Introduction to Semantics/Einführung in die Semantik Summer 2020

Instructor	Dr. Prerna Nadathur (prerna.nadathur@phil.hhu.de)
Office	24.53.00.87
Class Schedule	Wednesday 14.30-16.00
Class Location	22.01, Hörsaal 2A
Course website	`pnadathur.github.io/semantik-sommer20.html` All course materials will be posted on the website.

Course description

Semantics is the branch of linguistics that investigates the meanings of words and expressions. This course is an introduction to compositional semantics, which focuses on understanding and explaining our ability to produce and comprehend an infinite variety of novel linguistic expressions and constructions. Over the semester, we will develop a semantic system which is *truth-conditional*, meaning that it associates the meaning of sentences with the circumstances under which these sentences are true in the world. Our system is also *compositional*, meaning that we build up the meanings of sentences and phrases by putting together and combining the meanings of their subparts.

In the first part of the course, we introduce the formal tools of truth-conditional semantics, including the basic theory of sets, relations, and functions, and the some basic ideas from propositional logic. In the second part of the course, we use these tools to guide our examination of a variety of compositional phenomena, including the interpretation of modifying expressions (adjectives and adverbs), the interpretation of definite descriptions (*the* cat as opposed to *a* cat), the treatment of presuppositions or preconditions for certain expressions, and the interpretation of quantifiers (*every, some, no*).

Course aims

This course is intended for early-stage students of linguistics and the philosophy of language. It introduces the basic ideas and tools behind compositional semantics. By the end of the course, students should be familiar with the basic theory of sets, relations, and functions and understand the notion of types and type-driven compositional meaning. They should also be able to produce simple semantic computations and apply their knowledge to new data. Students will also gain some familiarity with propositional and predicate logic, which will prepare them for more advanced courses in semantics. Please see below for policies regarding credit points and the Abschlussprüfung.

Policies

More details about course policies and tutors are available on the course webpage. Please review this information.

(i) **Tutors.** Each student has been assigned to one tutor. Please see the course webpage for their names, contact details, and the assignments. This class does not have tutorials, but you are encouraged to communicate with your tutor via email. You can email them about

course content, organizational issues, and for questions and feedback. They will also have regular office hours.

(ii) **Readings.** Readings should be completed before the class for which they are assigned. All readings can be downloaded from the course webpage. To access the reading list, you will need the course password: `montague`.

(iii) **Assignments.** This course has regular homework assignments, roughly every 1–2 weeks. They will be made available before class on the course webpage, and will be due at the beginning of class the following week, unless otherwise specified. You are expected to type your assignments and bring them to class with you. Since we will usually discuss the assignments in class on the day they are due, assignments will not be accepted after class has ended. Late assignments will only be accepted in class, and will receive an automatic deduction of 20%. If you are unable to attend class, you can turn in your assignment before class begins to the box marked "Semantik" in the Sekretariat der Allgemeinen Sprachwissenschaft & Computerlinguistik (24.53.00.86).

(iv) **Participation.** To receive credit points (Kreditpunkten, Beteiligungsnachweis) for participation, you must receive at least 60% of the available homework points, and turn in at least 75% of the assignments. Late homework will not be accepted, but there will be an opportunity to complete a make-up assignment at the end of the semester.

(v) **Final exam/Abschlussprüfung.** In order to qualify for the AP, you must take and pass a final in-class exam. You can apply for the AP using the appropriate forms for your course of study, available in the Sekretariat (24.53.00.86).

(vi) **Language.** Lectures and any supplementary materials will be in English. You may complete the assignments in English or German. If you choose to complete assignments in English (encouraged), you will NOT be penalised for errors having to do with English grammar.

(vii) **Academic integrity.** Academic dishonesty and plagiarism are strictly prohibited. You are welcome to use the library, textbooks, journal articles, and other resources, but you *must* cite any sources that you use. Quoted material in particular must be attributed, including page numbers where possible. You are welcome (and encouraged) to work with one another to solve the problems on the assignments, but you must write up your solutions independently, in your own words. It is a good practice to indicate the names of your collaborators on your assignments. You may NOT collaborate with others on the final exam.

