



Faculty of Philosophy General Linguistics

Semantics & Pragmatics SoSe 2023

Lecture 1: Organization & Introduction

25/04/2023, Christian Bentz



Overview

Section 1: Organization Format: Offline Teaching Course Credits Schedule Tutorials Moodle Learning Strategy

Section 2: Literature

Section 3: Introduction

Form and Meaning Meaning as Reference Combinatoriality and Compositionality Three Levels of Meaning





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Section 1: Organization



Offline Teaching

Due to University of Tübingen regulations, we have to go back to offline teaching. Section 1: Organization

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Course Credits

- Exam on Thursday 27th July 2023: 6 ECTS
- Written exam in person.
- Handing in (and passing) 5 Tutorial Exercise Sheets (see details below): 3 ECTS
- Master students in ISCL: if you need only 6 ECTS for the Semantics and Pragmatics course, then you don't need to hand in exercise sheets.

Retake Exam

We plan to offer a retake exam for students who failed and who were sick on the day of the original exam. The exact date can only be given once the main exam was marked and students received their marks. It will be roughly at the end of September/beginning of October. Section 1: Organization

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Schedule (2023)

		Section 1: Organization
25/04/2023 Lecture 1	Organization & Introduction	Section 2:
27/04/2023 Lecture 2	Information Theory I	Literature
02/05/2023 Lecture 3	Information Theory II	Section 3: Introduction
04/05/2023 Lecture 4	Formal Semantics I: Propositional Logic	References
09/05/2023 Lecture 5	Formal Semantics II: Predicate Logic	
11/05/2023 Lecture 6	Formal Semantics III: Second-Order Logic	
16/05/2023 Lecture 7	Formal Semantics IV: Type Theory	
18/05/2023	Ascension Day (Christi Himmelfahrt)	
23/05/2023 Lecture 8	Formal Semantics V: Lambda Calculus	
25/05/2023 Lecture 9	Summary: Formal Semantics	
	Pentecost Holidays (Pfingstferien)	
06/06/2023 Lecture 10	Further Topics in Semantics: Modality	
08/06/2023	Corpus Christi (Fronleichnam)	
13/06/2023 Lecture 11	Further Topics in Semantics: Evidentiality	



Schedule (2022)

15/06/2023	Lecture 12	Applications & Current Research
20/06/2023	Lecture 13	Introduction Pragmatics
22/06/2023	Lecture 14	Discourse Representation Theory I
27/06/2023	Lecture 15	Discourse Representation Theory II
29/06/2023		No Lecture
04/07/2023	Lecture 16	Implicatures
06/07/2023	Lecture 17	Presupposition
11/07/2023	Lecture 18	Speech Acts
13/07/2023		Mock Exam
18/07/2023	Lecture 19	Summary: Pragmatics
20/07/2023	Lecture 20	Cross-Linguistic Diversity in Pragmatics
25/07/2023	Lecture 21	Pragmatic Universals
27/07/2023		Exam

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Tutorials

Tutorial 1: Alla Kutkina, alla.kutkina@student.uni-tuebingen.de Tutorial 2: Fanyi Meng, fanyi.meng@student.uni-tuebingen.de

	Monday	Tuesday	Wednesday	Thursday	Friday
8-10					
10-12					
12-14	Tutorial 2		Tutorial 2		Tutorial 1
14-16					
16-18			Tutorial 1		

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References

Tutorial 1 (Wed): Room 035 (Brechtbau/Neuphilologicum) Tutorial 1 (Fri): Room 035 (Brechtbau/Neuphilologicum) Tutorial 2 (Mon): Room 035 (Brechtbau/Neuphilologicum) Tutorial 2 (Wed): Room 035 (Brechtbau/Neuphilologicum)

Note: you need to go to **only one tutorial (2 SWS)**, so you can choose one of these four options.



Exercise Sheets

- You have to pass five exercise sheets to get your 3 ECTS points for the tutorial.
- ▶ In order to pass, you have to work on all exercises.
- You can choose which exercise sheets to hand in or not.
- Exercise sheets will go online after the thursday lectures for the following tutorial week.
- You have to send them via email to your tutor by midnight on the directly following saturday, in order to get your pass/fail for this exercise sheet.
- The format for exercise sheet solutions can be either handwritten and scanned, or in some kind of text editor (but please convert to pdf).

