</b>	<i>what</i>	<i>where</i>	unknown

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

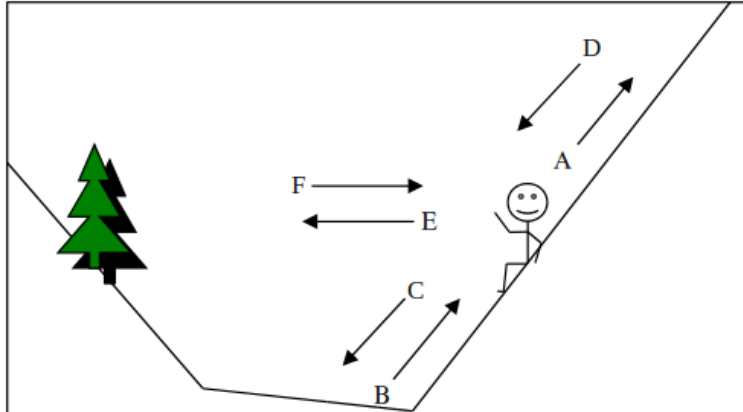
<b>proximal</b>	<i>kore</i> “this”	<i>koko</i> “here”	close to speaker
<b>medial</b>	<i>sore</i> “that”	<i>soko</i> “there”	close to addressee
<b>distal</b>	<i>are</i> “that”	<i>asoko</i> “over there”	far from both
<b>Q</b>	<i>dore</i> “what”	<i>doko</i> “where”	unknown

- Can decompose: *here* “this place”, *there* “that place”, *where* “what place”  
*now* “this time”, *then* “that time”, *when* “what time”

## More complicated still

Mongsen Ao directional motion verbs (Coupe 2007: 280-282)

A	<i>kəwa</i>	(ascend+go.pst)	‘went up’
B	<i>kəɰa</i>	(ascend +come.pst)	‘came up’
C	<i>hlà</i>	(descend+go.pst)	‘went down’
D	<i>ləɰa lala</i>	(descend+come.pst)	‘came down’
E	<i>hja</i>	(level+go.pst)	‘went across’ (same level)
F	<i>hiɰa</i>	(level+come.pst)	‘came across’ (same level)



## More Spatial Deixis

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➤ Often lexicalized:

➤ *go, come, foreign, home, local, indigenous, national language*

➤ Can lead to **discourse/textual deixis**

(32) *Here we begin explaining textual deixis*

➤ Often also used for time

(33) *This year we are trying a new kind of assignment*

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➤ Spatial expressions often extend to possession

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

NICT-NOM Kyoto-LOC be

NICT is in Kyoto

(35) *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)
- **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 is known as the T/V distinction, based on the French forms for “you”.

➤ T/V distinctions in European languages

	Familiar 2sg	Polite 2sg
French	tu	vous
German	du	Sie
Spanish	tú	usted

- Shift from asymmetric use showing **power** (superior uses **du**; inferior uses **vous**) to symmetric use showing **solidarity** (strangers use **vous**; intimates use **du**): 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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(36) *Tanaka-san-ga kudasaimashita* [addressee and subject  
hon.]

Tanaka gave it to me

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

Tanaka gave it to me

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

Tanaka gave it to me

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

Tanaka gave it to me

## Types of Deixis

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(a) Gestural; (b) Symbolic; (c) Non-deictic uses (Levinson 1983:66):

- (40)
  - a. *You, you, but not you, are dismissed*
  - b. *What did you say?*
  - c. *You can never tell what they want nowadays*
- (41)
  - a. *This finger hurts*
  - b. *This city stinks*
  - c. *I met this weird guy the other day*
- (42)
  - a. *Push, not now, but now*
  - b. *Let's go now rather than tomorrow*
  - c. *Now, that is not what I said*
- (43)
  - a. *Not that one, idiot, that one*
  - b. *That's a beautiful view*
  - c. *Oh, I did this and that*

## Non-standard usage of deixis

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- (44) *You take your screwdriver, right, and screw her home*
- (45) *Are we ready for our medicine now, Dr Smith?*
- (46) *We now turn to a discussion of globalisation in Chapter Three*
- (47) *When you're hot you're hot*
- (48) *Sometimes you wonder about the quality of the political leadership*
- (49) *She's a beauty all right* [said of a car]

# Strict and Sloppy Readings

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(50) Wife: *Jim kisses his wife goodbye before he leaves for work every morning. Why don't you do that?*

(51) Husband: *I don't know her that well.*

- **Sloppy anaphora** is the wife's intended reading, where *do that* is understood as “kiss one's wife”, resolving to “kiss your (own) wife”.
- **Strict anaphora** is the funny reading, where *do that* is understood as “kiss Jim's wife”

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# Concepts

# Prototypes

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- Concepts are organized in groups around a **prototype**
- These have typical members (remembered as **exemplars**)
  - What is typical FURNITURE?
  - What is a typical BIRD?
- prototypes have **characteristic features**
  - has feathers
  - warbles
  - flies
  - lays eggs
- This work was pioneered by Eleanor Rosch (1973, 1975) (very readable)

