

Referential expressions

Readings: Portner, Ch. 5.1–3, 5.5, 5.7

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I. Definite NPs

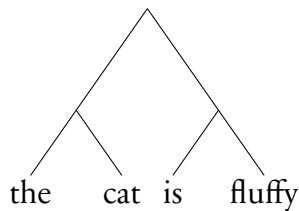
- Consider (1) and (2).

(1) Molly is fluffy.

(2) The cat is fluffy.

- *Molly* and *the cat* play the same role in the two sentences; they saturate the predicate *is fluffy*.
- We already know how to compositionally derive sentences with names like (1). How do we then derive sentences with *definite NPs* like (2)?

(3)



- Since *the cat* as a whole needs to be able to saturate the predicate *is fluffy*, it'd better denote an entity.
- *Cat* is a property, so *the* has to combine with a property to return the specific entity described by that property.
- For *the* to be able to do its job, there has to exist one and only one relevant entity in the context. In other words, *the* comes with a *presupposition* that there exists a unique *salient* referent it can retrieve. This presupposition is called the *uniqueness presupposition*.

In-class Exercise 1

- Show that the uniqueness presupposition triggered by *the* is indeed a presupposition.

- It would be entirely felicitous for me to tell you (4a), but much odder to say (4b), although both contain a definite NP whose referent wasn't salient in the context. Can you think of an explanation for this contrast?

(4) a. When I was driving home yesterday, I almost didn't notice **the pedestrian who popped out of nowhere in front of my car.**
b. When I was driving home yesterday, I almost didn't notice **the pedestrian.**

2. Indefinite NPs

- Consider the two sequences:

(5) A cat walked into the kitchen. The cat meowed.
(6) A cat walked into the kitchen. A cat meowed.
- We said that definite NPs presuppose a unique salient referent in the context. In (5) this presupposition is satisfied, because *a cat* introduces a salient referent for *the cat*. We thus understand that *a cat* and *the cat* refer to the same entity.
- In (6), however, we understand that the two occurrences of *a cat* can't refer to the same cat. This suggests that *indefinite NPs* require that their referent be something new.
- Irene Heim called the contrast above the *novelty—familiarity condition*: indefinites introduce new referents into the discourse, definites refer to existing referents.
- However, sometimes indefinites seem to introduce entities that are not very novel:

(7) I ran into a certain grumpy professor today. You know who I mean.
- (7) says that the grumpy professor is known to the addressee, so how can it be “new”? Some people believe such indefinites are a separate variety, called *specific indefinites*, which are exempt from the novelty condition, or at least subject to a weaker version of it.

In-class Exercise 2

- Often it's possible to pick up the referent introduced by an indefinite NP with a pronoun like *it*:

(8) I saw a beautiful sweater today. It had blue and green stripes.
- Can you come up with examples where this is not possible (at least not at first glance)?

3. Plural and mass nouns

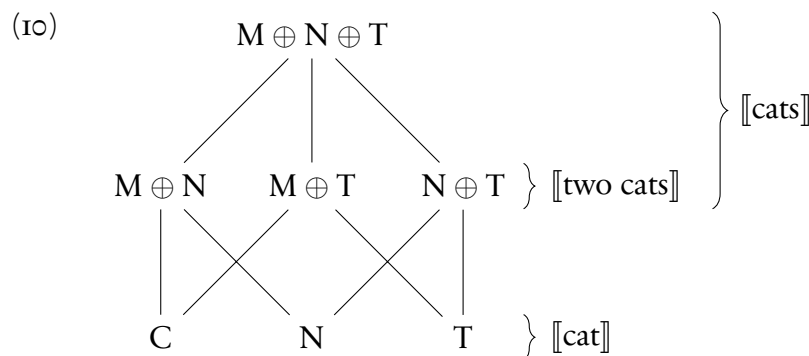
- So far we've only looked at singular countable NPs. In this section we'll look at *plural NPs*, such as *two cats*, and *mass NPs*, such as *much gold*.

