

Generizität
Manfred Krifka
Hauptseminar
SS 2002, 52.166
Dienstags 16-18, DOR 407

In diesem Hauptseminar beschäftigen wir uns mit der Bedeutung und dem Ausdruck sogenannter generischer Sätze. Dies betrifft zwei Unterbereiche: (i) Charakterisierende Sätze, die allgemeingültige Aussagen über Entitäten oder Situationen treffen, wie *Eine Kartoffel enthält Vitamin C* oder *Maria geht (gewöhnlich) zu Fuss zur Schule*, und (ii) Sätze, in denen der Bezug auf eine Art eine Rolle spielt, wie z.B. *Die Kartoffel wurde in den Anden domestiziert*. In dem Seminar werden wir uns einen systematischen Überblick über die gängigen Theorien zu charakterisierenden Sätzen und zur Artenreferenz verschaffen, die auch neueste Literatur mit einschließt. Seminararbeiten sollten sich vor allem mit dem sprachlichen Ausdruck dieser Strukturen beschäftigen, wobei auch Arbeiten zu anderen Sprachen als dem Deutschen und sprachübergreifende Untersuchungen erwünscht sind.

Leistungsnachweis:

(a) Eine kritische Darstellung einer Arbeit zur Generizität im Seminar, mit ausführlichem Handout, das nach der Diskussion noch einmal zu überarbeiten ist

oder (falls erforderlich)

(b) Eine Seminararbeit zu einem vorher abgesprochenen Thema
(kritische Diskussion eines Artikels oder eigenständiger Forschungsbeitrag).

Koordinaten:

Büro: Schützenstr. 21, Zimmer 415, Telefon: 20196-670
Sekretariat: Barbara Leubner, Telefon 20196-639, Zimmer 424
e-mail: krifka@rz.hu-berlin.de (bitte als Betreff [Subject]: "Argumentstruktur")
Sprechstunde: Mittwoch 13 – 15 Uhr und n. Vereinb (bitte im Sekretariat anmelden)
Website des Kurses siehe unter: <http://amor.rz.hu-berlin.de/~h2816i3x/lehrstuhl>
Ein Ordner wird in der Zweigbibliothek Germanistik verfügbar gemacht.

Überblick (vorläufig)

Das Seminar lehnt sich eng an Krifka et al. (1995) an.

- 23.4. **Einführung.** Was ist Generizität? Artenreferenz vs. charakterisierende Sätze
- 30.4. **Charakterisierende Sätze:** Monadischer / Dyadischer GEN-Operator
- 7.5. Präsentation: Die Theorie von Carlson (1977b), Carlson (1977a)
- 14.5. Präsentation: Die dyadische Theorie von Carlson (1989)
Präsentation: Stage Level / Individual-Level Prädikate, Kratzer (1995)
- 21.5. Präsentation: Individuen-Level Prädikate inhärent generisch:
Chierchia (1995)

- 28.5. Die Interpretation von Indefiniten und die Rolle der Prosodie:
Krifka (1995a), Rooth (1995), Krifka (2001)
- 4.6. Präsentation: Die Markierung generischer und charakteristischer Sätze:
Dahl (1995); Grammatiken.
- 11.6. Vorschläge für die Interpretation des GEN-Operators.
- 18.6. Präsentation: Pelletier and Asher (1997), Asher and Morreau (1995), Cohen (1999)
- 25.6. **Artenreferenz**, taxonomische Lesarten,
Interpretation von Sätzen mit Artenreferenz
- 2.7. Präsentation: Artenreferenz in Chierchia (1998)
Präsentation: Appellativa (Common nouns) im Englischen und Chinesischen,
Krifka (1995b)
- 9.7. Präsentation: Artenreferenz in verschiedenen Sprachen: Gerstner-Link (1995)
Präsentation: Kontrastive Analyse von Artenreferenz: Behrens (2000)
- 16.7. Weitere Präsentationen von Arbeiten.

- Asher, Nicholas, and Morreau, Michael. 1995. What some generic sentences mean. In *The generic book*, eds. Greg N. Carlson and F. J. Pelletier, 300-338. Chicago, London: The University of Chicago Press.
- Behrens, Leila. 2000. Typological parameters of genericity. Köln: Institut für Sprachwissenschaft, Universität zu Köln.
- Carlson, G. 1977a. Reference to kinds in English, University of Massachusetts: Ph.D.
- Carlson, Greg N. 1977b. A unified analysis of the English bare plural. *Linguistics and Philosophy* 1:413-456.
- Carlson, Gregory. 1989. On the semantic composition of English generic sentences. In *Properties, types and meaning. Volume 2: semantic issues.*, eds. Gennaro Chierchia, Barbara Partee and Raymond Turner, 167-192. Dordrecht/Boston/London: Kluwer.
- Chierchia, Gennaro. 1995. Individual-level predicates as inherent generics. In *The generic book*, eds. Greg N. Carlson and F. J. Pelletier, 176-223. Chicago, London: The University of Chicago Press.
- Chierchia, Gennaro. 1998. Reference to kinds across languages. *Natural Language Semantics* 6:339-405.
- Cohen, Ariel. 1999. Generics, frequency adverbs and probability. *Linguistics and Philosophy* 22:221-253.
- Dahl, Östen. 1995. The marking of the episodic/generic distinction in tense-aspect systems. In *The generic book*, eds. Greg N. Carlson and F. J. Pelletier, 412-425. Chicago, London: The University of Chicago Press.
- Gerstner-Link, Claudia. 1995. *Über Generizität. Generische Nominalausdrücke in singulären und generellen Aussagen*. München: Wilhelm Fink Verlag.
- Kratzer, Angelika. 1995. Stage-level and individual level predicates. In *The generic book*, eds. Greg N. Carlson and F. J. Pelletier, 125-175. Chicago, London: The University of Chicago Press.
- Krifka, Manfred. 1995a. Focus and the interpretation of generic sentences. In *The generic book*, eds. Greg N. Carlson and F. J. Pelletier, 238-264. Chicago, London: The University of Chicago Press.
- Krifka, Manfred. 1995b. Common nouns: a contrastive analysis of Chinese and English. In *The generic book*, eds. Greg N. Carlson and F. J. Pelletier, 398-411. Chicago, London: The University of Chicago Press.
- Krifka, Manfred, Pelletier, Francis J., Carlson, Gregory N., ter Meulen, Alice, Chierchia, Gennaro, and Link, Godehard. 1995. Genericity: An Introduction. In *The generic book*, eds. Gregory N. Carlson and Francis Jeffrey Pelletier, 1-124: Chicago University Press.
- Krifka, Manfred. 2001. Non-novel indefinites in adverbial quantification, eds. Cleo Condoravdi and Gerard Renardel der Lavalette, 1-40. Stanford: CSLI Press.
- Pelletier, Francis Jeffrey, and Asher, Nicholas. 1997. Generics and defaults. In *Handbook of Logic & Language*, eds. Johan van Benthem and Alice ter Meulen, 1125-1176. Amsterdam, Cambridge: Elsevier, MIT Press.
- Rooth, Mats. 1995. Indefinites, adverbs of quantification and focus semantics. In *The Generic Book*, eds. Gregory N. Carlson and Francis Jeffrey Pelletier, 265-291. Chicago: Chicago University Press.

