Final review

1 Key terms and concepts

Key terms and concepts, roughly in the order they were introduced.

- The Principle of Compositionality
- truth value, truth condition, models
  - contradiction, tautology
- entailment ($\Rightarrow$), presupposition ($\rightsquigarrow$): how to distinguish
- set notation: $\{x : x \text{ is a cat}\}$ $\in$ $\subseteq$ $=$ $\cap$ $\cup$ $\setminus$
- other mathematical notation: $\forall$ $\exists$ $\wedge$ $\vee$ $f \,||\, g$ $[i \mapsto x]$
- the denotation/interpretation function $[\![...]\!]$
- types: e, t, $\langle\sigma, \tau\rangle$ D_τ is the domain of type τ
- λ-notation: $f = \lambda \underbrace{x}_{\text{argument variable}} : \underbrace{x \in \mathbb{R}}_{\text{domain condition}} . \underbrace{x + 1}_{\text{value description}}$
- characteristic functions of sets
- The Triangle Method; Binary Branching
- variables: bound vs free, binders, *such that*, index, assignment function, vacuous binding
- Quantifiers: (Handouts 2, 5, 7)
  - Generalized Quantifier Theory
  - quantificational determiners
  - type $\langle\langle e, t\rangle, t\rangle$
  - the problem of quantifiers in object position
  - restrictor, scope, bound pronouns
- NPIs and downward-entailment: (Handout 2)
  - A quantificational determiner D is *left downward-entailing* (DE; or downward monotone) if and only if for all $A_1 \subseteq A_2 \subseteq D_e$ and $B \subseteq D_e$, $D(A_2, B) \Rightarrow D(A_1, B)$. (and similarly for *right DE*)
  - NPIs are allowed in *downward-entailing* environments. (Ladusaw, 1979)
- Modifiers: (Handout 4)
  - Intersective, non-intersective

- Definite descriptions: (Handout 4)
  - ⟦the⟧
  - Presupposition calculation
- The interpretation of movement: (Handouts 6, 7)
  Pick an arbitrary index i.
  1. The base position of movement is replaced with a *trace* with index i: t_i.
  2. A *binder index i* is adjoined right under the target position of the movement chain.
- Grammatical architecture:
  - T/Y-model: Syntax, Logical Form (LF), Phonological Form (PF)
  - overt and covert movement; islands
  - Quantifier Raising (QR); reconstruction
- Focus: (Handout 8)
  - alternatives, prejacent, F-mark
  - focus-semantic value $[\![...]\!]^f$ (7), ordinary semantic value $[\![...]\!]^o$
  - *only*, *also*
  - Taglicht ambiguities
- Intensional semantics: (Handout 9)
  - substitution property, intensional contexts
  - extension, intension
  - possible worlds; type s
  - modals bases: epistemic (Epist), deontic (Deont), "root"
  - modal forces: possibility (∃), necessity (∀)
  - Intensional Functional Application (8)
  - conditionals: material implication (→), modal restrictor view
- Ellipsis: (Handout 10)
  - LF Identity Condition on Ellipsis (H&K p. 250) (9)
  - scope parallelism
  - strict and sloppy readings of pronouns
  - Antecedent-Contained Deletion (ACD); Sag-Williams generalization (10)

2 Basic composition rules

(1) **Terminal Nodes (TN):**

If α is a terminal node, $[\![\alpha]\!]$ is specified in the lexicon.

(2) **Non-branching Nodes (NN):**

If α is a non-branching node, and β is its daughter node, then $[\![\alpha]\!] = [\![\beta]\!]$.

(3) **Functional Application (FA):** (Handout 4 version; based on H&K)

If α is a branching node, $\{\beta, \gamma\}$ is the set of α's daughters, then

- $[\![\alpha]\!]$ is defined if and only if: $[\![\beta]\!]$ and $[\![\gamma]\!]$ are both defined and $[\![\beta]\!]$ is a function whose domain contains $[\![\gamma]\!]$;
- if defined, $[\![\alpha]\!] = [\![\beta]\!]([\![\gamma]\!])$.

(4) **Predicate Modification (PM):**

If α is a branching node, $\{\beta, \gamma\}$ is the set of α's daughters, and $[\![\beta]\!]$ and $[\![\gamma]\!]$ are both in $D_{\langle e,t\rangle}$, then $[\![\alpha]\!] = \lambda x \in D_e \ . \ [\![\beta]\!]\,(x) = 1$ and $[\![\gamma]\!] = 1$

(5) **Traces and Pronouns Rule (T&P):**

If α is a pronoun or trace, g is a variable assignment, and $g(i)$ is defined, then $[\![\alpha_i]\!]^g = g(i)$.

(6) **Predicate Abstraction (PA):**

Let α be a branching node with daughters β and γ, where β dominates only a numerical index i. Then, for any assignment g, $[\![\alpha]\!]^g = \lambda x \ . \ [\![\gamma]\!]^{[i \mapsto x]\|g}$.

3 Additional technical concepts

(7) **A recursive definition for the computation of focus-semantic values:**

<u>If α of type τ is F-marked:</u> $[\![\alpha]\!]^f$ = a contextually-determined subset of D_τ.

<u>If α is not F-marked:</u>

$$[\![\alpha]\!]^f = \begin{cases} \left\{[\![\alpha]\!]^o\right\} & \text{if terminal node} \\ [\![\beta]\!]^f & \text{if non-branching with daughter } \beta \\ \left\{b \circ g : b \in [\![\beta]\!]^f, g \in [\![\gamma]\!]^f\right\} & \text{if branching with daughters } \beta, \gamma \end{cases}$$

where $\circ$ is the appropriate composition rule: FA or PM.

(8) **Intensional Functional Application:** (from Handout 9; based on von Fintel and Heim, 2011)

If α is a branching node and $\{\beta, \gamma\}$ is the set of its daughters, then, for any world w and assignment g: if $[\![\beta]\!]^{w,g}$ is a function whose domain contains $\lambda w'_s \ . \ [\![\gamma]\!]^{w',g}$, then $[\![\alpha]\!]^{w,g} = [\![\beta]\!]^{w,g}\left(\lambda w'_s \ . \ [\![\gamma]\!]^{w',g}\right)$.

(9) **LF Identity Condition on Ellipsis:** (H&K p. 250)
A constituent may be deleted at PF only if it is a copy of another constituent at LF.
A rule for indices (p. 254): No LF representation (for a sentence or multisentential text) must contain both bound occurrences and free occurrences of the same index.

(10) **The Sag-Williams generalization:** (Sag, 1976; Williams, 1974)
In Antecedent-Contained Deletion, the size of the ellipsis determines the lowest possible scope of the object DP.

References

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Heim, Irene, and Angelika Kratzer. 1998. *Semantics in generative grammar*. Blackwell.

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