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Tutorials

Week 1: 01/05-05/05/2023 Week 2: 08/05-12/05/2023 Week 3: 15/05-19/05/2023 Week 4: 22/05-26/05/2023 Week 5: 05/06-09/06/2023 Week 6: 12/06-16/06/2023 Week 7: 19/06-23/06/2023 Week 8: 26/06-30/07/2023 Week 9: 03/07-07/07/2023 Week 10: 10/07-14/07/2023 Week 11: 17/07-21/07/2023



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Notes:

► Tutorial **Week 11** will be used for discussing the Mock Exam.



Moodle

Please go to moodle and sign up for one of the tutorials. Tutorial choice will be open between **today 14:00** and **coming Sunday 30th April 23:59**.

← → C la lttps://moodle.zdv.uni-tuebingen.de/course/view.php?id=2518#section-0	☆ 🔍 💆 🔤
E moodle Uni Tübingen Deutsch (de) -	🌲 🟓 Christian Bentz 📿 👻
Semantics and Pragmatics Startseite / Melne Kurse / Sommersemester 2022 / 5 - Philosophische Fakultät / Allgemeine Sprachwissenschaft / Computerlinguistik / General Linguistics / Semantics and Pragmatics	Bearbeiten ausschalten
🕂 🍋 Ankündigungen 🖋	Bearbeiten 🔻
Los erfedigt kennzeichnen	Bearbeiten 👻 👗
	+ Aktivität oder Material anlegen
	Bearbeiten *
Join Zoom Meeting: https://zoom.us///98516741197?pwd=NUFVMU9nM0grSUxGeUFoL0NNVGhzQT09 Meeting ID: 98516741197 Passcode: 522639	
Topic: Semantics and Pragmatics, Thursday Lectures Time: Thursdays 12:00 PM Amsterdam, Berlin, Rome, Stockholm, Vienna Every week on Thu, until Jul 28, 2022, 14 occurrence(s) Join Zoom Meeting: https://zoom.us//95122710249?pwd=VmxRWEFFeFYSQXZzSGhLYzd1bTU2dz09 Meeting ID: 9512271 0249 Passcode: 534212	
	+ Aktivität oder Material anlegen

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Learning Strategy

- Attend the lecture.
- Go through the lecture slides again.
- Do the exercises before the tutorial.
- Join the tutorial.



Section 2: Literature

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Section 2: Literature

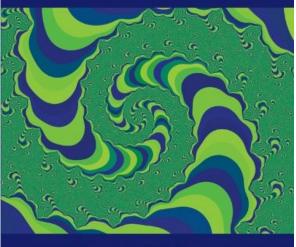


Information Theory

Cover, Thomas M. & Thomas, Joy A. (2006). *Elements of Information Theory.* New Jersey: Wiley & Sons.

ELEMENTS OF INFORMATION THEORY SECOND EDITION

WILEY



THOMAS M. COVER JOY A. THOMAS Organization

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Information Theory

Reprinted with corrections from *The Bell System Technical Journal*, Vol. 27, pp. 379–423, 623–656, July, October, 1948.

A Mathematical Theory of Communication

By C. E. SHANNON

INTRODUCTION

THE recent development of various methods of modulation such as PCM and PPM which exchange bandwidth for signal-to-noise ratio has intensified the interest in a general theory of communication. A basis for such a theory is contained in the important papers of Nyquist¹ and Hartley² on this subject. In the present paper we will extend the theory to include a number of new factors, in particular the effect of noise in the channel, and the savings possible due to the statistical structure of the original message and due to the nature of the final destination of the information.

The fundamental problem of communication is that of reproducing at one point either exactly or approximately a message selected at another point. Frequently the messages have *meaning*; that is they refer to or are correlated according to some system with certain physical or conceptual entities. These semantic aspects of communication are irrelevant to the engineering problem. The significant aspect is that the actual message is one *selected from a set* of possible messages. The system must be designed to operate for each possible selection, not just the one which will actually be chosen since this is unknown at the time of design.