1 Introduction

Human language does not only allow us to talk about specific objects and events,

(1) Bill ate potatoes yesterday.

but also about general habits, tendencies, kinds:

- (2) a. Bill eats potatoes for breakfast.
b. A potato contains vitamin C, amino acids, protein and thiamine.
c. The potato was first cultivated in South America.
d. Potatoes were introduced into Ireland by the end of the 17th century.
e. The Irish economy became dependent upon the potato.

Such statements should be of interest for philosophy and cognitive science (scientific laws, knowledge of rules).

A linguistic form with similar function: Nominal or adverbial quantifier.

- (3) a. Every potato contains vitamin c.
b. Potatoes always contain vitamin c.

They contain an overt element that expresses a generalization (*every*, *always*). They are relatively well understood (Generalized Quantifier theory: Barwise & Cooper (1981), adverbial quantifiers: Lewis (1975)). Genericity, on the other hand, is often not overtly marked.

Goal of this talk: A guided tour to the way how genericity is expressed in human languages. It follows mostly Krifka et al. (1995) but incorporates some more recent discussions.

2 Kind Reference vs. Characterizing Sentences

Traditional accounts of genericity in English point out that three kinds of NPs allow for generic interpretations:

- (4) a. The potato contains vitamin C. **(singular definite NP)**
b. Potatoes contain vitamin C. **(bare plural / mass noun NP)**
 Rice contains vitamin C.
c. A potato contains vitamin C. **(singular indefinite NP)**

Krifka et al. 1995 argue that one has to distinguish between two phenomena:

1. Reference to kinds (e.g., (4.a)). The sentence is about a kind, an abstract entity that is related to concrete realizations or specimens, here, the kind *Solanum tuberosum*.
2. Characterizing statements (e.g., (4.c)). The sentence expresses a generalization about a set of entities, here, the set of potatoes.

These two phenomena are difficult to tell apart because they often have similar semantic effects, they often occur together, and sentences with bare plurals (4.b) are arguably ambiguous.

2.1 Kind Reference

Main argument for kind reference: Certain predicates subcategorize for kinds.

- (5) a. The dodo became extinct in the 17th century.
b. Dodos became extinct in the 17th century.
c. *A dodo became extinct in the 17th century.

Become extinct does not express a general rule, but a particular event; yet the sentence is about a kind.

Types of kind-referring NPs:

3. **definite NPs** (*the dodo*)

4. **bare NPs** (*dodos, bronze*)

(6) Bronze was invented as early as 3000 B.C.

5. **names of kinds:**

(7) *Raphus cucullatus* became extinct in the 17th century.

6. NPs that are based on a **taxonomic** interpretation of the noun (the noun refers to subkinds, not to specimens).

- (8) a. This bird became extinct in the 17th century.
b. A bird became extinct in the 17th century.
c. Many birds became extinct in the last three centuries.

There are indefinite NPs that do not have a taxonomic interpretation (*a dodo*) because the kind denoted by their noun is not associated with a subkind.

The kind must be well-established (or it must be possible to accommodate a well-established kind) (G. Carlson (1977), due to B. Partee).

- (9) a. The Coke bottle has a narrow neck.
b. *The green bottle has a narrow neck.

2.2 Characterizing Sentences

Main argument for characterizing sentences: Can be paraphrased with sentences using overt adverbials of quantification like *always*, *usually*, *typically*.

- (10) a. The potato / Potatoes / A potato contains vitamin C.
b. The potato / Potatoes / A potato usually / always contains vitamin C

Indefinite NPs in non-taxonomic interpretation are o.k., and so are other sentences without kind-referring NP:

- (11) a. A dodo (usually / typically) laid one egg each year.
b. A green bottle (usually/typically) gets a better price at the recycling station.
c. Bill (usually / typically) smokes after dinner.

3 Characterizing Sentences

3.1 The Verbal Character of Characterizing Sentences

Characterizing sentences express essential properties of objects, classes, or kinds. They do not necessarily involve kind reference (so-called **habituals**). They rather are triggered by the verbal predicate.

- (12) a. Berta speaks French. (habitual)
 b. Berta is speaking French. (episodic)
 c. Canadians speak French.
 d. A Canadian speaks French.

In English, the simple present tense often has a habitual interpretation (but not necessarily), whereas the progressive has an episodic interpretation. Past tense forms are ambiguous; in past tense there is a habitual marker, *used to*.

- (13) a. Berta smoked. b. Berta used to smoke.

In general, habitual interpretations are **stative** (expressing a property, not a situation). In languages with aspect marking they are consequently marked as **imperfective**.

There are predicates that are basically stative, with a similar meaning as habituals, but lacking an episodic counterpart.

- (14) a. Berta speaks French. c. Berta knows French.
 b. Berta is speaking French. *Berta is knowing French.

**be knowing* should mean: 'show behavior that is evidence for knowing' (e.g., talking, understanding), but it doesn't exist. Episodic predicates can be transformed to habitual predicates, but habitual predicates cannot be transformed to episodic predicates. This suggests that episodic predicates are more basic.

3.2 The Semantics of Characterizing Sentences

3.2.1 The meaning of characterizing sentences

To capture the meaning of characterizing sentences turned out to be exceedingly difficult. Characterizing statements express some general rule; hence philosophical theories of the nature of rules and generalizations should bear on it. It doesn't seem that there is anything like a final proposal on the market. But there is good evidence against certain proposals, and for the general structure that the meaning of a characterizing sentence should have.

One element of the nature of characterizing statements can be seen with the following minimal pairs (Lawler 1972):

- (15) a. A madrigal is polyphonic. b. ?A madrigal is popular.

To be polyphonic is a necessary property of madrigals; to be popular is an accidental property. It appears that characterizing statements must express properties that are essential for the objects quantified over. Contrast this with:

- (16) a. Every madrigal is popular.
 b. A football hero is popular. (Nunberg & Pan 1978)
 c. The madrigal is popular.

3.2.2 Monadic operator theories

Early theories of genericity proposed a monadic operator (here called GN) that changed episodic predicates to generic predicates (cf. Lawler (1972), Dahl (1975), G. Carlson (1977)).