# Relations between Concepts

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- Concepts are linked in many ways
- Most common relationship is **hypernymy**: DOG is-a ANIMAL
- Typically subordinate terms inherit from superordinate terms
- Larger units of knowledge, such as **frames** are similar
- Much recent computational work on these
  - WordNet
  - FrameNet



# Basic Level Categories

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- Some categories (concepts) seem to be more psychologically basic than others
  - Pictures of objects are categorized faster at the basic level
  - Basic level names used more often in free-naming tasks
  - Children learn them earlier
  - Basic-level names are more common in adult discourse
  - Basic-level categories are common in different cultures
  - Basic level names tend to be short
  - Basic-level names tend to be common in compound nouns

➤ superordinate	basic	subordinate
<i>vehicle</i>	<i>bus</i>	<i>school bus</i>
<i>jewelry</i>	<i>necklace</i>	<i>pearl necklace</i>
<i>animal</i>	<i>dog</i>	<i>poodle</i>

- 
- Basic level categories are a decomposition of the world into maximally informative categories.
    - BLCs maximize the number of attributes shared by members of the category
    - BLCs minimize the number of attributes shared with other categories
  - It can be hard to agree on what is the Basic Level: whereas dog as a basic category is a species, bird or fish are at a higher level, etc.
  - Similarly, the notion of frequency is very closely tied to the basic level, but not exactly the same.

# Linguistic Relativity

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- The language we think in makes some concepts easy to express, and some concepts hard
- The idea behind **linguistic relativity** is that this will effect how you think
  - Korean lexicalizes politeness and has rigid social hierarchies
  - English and Chinese speakers differ as to whether they conceptualize things as substances or individuals
  - Gendered language speakers have different connotations:  
*key*
    - \* (German: masculine) 'hard, heavy, jagged, metal, and useful'
    - \* (Spanish: feminine) 'golden, intricate, little, lovely, shiny, and tiny'
  - It is easier to differentiate colors that you have names for

- 
- Most confirmed differences are very, very subtle

# The Sapir-Whorf Hypothesis

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**strong** language determines thought and that linguistic categories limit and determine cognitive categories

**weak** linguistic categories and usage influence thought and certain kinds of non-linguistic behaviour

The terms "Strong/Weak Sapir-Whorf Hypothesis" is widely used even though Edward Sapir and Benjamin Lee Whorf never co-authored anything and never stated their ideas in terms of a hypothesis let alone with two versions.

## What Whorf actually said

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We dissect nature along lines laid down by our native language. The categories and types that we isolate from the world of phenomena we do not find there because they stare every observer in the face; on the contrary, the world is presented in a kaleidoscope flux of impressions which has to be organized by our minds—and this means largely by the linguistic systems of our minds. We cut nature up, organize it into concepts, and ascribe significances as we do, largely because we are parties to an agreement to organize it in this way—an agreement that holds throughout our speech community and is codified in the patterns of our language [...] all observers are not led by the same physical evidence to the same picture of the universe, unless their linguistic backgrounds are similar, or can in some way be calibrated. Whorf (Carroll; Ed.); 1956: pp. 212–214

# Language, Thought and Reality

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- Do we really think in language?
  - We can think of things we don't have words for
  - Language under-specifies meaning
- Maybe we store a more abstract representation  
**the language of thought** or **Mentalese**
- Does the world exist outside of our minds?
- If so, can we truly perceive it?
- Many linguists side-step these issues: **lexical semantics**
- Many simplify them: **formal semantics**
- Some meet them head on: **conceptual/cognitive semantics**

# Summary

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- Revision
  - Introduction to Semantics
  - Information Theory
- Reference
- Reference as a Theory of Meaning
- Mental Representations
- Words, Concepts and Thinking

**Next Week** Chapter 3: Word Meaning



# Acknowledgments and References

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- Course design and slides borrow heavily from Nala Lee's course (HG202).
- More about names and naming in:  
Cumming, Sam, "Names", *The Stanford Encyclopedia of Philosophy (Spring 2012 Edition)*, Edward N. Zalta (ed.), URL = <http://plato.stanford.edu/archives/spr2012/entries/names/>.
- Video: Ronnie Corbet (2010) "Blackberry Sketch" In *The One Ronnie* broadcast on the BBC, 2012-12-17
- A great paper about doing research (no relation at all to semantics):  
*You and your Research* Richard Hamming

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Transcription of the Bell Communications Research Colloquium Seminar, 7 March 1986

<http://www.cs.virginia.edu/~robins/YouAndYourResearch.html>

➤ Strict/sloppy identity joke adapted from *Literal-Minded Blog: Linguistic commentary from a guy who takes things too literally.*

<http://literal-minded.wordpress.com/2011/03/04/you-cant-go-from-strict-to-sloppy/>



## References

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