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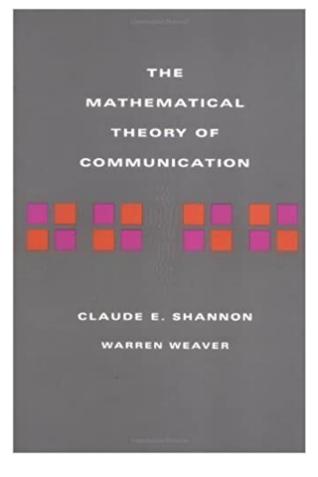
Section 2: Literature

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Information Theory

Shannon, Claude E. & Weaver, Warren (1949). *The mathematical theory of communication.* Chicago: University of Illinois Press.



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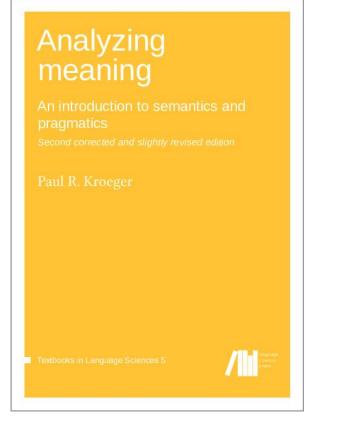
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Semantics

Kroeger, Paul (2019). Analyzing meaning: An introduction to semantics and pragmatics. Second corrected and slightly revised edition. (Textbooks in Language Sciences 5). Berlin: Language Science Press.



download at: http://langsci-press.org/catalog/book/231

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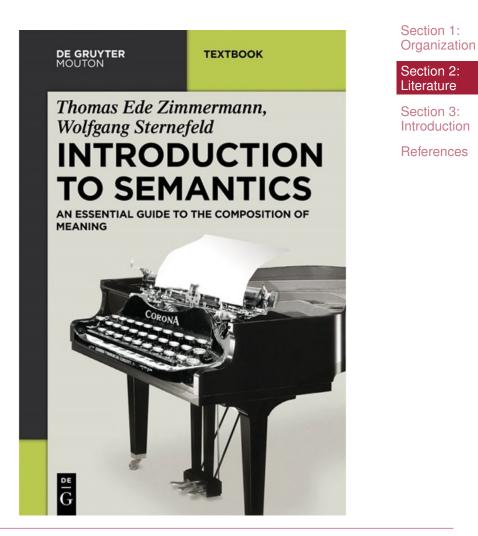
Introduction References

Organization



Formal Semantics

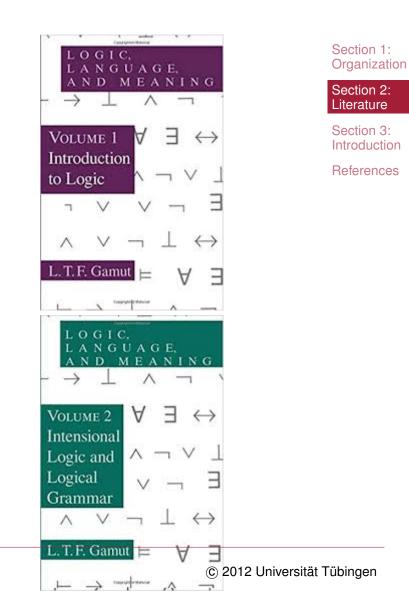
Zimmermann, Thomas E. & Sternefeld, Wolfgang (2013). Introduction to Semantics. An essential guide to the composition of meaning. Berlin/Boston: Mouton De Gruyter.





Formal Semantics

- Gamut, L.T.F (1991). Logic, Language, and Meaning. Volume 1: Introduction to Logic. Chicago: University of Chicago Press.
- Gamut, L.T.F (1991). Logic, Language, and Meaning.
 Volume 2: Intensional Logic and Logical Grammar.
 Chicago: University of Chicago Press.