- (17) a. Berta is smoking. SMOKE(B)
 b. Berta smokes. GN(SMOKE)(B)
 c. Italians were smoking. x[ITALIANS(x) SMOKE(x)]
 d. Italians smoke. GN(SMOKE)(I)

The Theory of Greg Carlson

The best-known theory of this type was proposed by G. Carlson (1977), G. N. Carlson (1977)). Basic assumptions:

- Three sorts of individuals: Kinds, Objects and spatio-temporal Stages. A realization relation R mediates (e.g.: R(x_s, FIDO): x is a stage of Fido; Fido is an object that belongs to the kind of dogs; R(x_s, D): x is a stage of the kind of dogs.
- Uniform analysis of bare plurals as names of kinds. Non-generic interpretations are generated by predicates that reduce predications of kinds or objects to stages.

- (18) a. Fido barks. GN(BARK)(FIDO)
 b. Fido is barking. y x_s[R(x_s, y) BARK(x_s)](FIDO) = x_s[R(x_s, FIDO) BARK(x_s)]
 c. Dogs bark. GN(BARK)(D)
 d. Dogs are barking. y x_s[R(x_s, y) BARK(x_s)](D) = x_s[R(x_s, D) BARK(x_s)]

This explains the narrow-scope interpretation of bare plurals:

- (19) a. A dog is barking, and a dog isn't barking. Not contradictory: x[DOG(x) BARK(x)] x[DOG(x) ¬BARK(x)]
 b. Dogs are barking, and dogs aren't barking. Contradictory:
 y x_s[R(x_s, y) BARK(x_s)](D) y¬ x_s[R(x_s, y) BARK(x_s)](D)
 = x_s[R(x_s, D) BARK(x_s)] y¬ x_s[R(x_s, D) BARK(x_s)]

The semantics of GN is difficult to describe, however. We perhaps want to say GN(P)(y) iff there are several x with R(x,y) such that P(x). However, this is too weak and too strong:

- (20) a. Berta smokes. (Is this true if Berta smoked a few times in her lifetime?)
 b. Berta handles the mail from Antarctica.

3.2.3 Dyadic Operator Theories

Carlson (1989) showed that monadic generic operators cannot explain certain ambiguities (disregarding intonation).

- (21) a. Typhoons arise in this part of the Pacific.
 (i) Typhoons have the property of arising in this part of the Pacific.
 (ii) This part of the Pacific has the property that typhoons arise there.

Such ambiguities were already well known, e.g. Halliday (1970):

- (22) a. Shoes must be worn. b. Dogs must be carried.

The same type of ambiguity arises with indefinite NPs:

- (23) A computer computes the daily weather forecast.
 (i) Computers in general have the property of computing the daily w.f.
 (ii) The daily w.f. is in general computed by a computer.

Cf. ambiguity with overt adverbial quantifiers (cf. Dretske (1972), Rooth (1985)).

- (24) a. In St. Petersburg, OFFicers always escorted ballerinas.
 b. In St. Petersburg, officers always escorted balleRInas.

This suggests that characterizing sentences are based on a “silent” adverbial quantifier GEN (like *always*, but allowing for exceptions) that relates two predicates, a **restrictor** and a **nuclear scope**.

- (25) a. GEN (x[TAIPHOOON(x)], x s[x arises in s s is in this part of the Pacific])
 b. GEN (s[s is in this part of the Pacific], s x[TAIPHOOON(x) x arises in s])

The influence of intonation may be due to focus (stress) on the nuclear scope: Rooth (1995), Krifka (1995b), or to deaccentuation of the restrictor: Krifka (2001).

3.2.4 Habitual and Generic Sentences

Dyadic GEN explains habitual and generic sentences (quantification over situations/entities).

- (26) a. Delmer WALKS to school.
 GEN(s[Delmer goes to school in s], s[Delmer walks to school in s])
 b. A tricolorred cat is infERTile.
 GEN(x[CAT(x) TRICOLORED(x)], x[INFERTILE(x)])

The minimal requirement is that some variable is provided to quantify over. This can be a situation variable (with episodic verbs) or an entity variable (with stative verbs).

- (27) a. Minette is hungry when she meadows.
 GEN(s[Minette meadows in s], s[Minette is hungry in s])
 b. *Minette is infertile when she is tricolorred.

Cases with no overt restrictor: contextually filled set of situation:

- (28) a. Berta smokes.
 GEN(s[Berta is in s ...], s[Berta smokes in s])
 (where ... indicates suitable situations for smoking)

Are there existential generics (cf. Lawler (1973))?

- (29) Mary EATS meat.

Probably not; denial of corresponding generic negative sentence:

- (30) Mary doesn't eat meat.

3.2.5 Characterizing Sentences and Kind Reference

Quantification over specimens: Kinds are coerced to the sets of their specimens.

- (31) The lion attacks when it is hungry.
 GEN(s x[R(x, LEO) x is hungry in s], s x[x attacks in s])

For sentences with bare plurals, two options exist:

- Bare plurals denote kinds; they are coerced to sets of specimens. Evidence: Kind predication with bare plural subjects.

- (32) Lions will be extinct soon.

- Bare plurals are indefinites, just like singular indefinites. As predicates, they can restrict the domain of GEN. Evidence: Postcopular, predicative uses.

- (33) a. This is a lion. b. These are lions.

Possibly both options exist: Ambiguity hypothesis (cf. Wilkinson (1991), Gerstner-Link & Krifka (1993)).

An argument in favor of Carlson's non-ambiguity hypothesis: In non-generic uses, bare plurals have narrow scope, but singular indefinites allow for wide-scope, specific readings.

- (34) a. A dog didn't bark. b. Dogs didn't bark. c. Some dogs didn't bark.

Hence ambiguity theorists have to assume that there is another property of bare plurals that favors narrow interpretations, or that wide-scope interpretation of indefinites is related to the presence of an overt determiner.

An argument for ambiguity: In Romance languages there are no bare plurals / mass nouns, and the generic use and the indefinite use are clearly differentiated.

- (35) a. I cani amano giocare. 'Dogs love to play.'
 b. Dei cani stanno giocando fuori. 'Dogs are playing outside.'

3.2.6 Genericity of second order?

We also find generic quantification over kinds, but also the formation of kinds of kinds (example: Barbara Partee)

- (36) a. Endangered species are rare. b. Endangered species are common.

