LIN6049 Advanced Semantics: Puzzles in Meaning
2022/2023

Handout 3: definite NPs and the VPs they combine with

Obligatory reading: Beck and Gergel's (2014) section on *the* (from *Intro to Semantics*)
Optional reading: Champollion (2014), pp. 3-5 and 17-18

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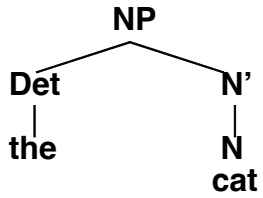
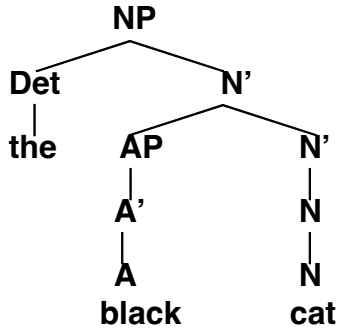
1 The English definite determiner as we thought of it in *Intro to Semantics*

(1)



(2)



(3) Rule for *the* (from *Introduction to Semantics*)
If X = [$_{NP}$ *the* N'] then for any s: ⟦**the N'**⟧^{s} is only defined if there is exactly one z such that z ∈ ⟦**N'**⟧^{s}. If defined, ⟦**the N'**⟧^{s} is that z

(4) For a noun phrase with *the* to be defined, the presuppositions introduced by *the* have to be met, otherwise, the sentence is not felicitous

(5) Presuppositions of *the*: ⟦**the N'**⟧^{s} is only defined if…
(a) Existence: there is exactly one z such that z ∈ ⟦**N'**⟧^{s}
(b) Uniqueness: there is exactly one z such that z ∈ ⟦**N'**⟧^{s}

Today's two arguments:
-we can't talk about plain uniqueness for *the* once we take into account plural noun phrases (e.g., *the cats*), which deal with non-atomic individuals
-atomic and non-atomic individuals allow us to understand distributive and collective VPs

2 Uniqueness and plural nouns

(6) ⟦**the cat**⟧^{s} is defined only if there is exactly one z such that z ∈ ⟦**cat**⟧^{s}. If defined, ⟦**the cat**⟧^{s} is that z

(7) [Situation 232 (s_{232}): Lupi the cat is in the room, there are no other cats in the room]
The cat is sleeping

(8) ⟦**The cat is sleeping**⟧^{s} is only defined if <u>there is exactly one z such that z ∈ ⟦**cat**⟧^{s}</u>. If defined, ⟦**The cat is sleeping**⟧^{s} = 1 iff that z sleeps in s

(9) Both presuppositions satisfied in s_{232}, so (8) is felicitous and true if the unique cat in s_{232} is sleeping, false if it isn't. ⟦**cat**⟧^{s232} = {Lupi}

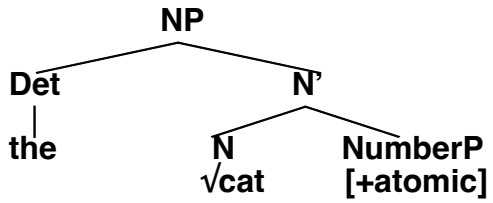
(10) [Situation 233: there are two cats in the room, Lupi and Lolo]
#The cat is sleeping

(11) Presupposition of <u>uniqueness</u> not satisfied in s_{233}, so (8) is not felicitous.
⟦**cat**⟧^{s233} = {Lupi, Lolo}

(12) [Situation 234: there are no cats in the room]
#The cat is sleeping

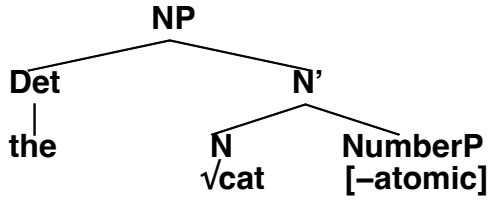
(13) Presupposition of <u>existence</u> not satisfied in s_{234}, so (8) is not felicitous. ⟦**cat**⟧^{s234} = { }

(14)



(15) ⟦**cat**⟧^{s} = ⟦**√cat [+atomic]**⟧^{s} = ⟦**√cat**⟧^{s} ∩ ⟦**+atomic**⟧^{s} = {x : x is a simple individual in s and x is a cat in s}

(16)



(17) ⟦**cats**⟧^{s} = ⟦**√cat [–atomic]**⟧^{s} = ⟦**√cat**⟧^{s} ∩ ⟦**–atomic**⟧^{s} = {x : x is a complex individual in s and x is a cat in s}

(18) Suppose there are four cats in the room, a, b, c and d, in s_{235}. In that case: ⟦**cats**⟧^{s235} = {ab, ac, ad, bc, bd, cd, abc, abd, acd, bcd, abcd}

(19) ⟦**the cats are sleeping**⟧^{s235} should not be felicitous, as there isn't a unique member of {ab, ac, ad, bc, bd, cd, abc, abd, acd, bcd, abcd}, contrary to fact

(20) Is the *the* that combines with plural nouns different from the *the* that combines with singular nouns? Are there two different definite articles in English with the same phonology and syntax but with different semantics, depending on whether the noun is singular or plural?