19 — Semantics & Pragmatics, SoSe 2023, Bentz



Further Introductions

- Dowty, David R., Wall, Robert E. & Peters, Stanley (1981). Introduction to Montague semantics. Dordrecht/Boston/London: D. Reidel Publishing Company.
- Ferreira, Marcelo (2019). Curso de semântica formal (Textbooks in Language Sciences 6). Berlin: Language Science Press.
- Heim, Irene & Kratzer, Angelika (2008). Semantics in Generative Grammar. Malden/Oxford/Carlton: Blackwell Publishing.
- Kearns, Kate (2011). Semantics. New York/London: Palgrave Macmillan.
- Roussarie, Laurent (2017). Sémantique formelle. Volume 1: Introduction à la grammaire de Montague (Textbooks in Language Sciences 4). Berlin: Language Science Press.

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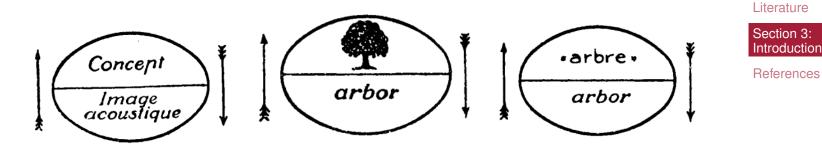
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The Roots

"Signifié et signifiant" at three levels:



Level 1: Abstract Relation

Level 2: Concrete Mapping (Denotation)

Level 3: Metalanguage (Translation)

Saussure (1916/1995). Cours de linguistique générale, p. 99.

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Two Fundamental Problems

Reference: How does the mapping between form and meaning work? Does it work at all?

Compositionality: How are complex utterances built from smaller units? Are they built from smaller units at all?

apple + tree

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Meaning as Reference

"[...] we will think about how speakers use language to talk about the world. **Referring** to a particular individual, e.g. by using expressions such as *Abraham Lincoln* or *my father*, is one important way in which we talk about the world."

"Philosophers have found it hard to agree on a precise **definition for reference**, but intuitively we are talking about the speaker's use of words to "point to" something in the world; that is, to direct the hearer's attention to something, or to enable the hearer to identify something."

Kroeger (2019). Analyzing meaning, p. 15 and page 17 respectively.

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Meaning as Reference

"What is relevant rather to our purposes is *radical translation*, i.e., translation of the language of a hitherto untouched people [...] The utterances first and most surely translated in such a case are ones keyed to present events that are conspicuous to the linguist and his informant. A rabbit scurries by, the native says 'Gavagai', and the linguist notes down the sentence 'Rabbit' or 'Lo, a rabbit') as tentative translation, subject to testing in further cases."

Quine (1960). Word and object, p. 28.



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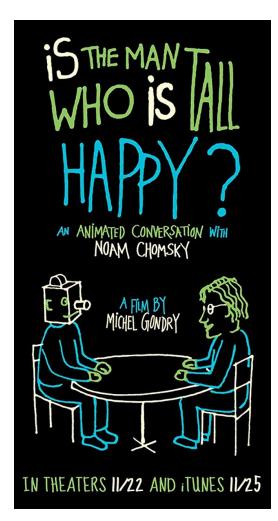
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Against Reference: Words as Mental Representations

"It's just a classic error that runs right through philosophy and psychology and linguistics right up to the moment. That's the idea that words... say, meaning-bearing elements, like, say, "tree" or "person" or, you know, "John Smith" or anything... pick out something in the extramental world, something that a physicist could identify so that if I have a word... say, "cow"... it refers to something, and a, you know, scientist knowing nothing about my brain could figure out what counts as a cow. That's just not true."

Noam Chomsky



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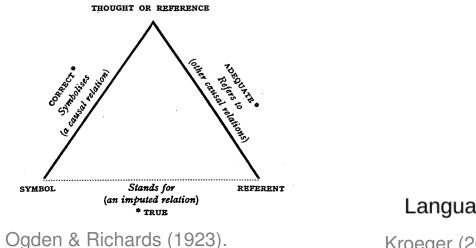
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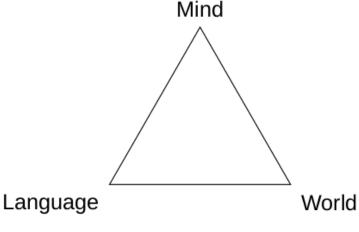


Semiotic Triangle (Triangle of Reference/Meaning)

"Semiotics is the study of the relationship between signs and their **meanings**. In this book we are interested in the relationship between forms and meanings in certain kinds of symbolic systems, namely human languages. The diagram is a way of illustrating how speakers use language to describe things, events, and situations in the world."