Carlson, G. (1977). Reference to kinds in English, University of Massachusetts.
 Carlson, G. (1989). On the semantic composition of English generic sentences. *Properties, types and meaning. Volume 2: semantic issues*. G. Chierchia, B. Partee and R. Turner. Dordrecht/Boston/London, Kluwer: 167-192.
 Carlson, G. N. (1977). "A unified analysis of the English bare plural." *Linguistics and Philosophy* 1: 413-456.
 Carlson, G. N. and B. Spejowski (1997). "Generic passages." *Natural Language Semantics* 5(2): 101-165.
 Cohen, A. (1999). "Generics, frequency adverbs and probability." *Linguistics and Philosophy* 22: 221-253.
 Dahl, Ø. (1975). On Generics. *Formal Semantics of Natural Language*. E. L. Keenan. Cambridge, Cambridge University Press: 99-111.
 Dretske, F. (1972). "Contrastive statements." *Philosophical Review* 1972: 411-437.
 Gerstner-Link, C. and M. Krifka (1993). Genericity. *Handbuch der Syntax*. J. Jacobs, A. v. Stechow, W. Sternefeld and T. Vennemann. Berlin, Walter de Gruyter: 966-978.
 Halliday, M. A. K. (1970). *A course in spoken English: Intonation*. Oxford, Oxford University Press.
 Kratzer, A. (1981). The notional category of modality. *Words, Worlds, and Contexts. New Approaches to Word Semantics*. H.-J. Eikmeyer and H. Rieser. Berlin, de Gruyter.
 Krifka, M. (1995). Focus and the interpretation of generic sentences. *The Generic Book*. G. N. Carlson and F. J. Pelletier. Chicago, Chicago University Press: 238-264.
 Krifka, M. (2001). Non-novel indefinites in adverbial quantification. C. Condoravdi and G. Renardel der Lavalette. Stanford, CSLI Press: 1-40.
 Lawler, J. (1972). Generics to a Fault. *Papers from the Eighth Regional Meeting, Chicago Linguistic Society*.
 Lawler, J. (1973). *Studies in English generics*. Ann Arbor, University of Michigan Papers in Linguistics.
 Lewis, D. (1973). *Counterfactuals*. Cambridge, Mass., Harvard University Press.
 Reiter, R. (1980). *A Logic for default reasoning*. Artificial Intelligence.
 Rooth, M. (1985). Association with focus, University of Massachusetts at Amherst.
 Wilkinson, K. (1991). Studies in the semantics of generic noun phrases, University of Massachusetts at Amherst.

4 Deakzentuierte Indefinita und Quantifikation (Non-novel Indefinites in Adverbial Quantification)

Manfred Krifka

4.1 Goals

Explain influence of accent on quantification:

- (37) a. A freshman usually wears a *báseball* cap.
‘Most freshmen wear a baseball cap.’
b. A *fréshman* usually wears a baseball cap.
‘Most wearers of baseball caps are freshmen.’

Previous explanation of adverbial quantification as focus-sensitive (Rooth (1985)) leads to the requantification problem (von Fintel (1994), Rooth (1995)).

Proposal: the **deaccentuated** NPs in (37) presuppose their index (**non-novel indefinites**); this presupposition is accomodated in adverbial quantification.

4.2 Accent and Adverbial Quantification

Rooth (1985): adverbial quantifiers show **association with focus**.

- (38) a. Mary usually took *Jóhn_F* to the movies.
‘Most of the time, when Mary took someone to the movies, it was John.’
b. *Máry_F* usually took John to the movies.
‘Most of the time, when someone took John to the movies, it was Mary.’

Analysis in Alternative Semantics:

- (39) a. $[[\text{Mary took } \textit{Jóhn}_F \text{ to the movies}]]$
= $\{s \mid \text{Mary took John to the movies in } s\}$
b. $[[\text{Mary took } \textit{Jóhn}_F \text{ to the movies}]]_A$
= $\{s \mid \text{Mary took } x \text{ to the movies in } s \mid x \in \text{ALT}(\text{John})\}$
if $\text{ALT}(\text{John}) = \{\text{John, Bill}\}$:
= $\{s \mid \text{Mary took John to the movies in } s\}, \{s \mid \text{Mary took Bill to the movies in } s\}$

- (40) $[[\textit{usually}]] = \text{MOST}(\langle \langle \rangle_A, \langle \rangle \rangle)$

- (39) c. $[[\text{Mary usually took } \textit{Jóhn}_F \text{ to the movies}]]$
= $\text{MOST}(\{s \mid \text{Mary took John or Bill to the movies in } s\}, \{s \mid \text{Mary took John to the movies in } s\})$

But: adverbial quantification also associate with **presuppositions** (Schubert & Pelletier (1989)):

- (41) Cats always land on their feet.
If a cat touches ground after falling, it always lands on its feet.’

This suggests the following analysis (cf. von Fintel (1994)):

- (42) $[[\textit{usually}]] = \text{MOST}(\text{presuppositions of } \langle \rangle, \langle \rangle)$

Rule (40) can be subsumed under (42) if we assume that focus introduces an **existential** presupposition. There is evidence that focus often comes with this presupposition, but this isn’t always so (cf. for further discussion [Rooth, 1998 #6637]).

- (43) A: Who, if anyone, did Mary take to the movies?
B: Mary took *Jóhn_F* to the movies.

For our purposes both theories are equivalent: adverbial quantification is either directly sensitive to focus, or sensitive to presuppositions, where existential presuppositions can be introduced by focus.

4.3 Indefinites in Quantification

To describe the effect of accent in (37) we have to combine alternative semantics with dynamic interpretation

I will use the following format (cf. Heim (1982) chapter III, but it accounts only for discourse referents, not for factual information, for ease of exposition):

Discourse referents: natural numbers, variables i, i .

Assignments: partial functions from discourse referents to entities, variables g, h, k etc.; I will write g_i for $g(i)$ and say that i is **anchored** by g to g_i .

Extension of an assignment: $g <_i h$ iff $g \neq h$ and $\text{DOM}(h) = \text{DOM}(g) \cup \{i\}$

Contexts (common grounds, information states) are sets of assignments; the assignments of a context have the same domain. Variables c, c etc.

Clause meanings are context-change potentials, functions from input contexts to output contexts. Variables c, c . I will write $c +$ instead of (c) , the **update** of c with c .