(vii) **Electronic devices.** As a courtesy to other students, please do not use cell phones during class. You may use a laptop to take notes.

Course plan (subject to revision)

We will cover the following topics, more or less in this order. The dates indicated are only an outline: we may spend more or less time on certain material depending on how the course progresses. The course website will be updated after each class with lecture notes from that day, any planned changes to the schedule or assignments, and which (if any) of the relevant textbook chapters are required reading for the following week. You should therefore make a habit of checking the course website.

1. Introduction: what is meaning? Weeks 1–2
   - Introduction: the properties of linguistic and communicative (non-natural) meaning

- Different types of linguistic meaning: assertion, presupposition, implicature
- The project of compositional semantics: word meaning and sentence structure

Reading: de Swart 1 (required), Kearns 1 (recommended)

2. Truth-conditional semantics Week 3

- What do we know when we know the meaning of an utterance?
- Compositionality in action: truth conditions of simple sentences
- Sense and reference: the relationship between extensions, intensions, and truth conditions

Reading: de Swart 2, Zimmerman & Sternefeld 4.1–4.4

3. Basic elements of the formal system Weeks 4–5

- Definition of a set, set operations
- Relations, functions, and their properties
- Sets, relations, and functions in the composition of simple sentences

Reading: Partee et al. 1–2 (Week 4), Heim & Kratzer 1–2.2 (Week 5)

4. More formal tools Weeks 5–6

- The lambda notation for functions
- Semantic types and well-formedness
- Extending our fragment: deducing the type of transitive verbs
- Practice (practical class/problem session tentatively scheduled for Week 6)

Reading: Heim & Kratzer 2–3.3, Kearns 4–4.4

5. Propositional logic, connectives, and truth-functional operators Weeks 7–8

- Entailments and truth-functional relationships
- Logical connectives: *and, not,* and *or*
- Analyzing logical connectives in natural language

Reading: de Swart 3 (required), Kearns 2–2.2 (recommended), Partee et al. 5–6.5 (strongly recommended)

6. Moving beyond verbs Weeks 9–10

- Nouns and adjectives as predicates
- Adjectives as predicate modifiers
- Beyond intersective adjectives: compositional challenges

Reading: Heim & Kratzer 4–4.3, Partee 1995 (optional)

7. Determiners Week 11

- Definite descriptions and the definite article
- Treating presuppositions as partial functions

- Practice with determiner phrases

Reading: Heim & Kratzer 4.4–4.5

8. Quantifiers — Weeks 12–13

   - Quantifiers in first-order logic
   - More quantifier meanings; the properties of generalized quantifiers
   - Quantifiers, determiner phrases, and proper names

   Reading: de Swart 4, 7–8.3.3, Heim & Kratzer 6, Zimmerman & Sternefeld 6–6.3, von Fintel & Matthewson 2008 (§3, optional)

9. Relative clauses — Week 14

   - Relative clauses and predicates
   - Variables and binding in relative clauses

   Reading: Heim & Kratzer 5

10. Course review — Week 15

References

[1] von Fintel, Kai & Lisa Matthewson. 2008. Universals in semantics. *The Linguistic Review* 25, 139–201.

[2] Heim, Irene & Angelika Kratzer. 1998. *Semantics in Generative Grammar.* Oxford: Blackwell.

[3] Kearns, Kate. 2011. *Semantics.* Basingstoke: Palgrave Macmillan.

[4] Partee, Barbara. 1995. Lexical semantics and compositionality. In L.R. Gleitman & M. Liberman (eds.), *Language: An Invitation to Cognitive Science*, p.311–360. Cambridge, MA: The MIT Press.

[5] Partee, Barbara, Alice ter Meulen, & Robert Wall. 1990. *Mathematical Methods in Linguistics.* Dordrecht: Kluwer Academic.

[6] de Swart, Henriëtte. 1998. *Introduction to Natural Language Semantics.* Stanford, CA: CSLI Publications.

[7] Zimmerman, Thomas Ede & Wolfgang Sternefeld. 2013. *Introduction to Semantics: An Essential Guide to the Composition of Meaning.* Berlin: Mouton de Gruyter.