Kroeger (2019). Analyzing meaning, p. 16.





Kroeger (2019). Analyzing meaning, p. 16.

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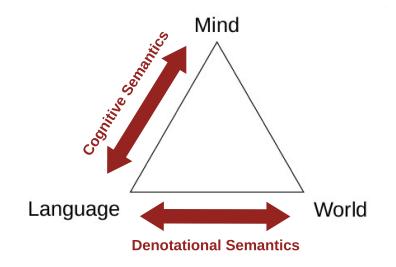
The meaning of meaning, p. 11.



Denotational vs. Cognitive Semantics

"The basic approach we adopt in this book focuses on the link between linguistic expressions and the world. This approach is often referred to as **denotational semantics** [...] An important alternative approach, **cognitive semantics**, focuses on the link between linguistic expressions and mental representations."

Kroeger (2019). Analyzing meaning, p. 17.



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Combinatoriality and Compositionality



The Design Features of Human Language

"A set of 13 design-features is presented in the illustration on the opposite page. There is solid empirical justification for the belief that all the languages of the world share every one of them."

Hockett (1960). The origin of speech, p. 90.



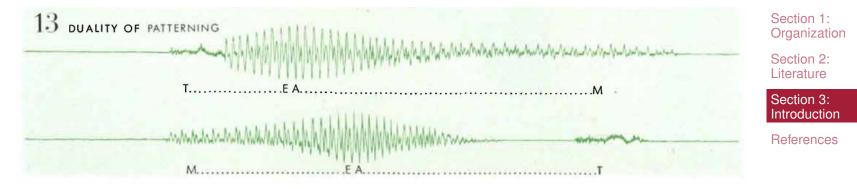
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Duality of Patterning



"The **meaningful** elements in any language [...] constitute an enormous stock. Yet they are represented by small arrangements of a relatively very small stock of distinguishable sounds which are themselves wholly **meaningless**."

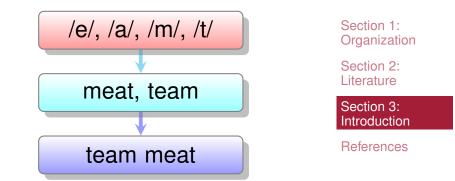
Hockett (1960). The origin of speech, p. 90.



Duality of Patterning

"Language is structured on at least two levels (Hockett, 1960). On one level, a small number of meaningless building blocks (phonemes, or parts of syllables for instance) are combined into an unlimited set of utterances (words and morphemes). This is known as combinatorial structure. On the other level, meaningful building blocks (words and morphemes) are combined into larger meaningful utterances (phrases and sentences). This is known as compositional structure."

Little et al. (2017), p. 1.

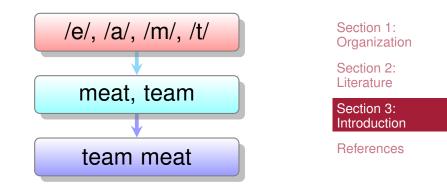




Duality of Patterning

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Little et al. (2017), p. 1.







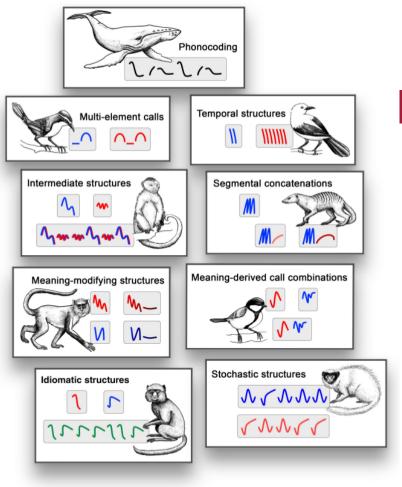
Combinatoriality in Animal Communication

"Graphical illustration of combinatorial structures in nonhuman vocal systems. Shapes distinguish sound elements, colors distinguish meaning (black indicates absence of functional- or context-specific meaning)."