Example:

- (44) a. *A man came in.*

b. LF: $[[a \text{ man}]_1 [t_1 \text{ came in}]]$

c. $c_0 + [[a \text{ man}]_1] + [[t_1 \text{ came in}]]$
= $c_0 + c\{h \mid g \ c[g <_1 h \ \text{MAN}(h_1)]\} + c\{g \ c \mid \text{CAME IN}(g_1)\}$
= $\{h \mid g \ c_0[g <_1 h \ \text{MAN}(h_1) \ \text{CAME IN}(h_1)]\}$

- (45) a. *A man came in. He smoked a cigar.*

b. LF: $[[a \text{ man}]_1 [t_1 \text{ came in}]] [a \text{ cigar}]_2 [he_1 \text{ smoked } t_2]$

c. $c_0 + [[a \text{ man}]_1] + [[t_1 \text{ came in}]] + [[a \text{ cigar}]_2] + [[he_1 \text{ smoked } t_2]$
= $\{h \mid g \ c_0[g <_1 h \ \text{MAN}(h_1) \ \text{CAME IN}(h_1)]\}$
+ $c\{h \mid g \ c_0[g <_2 h \ \text{CIGAR}(h_2)]\} + c\{g \ c \mid \text{SMOKED}(g_1, g_2)\}$
= $\{h \mid g \ c_0[g <_{1,2} h \ \text{MAN}(h_1) \ \text{CAME IN}(h_1) \ \text{CIGAR}(h_2) \ \text{SMOKED}(h_1, h_2)]\}$

- (46) a. *Always, if a man came in, he smoke a cigar.*

b. LF: *always* $[[a \text{ man}]_1 [t_1 \text{ came in}]] [a \text{ cigar}]_2 [he_1 \text{ smoked } t_2]$

c. $c_0 + [[\textit{always} [a \text{ man}]_1 [t_1 \text{ came in}]] [a \text{ cigar}]_2 [he_1 \text{ smoked } t_2]]$
= $\{g \ c_0 \mid h[g <_1 h \ \text{MAN}(h_1) \ \text{CAME IN}(h_1) \ \text{CIGAR}(h_2) \ \text{SMOKE}(k_1, k_2)]\}$

Assumed rule for *always*:

$$(47) \text{ ALWAYS}(c, \text{ }) = c\{g \mid c \mid h[h \{g\} + k[k \{h\} +]]\}$$

Refined rule for quantifiers in general, illustrated with *usually* (cf. Krifka 1992, Chierchia 1992):

$$(48) \text{ USUALLY}(c, \text{ }) = c\{g \mid \text{MOST}(\{h \mid \{g\} + \{g\&h\}, \{h \mid \{g\&h\} + \text{ }\})\}$$

Where “g&h” is the **increment** of g with h, the union of the assignments g and h, provided that their domains do not overlap: g&h = g h, if DOM(g) ∩ DOM(h) = ∅, undefined else, and where “c + ” means that the context c supports the context-change potential in the sense that there is a non-empty context c' with c + c' = c.

$$(49) \text{ a. Usually, if a man came in, he smoked a cigar.}$$

$$\text{ b. } c_0 + [\text{usually} [a \text{ man}_1 [t_1 \text{ came in}]] [a \text{ cigar}_2 [he_1 \text{ smoked } t_2]]]$$

$$= c_0 + \text{USUALLY}([\text{a man}_1 [t_1 \text{ came in}]], [\text{a cigar}_2 [he_1 \text{ smoked } t_2]])$$

$$= \{g \mid c_0 \mid \text{MOST}(\{h \mid \{g\} + [\text{a man}_1 [t_1 \text{ came in}]] = \{g\&h\}, \{h \mid \{g\&h\} + [\text{a cigar}_2 [he_1 \text{ smoked } t_2]] \text{ }\})\}$$

$$= \{g \mid c_0 \mid \text{MOST}(\{h \mid g <_1 g\&h \text{ MAN}(g\&h_1) \text{ CAME IN}(g\&h_1), \{h \mid k[\{g\&h\} <_2 k \text{ CIGAR}(k_2) \text{ SMOKED}(k_1, k_2)]\})\}$$

4.4 The Requantification Problem

Combination of dynamic interpretation with alternative semantics (Rooth (1995)):

(50) A green-eyed dog is usually intelligent.
‘Most green-eyed dogs are intelligent.’

$$(51) \text{ a. } [[a \text{ dog}_1 [t_1 [is \text{ intelligent}]_F]]_A]$$

$$= c\{h \mid g \mid c[g <_1 h \text{ DOG}(h_1) \text{ INTELLIGENT}(h_1)]\}$$

$$= \textcircled{1}$$

$$\text{ b. } [[a \text{ dog} [t_1 [is \text{ intelligent}]_F]]_A]$$

$$= \{c\{h \mid g \mid c[g <_1 h \text{ DOG}(h_1) \text{ P}(h_1)]\} \mid P \text{ ALT}(\text{INTELLIGENT})\}$$

$$\text{ if } \text{ALT}(\text{INTELLIGENT}) = \{\text{INTELLIGENT}, \text{DUMB}\}:$$

$$= \{c\{h \mid g \mid c[g <_1 h \text{ DOG}(h_1) \text{ INTELLIGENT}(h_1)]\},$$

$$c\{h \mid g \mid c[g <_1 h \text{ DOG}(h_1) \text{ DUMB}(h_1)]\}$$

$$= \textcircled{2}$$

$$\text{ c. } \textcircled{2} = c\{h \mid g \mid c[g \mid c[g <_1 h \text{ DOG}(h_1) \text{ INTELLIGENT}(h_1) \text{ DUMB}(h_1)]\},$$

where $A = \{c, c \mid c \text{ DOM}(A) \text{ } c = \{c + \mid A\}\}$,
if A is a set of context-change potentials that have the same input contexts.

$$\text{ d. } c_0 + [\text{usually} [a \text{ dog}_1 [t_1 [is \text{ intelligent}]_F]]]$$

$$= c_0 + \text{USUALLY}(\textcircled{2}, \textcircled{1})$$

$$= \{g \mid c_0 \mid \text{MOST}(\{h \mid g <_1 g\&h \text{ DOG}(g\&h_1) \text{ INTELLIGENT}(g\&h_1) \text{ DUMB}(g\&h_1)\},$$

$$\{h \mid k[\{g\&h\} <_1 k \text{ DOG}(k_1) \text{ INTELLIGENT}(k_1)]\})\}$$

Requantification problem (von Fintel 1994): $g <_1 g\&h$ requires $1 \text{ } \text{DOM}(g\&h)$, and $g\&h <_1 k$ requires that $1 \text{ } \text{DOM}(g\&h)$.

Rooth (1995): **domain regulator theory**. Indefinites need not have a new index, they just guarantee that a value for their index will be defined in the output context.

Problem: Then indefinites could be used to pick up existing discourse referents.

(52) A man₁ came in. A man₁ sat down.
would have same meaning as: A man₁ came in. He₁ sat down.

Coindexations like (52) could be excluded by pragmatic principles: Indefinite NPs just **allow** that their index is already defined, whereas definite NPs **require** that their index is already defined. Hence Speaker will use definite NPs for picking up existing indices, and choosing an indefinite NP will trigger the quantity implicature that Speaker does not intend to pick up an existing index. (Cf. similar arguments for selection of reflexives, pronouns, or full NPs in Horn (1984), Levinson (1991)).

