

Nominal modifiers

Readings: Portner, Ch. 4.1–3

I. Adjectives as modifiers

I.1. Intersective adjectives

- We have learnt how to derive meanings of copula sentences with nouns and adjectives:

- (1) a. Molly is a cat.
b. Molly is gray.

- But we can also have sentences in which an adjective modifies a noun:

- (2) Molly is a gray cat.

- The story so far: both *cat* and *gray* denote properties, i.e., unsaturated propositions that expect an individual as an argument to saturate them. But *gray* can't saturate the argument slot of *cat*, nor vice versa. Moreover, we don't want *gray cat* to denote a saturated proposition, we want it to denote a complex predicate, whose argument slot *Molly* can then saturate.
- Important observation: (2) entails both that Molly is an cat and that she is gray. That is, (2) says that Molly is in the intersection of the set of cats and the set of gray things. Adjectives that behave like this are called *intersective*.
- We introduce a new compositional mechanism to combine such adjectives with nouns, *predicate modification*, which combines two one-place predicates via intersection.

In-class Exercise I

- Write the truth conditions of (2) (i) in set theoretical terms (use predicate notation, set intersection, and set membership notation), (ii) in predicate logic.

I.2. Non-intersective adjectives

I.2.1. Subsective adjectives

- Not all adjectives are intersective, however. Consider (3) and (4) below. In (3) the conclusion is justified, but in (4) it's not.

- (3) Clara is a female newscaster.
Clara is a cellist.

Therefore, Clara is a female cellist.

- (4) Clara is an experienced newscaster.
Clara is a cellist.

Therefore, Clara is an experienced cellist.

- In (4) *experienced newscaster* doesn't denote the intersection of experienced entities and newscasters; rather it picks out a subset of newscasters. Adjectives that behave like this are called *subsective*.

In-class Exercise 2

- Come up with one intersective and one subsective adjective (apart from those mentioned above). Use the inference test from (3) and (4) to demonstrate their nature.
- Subsective adjectives can't combine with the nouns they modify via intersection.
 - Instead we could treat adjectives like *experienced* as higher-order properties, "properties with property-sized holes", which can be saturated by an ordinary property like *newscaster* or *cellist* in (4). The result would be a complex property with an "entity-sized hole" in it. This would be *higher-order saturation*, but it would still be the same compositional mechanism as ordinary saturation.
 - Extensionally speaking, you can think of a subsective adjective like *experienced* as a function that takes a set of entities like $\{x \mid x \text{ is a newscaster}\}$ and returns a subset of this set, such as $\{x \mid x \text{ is an experienced newscaster}\}$.
 - A special kind of subsective adjectives: *gradable* adjectives. (5a) doesn't entail (5b) because Mimi might be small for an elephant, but not necessarily if our comparison set includes all animals.
(5) a. Mimi is a small elephant.
b. Mimi is small.

1.2.2. Non-subsective adjectives

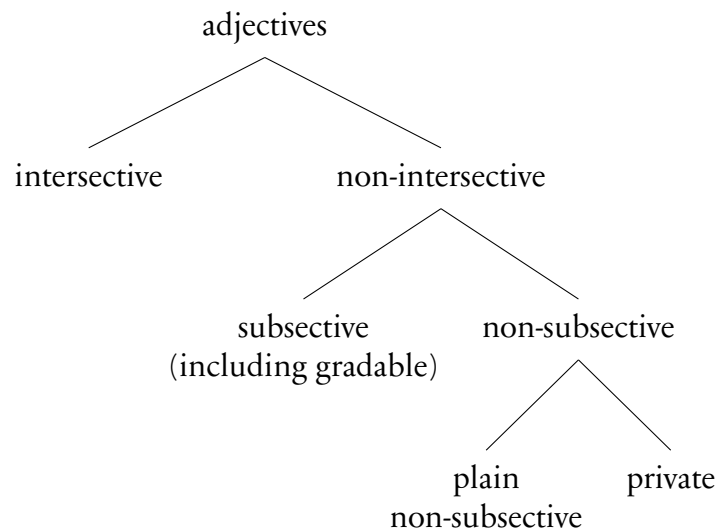
- There are other types of non-intersective adjectives that would also need to be treated as higher-order properties. From *Clara is an experienced newscaster* we can at least infer that Clara is a newscaster. But what about the examples in the following exercise?

In-class Exercise 3

- Form examples of the form 'NP is a Adj N' using the adjectives *alleged*, *former* and *fake*. For each sentence, check whether we can infer that (i) 'NP is a N' and (ii) 'NP is not a N'.

- *Alleged N* doesn't entail *N*, nor does it entail *not N* (the complement set of *N*). Adjectives that behave like this are called *plain non-subjective*.
- *Former N* or *fake N* seem to entail *not N* (even though it's a controversial issue). Adjectives that behave like this are called *privative*.

1.2.3. Summary of adjective classes



2. Bonus: relative clauses as modifiers

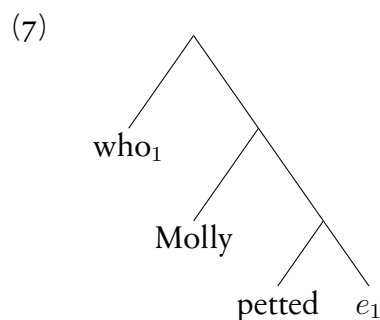
- Relative clauses, as in (6), can modify noun phrases, too:

(6) Molly is a cat who Amanda petted.

- But relative clauses are structurally complex. How are they built compositionally?

2.1. Syntax of relative clauses: movement and traces

- We assume that relative clauses are built syntactically via *movement*. *Who* in (6) starts out as the object of *petted* and then moves up, leaving behind a *trace*. *Who* and the trace will bear the same *index*:



2.2. Semantics of relative clauses: properties out of propositions

- The trace that who_1 left behind temporarily saturates the first argument slot of the two-place predicate *petted*, the result being a one place-predicate *petted e_1* .
- We build the proposition *Molly petted e_1* as usual.
- Who_1 then “unsaturates” the resulting proposition, making it a property again (the property of being an x such that Molly petted x).
- After that the relative clause *who_1 Molly petted e_1* can modify a noun just like adjectives do.

What you need to know

Key notions: predicate modification, higher-order saturation, intersective adjectives, subsective adjectives, non-subsective adjectives, gradable adjectives

Skills:

- Compositionally derive meanings of copula sentences with nouns modified by intersective adjectives (*Molly is a gray cat*) and represent their truth conditions in (i) set theory notation, (ii) predicate logic.