3.1. Pluralities in terms of sums

- Godehard Link proposed to think about pluralities in terms of *sums*.
- Any two individuals A and B can be summed to make a plural individual $A \oplus B$. This plural individual has A and B as its *parts*.
- If a common noun denotes a set of entities, the corresponding plural noun denotes the set of all plural individuals made up of those entities, e.g.:

- (9) a. $\llbracket \text{cat} \rrbracket = \{\text{Molly, Mrs Norris, Tufty}\}$
 b. $\llbracket \text{cats} \rrbracket = \{\text{Molly} \oplus \text{Mrs Norris, Molly} \oplus \text{Tufty, Mrs Norris} \oplus \text{Tufty, Molly} \oplus \text{Mrs Norris} \oplus \text{Tufty}\}$

- In the example above Molly, Mrs Norris, and Tufty are *atoms* of a part-whole structure shown in (10). The other parts of that structure are plural individuals.



- What about NPs with numerals, like *two cats*? The numeral *two* combines with the plural noun *cats* and returns the set of all plural individuals in the denotation of *cats* that consist of two atoms:

(11) $\llbracket \text{two cats} \rrbracket = \{\text{Molly} \oplus \text{Mrs Norris, Molly} \oplus \text{Tufty, Mrs Norris} \oplus \text{Tufty}\}$

In-class Exercise 3

- Assuming the denotation in (12), write the denotations in (13).

(12) $\llbracket \text{student} \rrbracket = \{\text{Hannah, Ron, Luna}\}$

(13) a. $\llbracket \text{students} \rrbracket =$

b. $\llbracket \text{three students} \rrbracket =$

3.2. Mass nouns as pluralities

- Mass nouns, like *gold*, are also associated with part-whole structures like in (10), but there are no basic units, or atoms, of things like gold (that is, not in natural language).
- Indeed, mass nouns share some properties with plurals. E.g.:

- (14)
- If $A \in \llbracket \text{cats} \rrbracket$ and $B \in \llbracket \text{cats} \rrbracket$, $A \oplus B \in \llbracket \text{cats} \rrbracket$.
 - If $A \in \llbracket \text{gold} \rrbracket$ and $B \in \llbracket \text{gold} \rrbracket$, $A \oplus B \in \llbracket \text{gold} \rrbracket$.
 - If $A \in \llbracket \text{cat} \rrbracket$ and $B \in \llbracket \text{cat} \rrbracket$, $A \oplus B \notin \llbracket \text{cat} \rrbracket$.

- However, because their structure lacks atoms, mass nouns can't be quantified without adding measurement units or classifiers/classifier-like words:

- (15)
- three cats
 - *three cat
 - *three golds
 - *three gold
 - three ounces / pieces of gold

- Some mass nouns, however, can be shifted into a countable interpretation quite easily, without adding any overt measure units/classifiers:

- (16) three beers

3.3. Collective and distributive predication

- The following is an excerpt from a famous paper by Godehard Link on plural semantics.

The weekly *Magazine* of the German newspaper *Frankfurter Allgemeine Zeitung* regularly issues Marcel Proust's famous questionnaire which is answered each time by a different personality of West German public life. One of those recently questioned was Rudolf Augstein, editor of *Der Spiegel*: his reply to the question: "Which property do you appreciate most with your friends?" was

(1) "that they are few."

- What do you think is the point in mentioning this example in the context of Link's paper?

In-class Exercise 4

- Can you think of other predicates like *be few*?

- Predicates like this are called *collective* predicates.
- In English they require plural NPs, unless the noun is group-denoting (e.g., *family*, *committee*):

- (17) a. The girls met in secret.
b. #The girl met in secret.
c. The committee met in secret.

In-class Exercise 5

- Does (18) also receive a collective reading? What about (19)? Hint: (19) is ambiguous.

(18) The students visited the castle.

(19) Bea and Carla lifted a piano.