(21) More economical, better solution: English *the* has a presupposition of <u>maximality</u> instead of a presupposition of uniqueness. There is only one *the* after all

(22) Rule for *the* (maximality)
If X = [$_{NP}$ *the* N'] then for any s: ⟦**the N'**⟧^{s} is only defined if there is a maximal z such that z ∈ ⟦**N'**⟧^{s}. If defined, ⟦**the N'**⟧^{s} is that z

(23) ⟦**The cat is sleeping**⟧^{s} is only defined if there is a maximal z such that z ∈ ⟦**cat**⟧^{s}. If defined, ⟦**The cat is sleeping**⟧^{s} =1 iff that z sleeps in s

(24) Presupposition of maximality satisfied as long as there is a maximal member in ⟦**cat**⟧^{s}. That will happen as long as ⟦**cat**⟧^{s} is a singleton set, since, if there is only one cat in that set, that is the maximal cat individual in it

(25) ⟦**The cats are sleeping**⟧^{s} is only defined if there is a maximal z such that z ∈ ⟦**cats**⟧^{s}. If defined, ⟦**The cats are sleeping**⟧^{s} = 1 iff that z sleeps in s

(26) Presupposition of maximality satisfied as long as there is a maximal member in ⟦**cats**⟧^{s}: in s_{235}, for example, that is abcd (which is a member of ⟦**cats**⟧^{s235} = {ab, ac, ad, bc, bd, cd, abc, abd, acd, bcd, abcd})

3 Distributive and collective VPs and their subjects

Now that we understand plural NPs better, let's look at the VPs they combine with:

(27) The students are tall
→ each one of the students is tall

(28) The students left the room
→ each one of the students left the room

(29) The students met in the hallway
→ the students as a group met, ✗each one of the students met

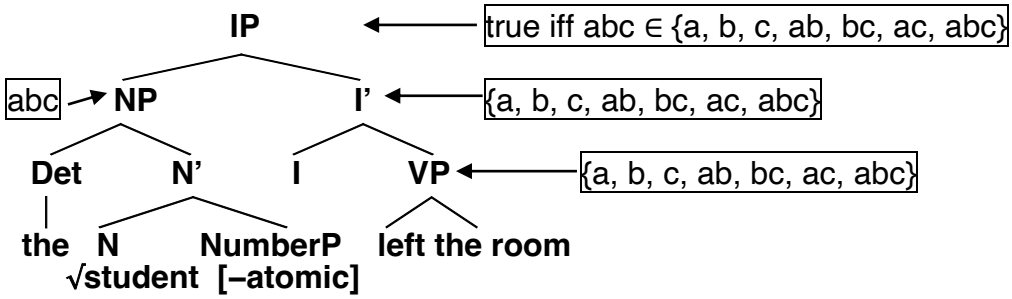
(30) The soldiers surrounded the castle
→ the soldiers as a group surrounded the castle, ✗each one of the soldiers surrounded the castle

Distributive VPs (*be tall*, *leave*): the VP property applies/is distributed down to atomic individuals

Collective VPs (*meet*, *surround*): the VP property applies to non-atomic individuals only

(31) ⟦**be tall**⟧^{s} = {x: x is tall in s} = {a, b, c, ab, bc, ac, abc}
⟦**left the room**⟧^{s} = {x: x left the room in s} = {a, b, c, ab, bc, ac, abc}

(32) **The students left the room**

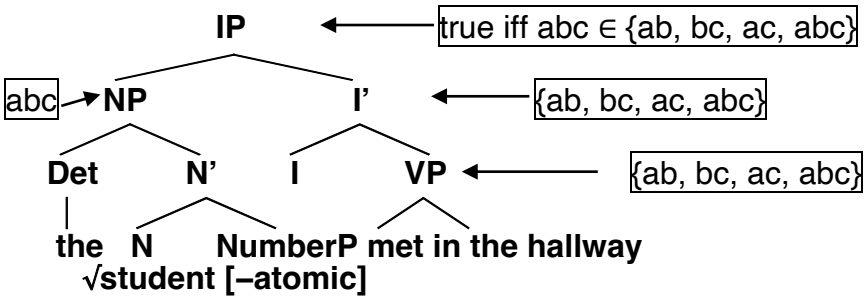


(33) Subject-predicate rule (from *Intro to Semantics*; only the non-quantificational part)
If X = [$_{IP}$ NP I'], then for any s: ⟦**X**⟧^{s} = 1 iff ⟦**NP**⟧^{s} ∈ ⟦**I'**⟧^{s}

(34) Distributive VPs: if ab ∈ ⟦**VP**⟧^{s}, then a ∈ ⟦**VP**⟧^{s} and b ∈ ⟦**VP**⟧^{s}

(35) ⟦**met in the hallway**⟧^{s} = {x: x is non-atomic and x met in the hallway in s} = {ab, bc, ac, abc}
⟦**surrounded the castle**⟧^{s} = {x: x is non-atomic and x surrounded the castle in s} = {ab, bc, ac, abc}

(36) **The students met in the hallway**



Correct predictions of this analysis:

(37) The student is tall
(38) The student left the room

(39) *The soldier surrounded the castle
(40) *The student met in the hallway

(41) The students left the room and met in the hallway
Analysis: the students left the room and ~~the students~~ met in the hallway

(42) *The student left the room and met in the hallway
Analysis: *the student left the room and ~~the student~~ met in the hallway

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