Von Fintel (1994: 63ff.), **quantification over minimal situations**. Interpretation of (50): Most minimal situations that contain a green-eyed dog are part of a **minimal** situation that contain a green-eyed dog that is intelligent. This forces that the two occurrences of *a green-eyed dog* refer to the same dog.

Problem, pointed out by von Fintel:

(53) Usually, if a cat is hungry, a cat cries.
would have the same meaning as: Usually, if a cat is hungry, it cries.

We would have to impose some sort of novelty condition for indefinites over and above the situation-based interpretation rule.

4.5 Non-novel Indefinites and their Accommodation

Assume: there is a class of **non-novel indefinites** that **presuppose that their index is defined in the input context** and that **their descriptive content applies to that index**. These indefinites are de-accented, leading to accent on other constituents (cf. Ladd 1980, “default accent”), or have a topical, low-rise accent (marked by “˘”)

(54) Usually, [a green-eyed d_{0g}]_{NN} is intelligent.

(55) a. [A fr₀shman]_{NN} usually wears a b₀seball cap.
‘Most freshmen wear a baseball cap.’

b. A fr₀shman usually wears [a b₀seball cap]_{NN}.
‘Most baseball caps are worn by freshmen’, ‘Most baseball cap wearers are freshmen’

But notice that accent can be used for other means as well, e.g. to mark focus on answer:

(56) A: Who wears usually a b₀seball cap on this campus?
B: [A fr₀shman]_F usually wears a b₀seball cap.

The presupposition of non-novel indefinites is typically **accommodated**. I will assume here that presuppositions are **conditions on input common grounds** and that accommodation consists of **minimal change** (i.e., the most conservative change) of the input common ground if these conditions are not met. (This is the view inherent in Karttunen (1974), Stalnaker (1974), Heim (1983), Beaver (1992). For a different view cf. van der Sandt (1992), who assumes that the presuppositions can be accessed explicitly, and accommodation consists in adding them at certain points in the semantic representations. The ideas presented here could be expressed in either account.)

(57) Representation of non-novel indefinites:

$[[[a \text{ dog}]_{1,NN}] = c\{g \ c \mid g \ c[\text{DOG}(g_i)]\}$
 i.e., $1 \in \text{DOM}(c)$, and 1 is a dog in c ; if not, c is reduced to \perp .

(58) Minimal change of input context:

- a. c **extends** c , **satisfying** (the presuppositions of) c' , iff
 $c' = c +$
 $\text{--- } h \ c \ g \ c[g \ h]$
- b. c **extends** c **minimally, satisfying** c' , iff
 $\text{--- } c$ extends c , satisfying c' ,
 --- there is no c'' , $c' = c''$, such that
 c'' extends c , satisfying c' , and
 c extends c'' , satisfying c' .
- c. c **extends** c **properly, satisfying** (rendered as $c \ c' []$)
 iff $c' = \{c \mid c$ extends c minimally, satisfying $c'\}$

That is, if $c + c' = c''$ and $c \ c' []$, then c is the most conservative change of c that satisfies the presuppositions of c'' . In particular, c' contains what is necessary to satisfy the presuppositions of c'' (58.a), but no excess information: It does not introduce any unnecessary indices (58.b), and it does not make any unnecessarily specific claims about how the indices are anchored (58.c).

(59) Fact: If $1 \in \text{DOM}(c)$ and $c \ c' [[[a \text{ dog}]_{1,NN}]]$, then $c' = c + [[[a \text{ dog}]_1]]$

(If the discourse referent 1 is not in the domain of c , and if c extends c properly, satisfying $[[[a \text{ dog}]_{1,NN}]]$, then c' is the update of c with the regular indefinite, $[[[a \text{ dog}]_1]]$).

(60) Schematic interpretation rule of adverbial quantifiers:

$c + Q()$
 $= c + Q$ -many ways in which c can be accommodated to satisfy the presuppositions of c'
 c' are also ways that support the truth of c'

(61) $\text{USUALLY}() = c\{g \ c \mid \text{MOST}(\{h \mid \{g\} \ \{g\&h\}[]\}, \{h \mid \{g\&h\} + \})\}$

(62) a. $[[[a \text{ freshman}]_{1,NN} [a \text{ baseball cap}]_2 [t_1 \text{ wears } t_2]]]$
 $= c\{k \mid g \ c[\text{FRESHMAN}(g_i) \ g <_2 k \ \text{CAP}(k_2) \ \text{WEAR}(k_1, k_2)]\}$
 $= \textcircled{1}$

b. $[[\text{usually } [a \text{ freshman}]_{1,NN} [a \text{ baseball cap}]_2 [t_1 \text{ wears } t_2]]]$
 $= \text{USUALLY}(\textcircled{1})$
 $= c\{g \ c \mid \text{MOST}(\{h \mid \{g\} \ \{g\&h\}[\textcircled{1}]\}, \{h \mid k[k \ \{g\&h\} + \textcircled{1}]\})\}$

c. If $1 \in \text{DOM}(\{g\})$:
 if $\{g\} \ \{g\&h\}[\textcircled{1}]$ then $g <_1 g\&h \ \text{FRESHMAN}(h_1)$

d. If $g <_1 g\&h \ \text{FRESHMAN}(h_1)$:
 $\{g\&h\} + \textcircled{1} = \{k \mid \forall g' \in \{g\&h\} [\text{FRESHMAN}(g'_1) \ g\&h <_2 k \ \text{CAP}(k_2) \ \text{WEAR}(k_1, k_2)]\}$

The boldfaced condition is redundant, hence (d) can be simplified to:

d. If $g <_1 g\&h \ \text{FRESHMAN}(h_1)$:
 $\{g\&h\} + \textcircled{1} = \{k \mid g\&h <_2 k \ \text{CAP}(k_2) \ \text{WEAR}(k_1, k_2)\}$

Assuming that $1 \in \text{DOM}(c)$:

e. $\text{USUALLY}(\textcircled{1})$
 $= c\{g \ c \mid \text{MOST}(\{h \mid g <_1 g\&h \ \text{FRESHMAN}(h_1)\}, \{h \mid k[\{g\&h\} <_2 k \ \text{CAP}(k_2) \ \text{WEAR}(k_1, k_2)]\})\}$

When applied to an input context c_0 , this will give us back c_0 if most increments h of assignments g of c_0 where 1 is anchored to a freshman are such that h in turn can be extended to a k that contains the new discourse referent 2 in its domain such that k_2 is a baseball cap, and $k_1 (= h_1)$ wears k_2 .

Why are non-novel indefines not used as anaphorically? Because definite NPs do a better job.

(63) $[[[the \text{ dog}]_1] = c\{g \ c \mid g \ c[\text{DOG}(g_i) \ i \in \text{DOM}(g)[\text{DOG}(g_i) \ g_i = g_i]]\}$

Definite NPs do not only presuppose that their index is defined, but also that all indices in the input context that satisfy the description have the same referent. Hence they are better suited for anaphoric purposes. Consequently, the use of an indefinite, even a non-novel indefinite, will trigger the quantity implicature that it is not anaphoric.

