

LING4400: Lecture Notes 1

Introduction

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1.1 What will we do in this course?

In this course we'll study **language**: what people say and how they say it.

More specifically, we'll study how the things people say relate to what they **mean**.

This can help us. . .

1. **communicate** more effectively (we'll learn ways meanings can be unclear)
2. **learn new languages** (many ways of describing things are common across languages)
3. **get a job** doing linguistics (e.g. help teach machines to understand what we say)

So we're studying what things **mean**. Ok, what do we mean by **mean**?

1. Are we studying **dictionary definitions**?

(a) No, dictionaries are for experienced language users, often cycle through familiar ideas:

human: A human being.

human being: A man, woman, or child of the species Homo sapiens.

Homo sapiens: The primate species to which modern humans belong.

(b) Also, dictionaries only list meanings for individual words, not phrases or sentences.

2. Are we studying **sets of objects** that satisfy linguistic descriptions?

Sometimes, but often sentences we are interested in are too abstract.

3. Are we studying **internal representations** using things like **brain scans**?

Some of us do! But generally no, we haven't learned enough yet to define meanings that way.

4. Is it **hopeless** because one never truly knows what lies in the heart of another?

No, as long as we keep our questions focused, we can obtain reliable generalizations.

We study meaning by manipulating sentences and noting how people make different **inferences**.

1.2 A study of inferences

Different sub-fields of linguistics are characterized by what kinds of inferences they study:

1. In **semantics**, we look at **entailments** – very reliable inferences about speakers' beliefs:

Here's an example of an entailment – if we believe sentence 1a, then we believe 1b and 1c:

- (1) a. *Beijing is a coastal capital.*
b. (entailed by 1a:) *Beijing is a capital.*
c. (entailed by 1a:) *Beijing is coastal.*

And here's an interesting change when we substitute in a 'non-intersective' adjective:

- (2) a. *Beijing is a new capital.* (People might have said this in the 50's.)
b. (entailed by 2a:) *Beijing is a capital.*
c. (**not** entailed by 2a:) *Beijing is new.* (People have lived there since Homo erectus!)

Unlike other types of inference, entailments have a very high probability (virtually certain).

We can measure these effects using surveys (but if not controversial, we rely on intuition).

2. In **pragmatics**, we look at **implicatures** and **presuppositions**:

- (a) **implicatures** are weaker inferences about speakers' beliefs:

- (3) a. *Most Brazilian states are tropical.*
b. (implied by 3a:) *Not all Brazilian states are tropical.* (or they'd have said *All*)

Because they are less probable than entailments, implicatures can be **anceled**:

- (4) a. *Most Brazilian states are tropical.*
b. *More precisely, all Brazilian states are tropical.*
c. (**not** implied by 4a,b:) *Not all Brazilian states are tropical.*

Compare this to:

- (5) a. *Beijing is a coastal capital.*
b. ?? *More precisely, Beijing is not coastal.* (Probably seems contradictory.)

Implicatures can also be **reinforced** without redundancy:

- (6) a. *Most Brazilian states are tropical.*
b. *And by that I mean not all Brazilian states are tropical.*
c. (**more than** implied by 6a,b:) *Not all Brazilian states are tropical.*

Compare this to:

- (7) a. *Beijing is a coastal capital.*
b. ?? *And by that I mean Beijing is coastal.* (Probably seems redundant.)

- (b) **presuppositions** are highly probable given both asserted and negated premises:

- (8) a. *Peru's coast is rocky.*
b. (presupposed by 8a:) *Peru has a coast.*

- (9) a. *Peru's coast is not rocky.*
- b. (also presupposed by 9a:) *Peru has a coast.*

Compare this to:

- (10) a. *Beijing is not a coastal capital.*
- b. (not entailed by 10a:) *Beijing is coastal.*

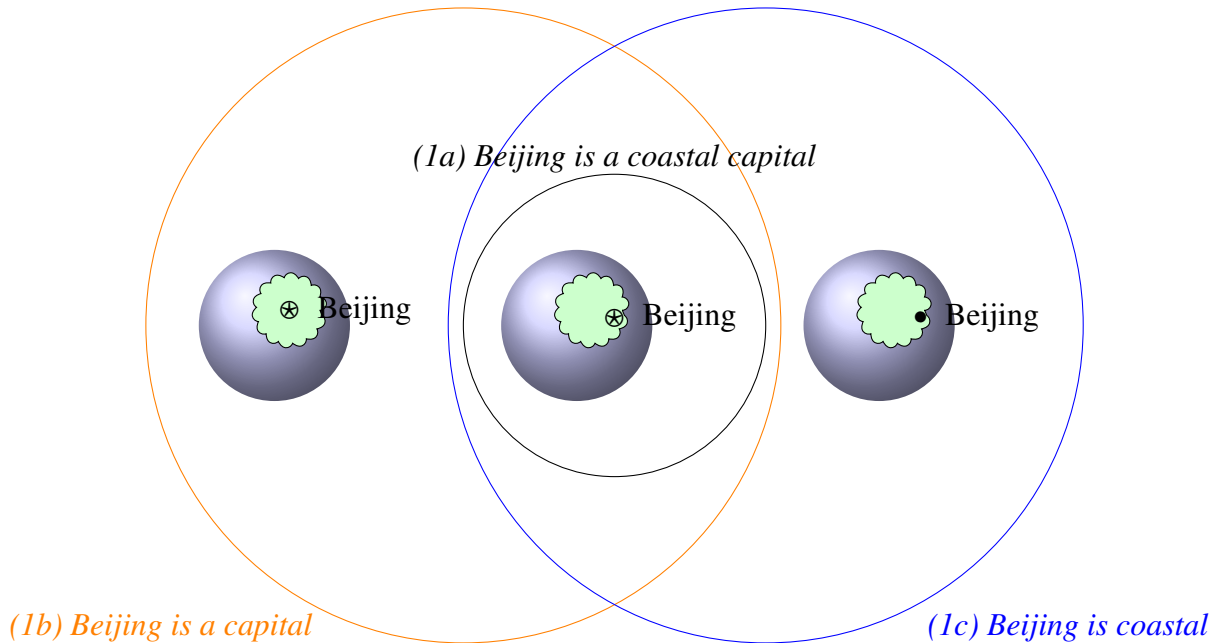
1.3 Truth conditions versus truth values

Note that inferences are **conditional**: if we believe the premise then we believe the conclusion.

The inference would hold if sentence 1a was about *Moscow* (inland) or *Smurf Village* (fictional).

This may require us to evaluate sentences in **possible worlds**: science fiction ‘alternate universes.’

So 1a entails 1b if the worlds where we believe 1a is a **subset** of the worlds where we believe 1b:



So, to understand the meaning of an expression, it's not enough to know if it's true in our world.

We also need to know whether it would be true in *other* possible worlds.

1.4 Compositionality

We seem to be able to say an unlimited number of things:

- (11) a. *Beijing is a city.*
- b. *Beijing is a city in China.*
- c. *Beijing is a city in China near the coast.*
- d. *Beijing is a city in China near the coast with a walled palace ...*

But fluent speakers have finite linguistic experience: a few million words per year for a few years.

How can we learn all these different ways to describe things?

Language must be **productive**, or **compositional** – forming meanings out of re-usable parts.

Indeed, words like *Beijing* and *coastal* seem to mean the same thing in different contexts.

This assumption lets us study meanings by studying their pieces, and how they fit together.