- Phonocoding: combination of meaningless elements into sequence that lacks functional- or context-specific meaning (e.g., whales, songbirds).
- Multi-element calls: combination and reuse of meaningless elements to generate context-specific/functionally meaningful calls (e.g., chestnut-crowned babblers).
- Temporal structures: meaning-differentiating temporal variation (e.g., number of element repetitions) within a string of repeated sounds (e.g., pied babblers, Mexican free-tailed bats).
- Intermediate structures: combination of meaningful calls into sequence reflecting intermediate stages experienced by the caller (e.g., wedge-capped capuchins, gorillas).
- Segmental concatenations: concatenation of invariable, stand-alone segment (generally identity-encoding) with variable, bound segment (generally motivation/behavior-encoding) (e.g., banded mongooses, Diana monkeys).
- Meaning-modifying structures: combination of individually meaningful (variable) call with (invariable) meaning-modifying affix (e.g., Campbell's monkeys).

etc.

Engesser & Townsend (2018).



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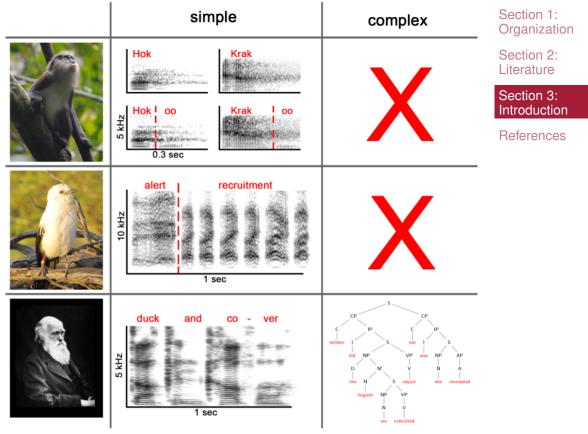
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Compositionality in Animal Communication

- a) Compositionality in primates: Male Campbell's monkeys produce 'krak' alarms (to leopards) and 'hok' alarms (to eagles), but both calls can also be merged with an '-oo' suffix to generate 'krak-oo' (to a range of disturbances) and 'hok-oo' (to non-ground disturbances) [...]
- b) Compositionality in birds: Pied babblers produce 'alert' calls in response to unexpected but low-urgency threats and 'recruitment' calls when recruiting conspecifics to new foraging sites. When encountering a terrestrial threat that requires recruiting group members (in the form of mobbing), pied babblers combine the two calls into a larger structure, and playback experiments have indicated that receivers process the call combination compositionally by linking the meaning of the independent parts.
- c) Compositionality in humans: humans are capable of producing both simple, nonhierarchical compositions (e.g., 'Duck and cover!') and complex hierarchical compositions and dependencies.

Townsend et al. (2018), p. 4.





Human Language

Amharic (amh, Afro-Asiatic)

 (1) zaf-u təlləq' näw¹
 tree.NOM.SG-DEF big be.N.3SG
 "The tree is big." BIG(t)² Section 1: Organization

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References

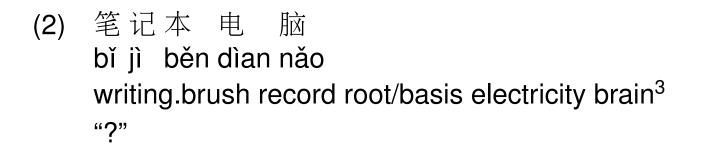
Two words might be productively combined (*zaf-u təlləq'*) to yield a new meaning. *Compositionality* is a hallmark of human language (and other communication systems) as it enables the *infinite use of finite means*.

²This is the predicate logic notation in Kroeger (2019)

¹Amharic is normally written in Ge'ez script. This is a transliteration into Latin script based on Leslau (1995).



Problem: Compounds



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³This was glossed using https://www.mdbg.net.



Problem: Compounds

- (4) 笔记本 电 脑
 bǐ jì běn dìan nǎo
 writing.brush record root/basis electricity brain³
 "?"
- (5) 笔记本 电脑
 bǐjìběn dìannǎo
 notebook computer
 "laptop"

The combination of single meaning bearing elements to larger meaning bearing chunks is often not straightforward. Especially across different languages this is a difficult task for learners (both human and machine).