(Various qualifications apply that suggest that definite NPs introduce their own index, but that it is typically related to existing indices. For singular anaphoric definites, their index is identified with existing indices. Plural definites are anchored to to sums of the anchors of existing indices, “bridging” definites are anchored to entities related to the anchors of existing indices, and non-anaphoric definites introduce new indices anchored to entities satisfying a unique description.)

4.6 A Comparison of Theories

The focus theory: Quantification is focus-sensitive or presupposition-sensitive. In the latter case, it is indirectly focus-sensitive, as focus introduces existential presuppositions.

The non-novelty theory: Quantification is sensitive to presuppositions. Non-novel indefinites come with presuppositions.

The focus theory, in form of domain regulator theory: The index of indefinites may be new or old.

The non-novelty theory: There are two kinds of indefinites. Novel indefinites presuppose that their index is new, non-novel indefinites presuppose that their index is old, and presuppose the descriptive content for that index.

Both theories have to tell the same pragmatic story why indefinite NPs are not used anaphorically.

The focus theory: Accent in (37.a,b) follows from focus marking.

The non-novelty theory: Accent in (37.a,b) follows from deaccentuating of non-novel NPs.

Evidence for theory of section 5:

- Topic marking of non-novel NPs in main clauses in Japanese.

(64) a. Taitei, midori no me o shita inu **wa** rikou de aru.
 usually, green of eye Acc did dog(s) Top intelligent Decl s/are
 ‘Usually, a green-eyed dog is intelligent’

- (65) a. Shin-nyuu-sei **wa** taitei yakyuu bou o kabu-tte iru.
 newly-enter-student(s) Top usually baseball cap Acc wear is/are
 ‘A freshman usually wears a baseball cap’, ‘Most freshmen were a baseball cap’
- b. Yakyuu bou **wa** taitei shin-nyuu-sei ga kabu-tte iru.
 baseball cap(s) Top usually newly-enter-student(s) Nom wear is/are
 ‘A freshman usually wears a baseball cap’,
 ‘Most baseball caps are worn by a freshmen’,

This is compatible with theory of section 4.2/4.4 only if topic marking were directly derivable from focus marking (as its complement), which is not the case.

- Object marking in languages with optional markers (Turkish, Persian). Notice that *-ra* marked objects can be in focus (definite object NPs are typically marked by *-ra*).
- (66) a. Kowboyeeha tanbako mijavand.
 cowboys tobacco chew
 ‘Cowboys usually chew tobacco.’
- b. Kowboyeeha tanbako-ra mijavand.
 cowboys tobacco-OM chew
 ‘What cowboys usually do with tobacco is: they chew it.’
- Use of definite articles for “indefinites” in Modern Greek (cf. Newton (1979)) and in Spanish (cf. Laca (1990)). (Cf. also English possessive pronouns: *Cowboys chéw their tobacco*).

- (67) a. Los vaqueros mascan tabaco.
 ‘Cowboys usually chew tobacco.’

1. Los vaqueros mascan el tabaco.
 ‘What cowboys usually do with tobacco is: they chew it.’

Also, it seems that scrambling of indefinite NPs in German is restricted to non-novel indefinites:

- (68) a. weil einer alten Dàme_{1,NN} gewöhnlich eine Kátze t₁ gehört
 because an old lady (DAT) usually a cat (NOM) belongs
 ‘because most old ladies own a cat’
- b. weil eine Kátze_{2,NN} gewöhnlich t₂ einer alten Dàme gehört
 because a cat (NOM) usually an old lady (DAT) belongs
 ‘because most cats belong to an old lady’

But expressions in focus do not undergo scrambling either, and so it seems that the data in (68) could equally well be explained within the theoretical framework of section 4.2/4.4.

Other potential evidence for non-novel indefinite NPs

If non-novel indefinites presuppose their index, if this presupposition is accommodated, and if accommodation is typically global, we might analyze **specific indefinites** as non-novel indefinites that get their wide-scope reading by accommodation. See [Cresti, 1995 #6680] for this treatment of specific indefinites, and [Jäger, 1995 #6882] for indefinites with partitive interpretation.

4.7 Non-novel Indefinites in the Protasis of Conditionals

- (69) Influence of accent in the protasis:

- a. If a farmer owns a donkey, he usually beats it.
 ‘Most farmers that own a donkey beat it.’ (subject-asymmetric reading)
- b. If a farmer owns a donkey, he usually beats it.
 ‘Most donkeys owned by a farmer are beaten by him.’ (object-asymmetric reading)

Chierchia (1992): *a farmer* is topical in (69.a), *a donkey* is topical in (69.b). Chierchia (1995) assumes coindexing of the quantifier with the NP, which triggers existential closure (Dekker 1993).

Proposal: Quantification is over **non-novel** NPs in the protasis.

- (70) Standard interpretation of *if then*, with quantifier Q:

$c + Q(\text{ , }) = c + Q$ -many ways in which *c* can be updated so that the result entails
 are also ways that can be further updated so that the result entails

- (71) Interpretation if contains presuppositions (e.g., introduced by non-novel indefinites):

$c + Q(\text{ , }) = c + Q$ -many ways in which *c* can be accommodated to satisfy the
 presuppositions of so that the result entails
 are also ways that, when updated with , entail

- (72) $[[\textit{usually}]]$
 $= c\{g \text{ c} \mid \text{MOST}(\{h \mid \{g\} \{g\&h\}[[\]] \text{ k}[k \text{ } \{g\&h\} + [\]]]\},$
 $\{h \mid k[k \text{ } \{g\&h\} + [\] + [\]]]\}$

But the presuppositions of the apodosis can be added to the restrictor as well:

- (73) If a cat is healthy, it usually lands on its feet.
 One available reading: ‘For most pairs of situations *s* and a healthy cat *x* in which *x* touches ground it holds that *x* lands on its feet in *s*.’
- (74) If an influential politician is on the board of trustees of a health organization, a well-informed newspaper reader usually knows about it.
 One available reading: ‘Most pairs *x, y*, where *x* is an influential politician on the board of trustees of a health organization and *y* is a well-informed newspaper reader are such that *y* knows that *x* is on the board of trustees of the health organization.’
- (75) $c + Q(\text{ , }) = c + Q$ -many ways in which *c* can be accommodated to satisfy the
 presuppositions of and so that the result entails

are also ways that, when updated with , entail .