- Which readings are available depends on the predicate. Some predicates only allow collective readings (e.g., *meet*, *gather*, *be many*), others only distributive readings (e.g., *smile*), and yet others allow both (e.g., *lift a piano*).

4. Pronouns and anaphora

4.1. Introducing pronouns

- *Pronouns* refer, too. In (20) it is natural to assume that *he* refers to Felix, so it's Felix who saturates the predicate *is fluffy*.

(20) Felix is Hannah's cat. He is fluffy.

- The relationship between an *anaphor* (such as a pronoun) and its *antecedent* is called *anaphora*. (NB: The term *anaphor* is used differently in semantics than in syntax!)
- Like definites, pronouns can refer to different things in different contexts and require a salient individual that meets their descriptive part ('male individual' for *he*), but that individual doesn't have to be unique:

(21) Felix ran into Ronald. He sniffed him.

(22) Charles ran into Richard. He greeted him.

(23) Charles poked Richard. Susie pushed him.

4.2. Pronouns as variables

- One view is that pronouns are *variables* whose values are supplied by an *assignment function*. This function is part of the context in which the sentence gets interpreted.
- E.g., in (21) it is natural to assume that the assignment function maps the first pronoun *he* to Felix and the second pronoun *him* to Ronald.

Bound variable pronouns

- In examples like (21) the nature of the anaphoric link seems to be pragmatic: our world knowledge tells us that cats are more likely to sniff humans than vice versa.
- But in many other cases, the link between pronoun and referent is clearly semantic:

(24) Every dog likes its human.

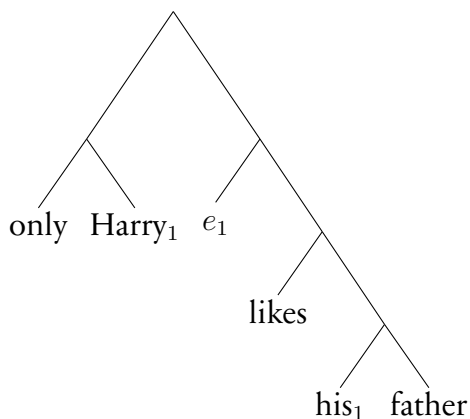
(25) Only Harry likes his father.

In-class Exercise 6

- What are the two readings of (25)? For each reading, describe a scenario that makes the reading true.

- How is the sloppy reading derived?
 - We'll evoke the same process we have seen for relative clauses, coindexation and movement, obtaining the structure *Only Harry*₁ [*e*₁ *likes his*₁ *father*]:

(26)



- *e*₁ *loves his*₁ *father* is a property that needs a single argument to fill two slots.
- When *only Harry* combines with that property, it says two things: (i) when the assignment function maps the variable indexed '1' to Harry, we get a true proposition, (ii) when it maps that variable to anyone else, we get a false proposition.

So, is binding all we need?

- It would be tempting to say that anaphora always involves variable binding, but:
 - Not all pronouns have overt antecedents:
- (27) *Context: Professor Binns is giving a lecture. Ron turns to Hannah and says:*
He is boring.
- *Every/only NP* can't bind across sentences, but anaphora to names or indefinites is OK:
- (28) a. Felix₁ / [A cat]₁ walked in. He₁ yawned.
b. [Every cat]₁ walked in. *He₁ yawned.
c. Only Felix licked his tail. His fur is tatty.
≠ Only Felix licked his tail and has tatty fur.

What you need to know

Key notions: definite NP, salience, uniqueness presupposition, indefinite NP, novelty—familiarity condition, plural NP, mass NP, sum, part, atom, pronoun, anaphora, anaphor, antecedent, strict vs. sloppy reading, bound variable pronoun, binder

Answers to the following questions:

- How are plural and mass nouns alike? How are they different?
- How are pronouns empirically different from definites?
- Why would it be problematic to say that all anaphora is binding?

Skills:

- Informally describe the compositional process behind definite NPs like *the cat*.
- Give denotations to plurals (*wombats*) and plurals combined with numerals (*two wombats*) according to Link's sum-based theory of pluralities.