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³This was glossed using https://www.mdbg.net.



Problem: Idioms

(6) Kim ha-t de-n Wald vor lauter kim have-PRS.3SG ART-ACC.SG forest because.of all.the Bäum-en nicht ge-seh-en tree\-DAT.PL not PTCP-see-PTCP literal translation: "Kim hasn't seen the forest because of all the trees."
actual meaning: Kim was so concerned with the details that s/he didn't see the overall picture.

In the case of idioms (e.g. *kicking the bucket*), the intended meaning of the sentence is not a *linear combinatorial* derivation of its parts. Rather, a complex meaning is assigned to the whole phrase.

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Three "levels" of meaning

- 1. **Word meaning**: Meaning assigned to individual words. Example: *kick*; *bucket*
- Sentence meaning: Meaning derived via combination of word meanings (compositional). "The term sentence meaning refers to the semantic content of the sentence: the meaning which derives from the words themselves, regardless of context."
 Example: KICK(j,b), literally "John kicks the bucket."
- 3. Utterance meaning ("speaker" meaning): "The term utterance meaning refers to the semantic content plus any pragmatic meaning created by the specific way in which the sentence gets used." Another definition is: "The totality of what the speaker intends to convey by making an utterance."

Example: John dies.

Kroeger (2019). Analyzing meaning, p.5.

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Three "levels" of meaning

Teochew (Southern Min Chinese, Sino-Tibetan)

(7) Lu chya? pa boy?you eat full not.yet"Have you already eaten?"

Sentence meaning: "Have you already eaten or not?", i.e. a request for information.

Utterance meaning: Greeting like "hello" or "how are you" in English.

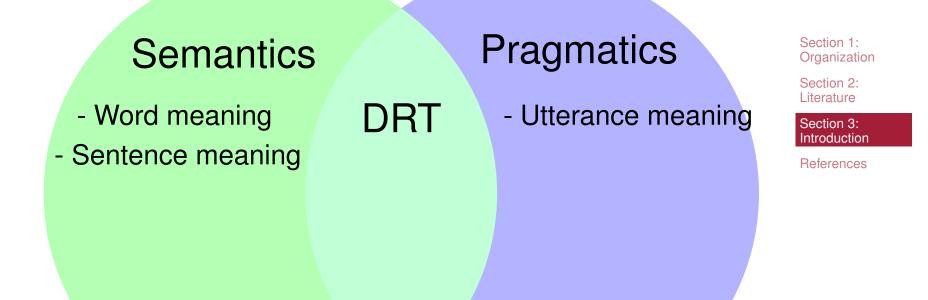
Kroeger (2019). Analyzing meaning, p. 5-6.

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DRT: Discourse Representation Theory



Summary

Every syntactic, semantic and pragmatic theory (or all combined) have to deal in some way with

- 1. the **compositionality** of meaning and form,
- 2. the **mapping** between meaning and form.

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References

Hockett, Charles F. (1960). The origin of speech. *Scientific American*, Vol. 203, No. 3, pp. 88-97.

Leslau, Wolf (1995). Reference grammar of Amharic. Wiesbaden: Harrassowitz.

Little, Hannah, Eryılmaz, Kerem, & De Boer, Bart (2017). Signal dimensionality and the emergence of combinatorial structure. *Cognition*, No. 168, p. 1-15.

de Saussure, Ferdinand (1995). *Cours de linguistique générale.* Publié par Charles Bailly et Albert Sechehaye avec la collaboration de Albert Riedlinger. Édition critique prepareé par Tullio de Mauro. Paris: Payot.

Townsend, S. W., Engesser, S., Stoll, S., Zuberbühler, K., Bickel, B. (2018). Compositionality in animals and humans. PLOS Biology. Ogden, C. K., & Richards, I. A. (1923). *The meaning of meaning*. Orlando, Florida: Harcourt Brace Jovanovich.

Quine, Willard van Orman (1960). *Word and object*. Cambridge, Massachusetts: MIT Press.

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Thank You.

Contact:

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