- (76) $[[\textit{usually}]]$
 $= c\{g \text{ c} \mid \text{MOST}(\{h \mid \{g\} \{g\&h\}[[\]; [\]] \text{ k}[k \text{ } \{g\&h\} + [\]]]\},$
 $\{h \mid k[k \text{ } \{g\&h\} + [\] + [\]]]\}$

(where “;” marks composition of clause meanings (context-change potentials))

Accommodation of presuppositions from the apodosis may explain backward anaphora (as discussed in Chierchia (1995), chapter 3; I have supplied the prosodic markers).

- (77) If it₁ is overcooked, a hamburger₁ usually doesn’t taste good.
- (78) If a boy₁ lies to her₂, a girl₂ won’t trust him₁ anymore.

Chierchia explains these cases by assuming reconstruction of the protasis:

- (79) a. a hamburger₁ [[usually [doesn't taste good]] if it_i is overcooked]
 b. a girl₂ [[GEN [won't trust him₁ anymore]] if a boy₁ lies to her₂]

This predicts that cases with pronominal main clause subject and full NP object are bad (principle C):

- (80) a. *If a boy lies to her, he risks loosing a girlfriend.
 b. *he₁ [risks [loosing a girlfriend₂]] if a boy₁ lies to her₂]

But such sentences need not be ungrammatical if the indefinite object NP is deaccented, which makes them similar in acceptability to (78).

- (81) If a boy lies to her, he risks loosing a girlfriend.

4.8 Accomodation by Rule or Accomodation by Principle

Rules like (71) may be considered problematic:

- 1) Unclear how it relates to rule (60) for monadic quantifiers;
- 2) it is a rule that makes reference to accomodation, a repair strategy.

Proposed solution (see paper for details):

1. we only have one, dyadic rule; in case there is no *if*-clause, the restrictor part is the empty context-change potential 0 (where $c + 0 = c$).
2. the rule does not make reference to accomodation, but we have accomodation following the general rules for accomodation.

General interpretation rule for quantifiers:

- (82) $c + Q(,) = c + Q$ -many ways in which c entails are ways in which c entails and .
- (83) [A frèshman]_{NN} usually wears a básieball cap
 $c + \text{USUALLY}(0, \llbracket \text{[a frèshman]}_{\text{NN}} \text{ wears a básieball cap} \rrbracket \rrbracket$,
 intermediate accomodation of the presupposition of $\llbracket \llbracket \text{[a frèshman]}_{\text{NN}} \rrbracket$ in the protasis 0.
- (84) If a fàrmer owns [a dònkey]_{NN}, [an ànimal-rights activist]_{NN} will súde him.
 $c + \text{USUALLY}(\llbracket \text{[a fàrmer owns [a dònkey]}_{\text{NN}} \rrbracket, \llbracket \llbracket \text{[an ànimal-rights activist]}_{\text{NN}} \text{ will súde him} \rrbracket \rrbracket$),
 local accomodation of the presupposition of $\llbracket \llbracket \text{[a dònkey]}_{\text{NN}} \rrbracket$ in protasis,
 intermediate accomodation of the presupposition of $\llbracket \llbracket \text{[an ànimal-rights activist]}_{\text{NN}} \rrbracket$ in protasis.

Such accomodations are enforced, as otherwise the quantificational domain is trivialized.

- Chierchia, Gennaro. 1992. Anaphora and dynamic binding. *Linguistics and Philosophy* 15, 111-184.
- Chierchia, Gennaro. 1995. *Dynamics of meaning. Anaphora, presupposition, and the theory of grammar*. Chicago: University of Chicago Press.
- Dekker, Paul. 1993. Existential Disclosure. *Linguistics and Philosophy* 16, 561-588.
- Diesing, Molly. 1992. *Indefinites*. Cambridge, MA: MIT Press.

- Heim, I. 1982. *The Semantics of Definite and Indefinite Noun Phrases*. Ph.D., University of Massachusetts at Amherst.
- Heim, I. 1983. On the projection problem for presuppositions. M. Barlow, D. Flickinger and M. Wescoat (eds.), *West Coast Conference on Formal Linguistics*, Vol. 2 114-125. Stanford.
- Horn, Larry. 1984. Towards a new taxonomy for pragmatic inferences. In D. Schiffrin (ed.), *Meaning, form and use in context. Linguistic Applications*. Washington, D.C.: Georgetown University Press. 11-89
- Jacobs, Joachim. 1980. Lexical Decomposition in Montague-Grammar. *Theoretical Linguistics* 7, 121-136.
- Kadmon, Nirit 1987. *On unique and non-unique reference and asymmetric quantification*. Ph.D. dissertation, University of Massachusetts at Amherst.
- Krifka, Manfred 1992. A framework for focus-sensitive quantification. In C. Barker and D. Dowty (eds.), *Proceedings of the Second Conference on Semantics and Linguistic Analysis, Ohio State University*. Columbus, Ohio.
- Laca, Brenda. 1990. Generic objects: Some more pieces of the puzzle. *Lingua* 81, 25-46.
- Ladd, D. Robert. 1980. *The structure of intonational meaning: Evidence from English*. Bloomington: Indiana University Press.
- Ladusaw, William A. 1994. Thetic and categorial, stage and individual, weak and strong. M. Harvey and L. Santelmann (eds.), *Proceedings of SALT IV* 220-229: Cornell University DMLL.
- Levinson, S. 1991. Pragmatic reduction of binding conditions revisited. *Journal of Linguistics* 27.
- Newton, B. 1979. Scenarios, modality and verbal aspect in Modern Greek. *Language* 55, 139-167.
- Rooth, M. 1985. *Association with Focus*. Ph.D. dissertation, University of Massachusetts at Amherst.
- Rooth, Mats. 1994. Association with focus or association with presupposition? In P. Bosch & R. van der Sandt (eds.), *Focus and Natural Language Processing*. IBM Deutschland Informationssysteme GmbH, Scientific Centre, Institute for Logic and Linguistics, Heidelberg. 389-399.
- Rooth, Mats. 1992. A theory of focus interpretation. *Natural Language Semantics* 1, 75-116.
- Rooth, Mats 1995. Indefinites, adverbs of quantification and focus semantics. In Gregory N. Carlson and Francis Jeffrey Pelletier (eds.), *The Generic Book* 265-291. Chicago: Chicago University Press.
- Schubert, Lenhart K. and Jeffrey Pelletier 1989. Generically speaking; or, using Discourse Representation Theory to interpret generics. In G. Chierchia, B. H. Partee and R. Turner (eds.), *Properties, types and meanings II: Semantic issues*. 193-268. Dordrecht: Kluwer.
- van der Sandt, Rob. 1992. Presupposition projection as anaphora resolution. *Journal of Semantics* 9, 332-377.
- von Stechow, Kai-Uwe 1994. *Restrictions on quantifier domains*. Ph.D. dissertation, University of Massachusetts.