

Philosophy of Language: Natural Language Ontology

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Handout 3

Quantification and Special Quantification

1. Introduction

1.1. Summary of last time

Standard view of referential subjects and objects

Serve to identify a referent that acts as an argument of the predicate.

Predicts substitutivity with coreferential terms.

Challenges

1. Various sorts of complements turn out to be nonreferential, displaying the Substitution problem or Objectivization Effect:

- Clausal complements, complements of copula verbs, complements intensional transitives, direct quotes as complements of verbs of saying, complements of measure verbs

Potential solution

Acknowledge predicative status of such complements in the semantic analysis, possibly involving semantic decomposition in syntax.

- Plural definites and kind terms that are bare plurals

Potential solution

Plural reference, modalized plural reference

- Simple number words

Potential solution

Retain meaning of number words as plural properties or quantifiers even in argument position

2. Modifiers that do not play a referent-identifying role, but a perspective-introducing or referent-individuating role: *as*-phrases, part structure modifiers (*whole, individual*)

3. Descriptive material of DPs that serves to individuate, not identify the referent:

Structured propositions, reference by abstraction

1.2. Today

1. Quantification in natural language and ontological commitment

2. Special quantification: quantification with quantifiers like *something* that can replace various nonreferential complements

2. Quantification and ontological commitment

2.1. The structure of quantificational sentences

Restricted quantifiers in natural language, but not logic:

(1) a. Some woman entered.

b. $\exists x(\text{woman}(x) \ \& \ \text{enter}(x))$

(2) a. Every woman entered.

b. $\forall x(\text{woman}(x) \rightarrow \text{enter}(x))$

Generalized quantifiers

(3) a. Most women entered

b. [Most women] entered

Contextually given restrictions

Controversy:

Restriction is syntactically represented (by silent material) or is obtained from the (linguistic or nonlinguistic) context.

More general issue

Do implicit arguments always have to be syntactically represented?

Silent noun restrictions

(4) a. Some say that coffee is healthy. (light noun PERSON)

b. Some were rotten. (deleted noun)

Anaphoric restriction: full noun deleted under identity

Nonanaphoric restriction: presence of *light noun* (R. Kayne)

The Quinean criterion of ontological commitment

(5) a. To be is to be the value of a variable.

More precisely:

(5) b. To be is to be the value of a variable bound by an existential quantifier not in the scope of negation.

Meant to apply to a *theory formulated in a regimentation of natural language*

Natural displays various other sorts of involvement of objects (cf. Handout 1)

Is quantification really ontologically committing?

(6) The Meinongian view

There are things that do not exist.

Nonreferential names:

(7) a. The golden mountain does not exist.

b. Pegasus does not exist.

Existential quantification that is not ontologically committing:

(8) a. Some buildings mentioned in the guide do not exist.

b. ?? Some winged horses do not exist.

c. ?? There are some winged horses that do not exist.

d. Everything is god's creation. (everything real!)

3. Special quantification

3.1. The range and form of special quantifiers

Special quantifiers in English

Something, everything, nothing, much, a lot, several things, two things, something nice

Special pronouns

That, what

Non-special quantifiers

Some thing, every thing, some nice thing, some entity

Non-special pronouns:

It, them

Special quantifiers in French

Tout, rien, beaucoup, peu, quelque chose, plusieurs choses, le, ça

Special quantifiers in German

Alles, nichts, viel, wenig, etwas, mehrere Dinge, das

3.2. Characteristics of special quantifiers

Abstract Objects and the Semantics of Natural Language (2013)

Special quantifiers (and pronouns) can replace various sorts of nonreferential complements without giving rise to the *Substitution Problem* or the *Objectivization Effect* (also called *Prior's Problem*).

Clausal complements

(9) a. John thought that he won

b. ??? John thought a thing / a proposition.

c. John thought something.

(10) a. John said that he won.

b. ??? John said a thing / an utterance / a proposition.

c. John said something.

d. John said a few words. (cf. discussion last time)

Predicative complements (of copula verbs)

(11) a. Mary is happy.

b. ??? Mary is a property.

c. Mary is something enviable.

DP complements of intensional transitive verbs

(12) a. John needs something, a computer.

b. John owes Mary something, a bottle of wine.

c. ??? John needs a quantifier / a property.

Direct quotes as complements

- (13) a. John said ‘great’.
 b. ??? John said an adjective / an expression.
 c. John said something.
 d. John said just a single word.

Complements of measure verbs

- (14) a. John weighs 100 kilo.
 b. John weighs something,
 b. ??? John weighs an entity / a weight.

Complements of *do* (VPs)

- (15) John did something, walk around the house.

Special quantifiers, and only special quantifiers, can be used to quantifier over just everything (*absolute generality*)

- (16) a. What is there? Everything. (Quine)
 b. Everything is part of the natural world.

Special quantifiers with *-thing* are distinct from quantifiers with the ordinary noun *thing*

1. *-thing* as a bound morpheme

- (17) a. John is some thing. (false)
 b. John is something. (true)

2. Position of adjectival modifiers

- (18) a. John said something nice.
 b. ??? John said some nice thing.

Meaning of the ordinary noun *thing*

Primary meaning: material objects and artifacts

The term ‘special quantification’

In *Abstract Objects and the Semantics of Natural Language* and my earlier papers (2003, 2004). I also use ‘nominalizing quantifier’, but that term is associated with a particular semantic view of special quantifiers.

3.3. Special quantifiers replacing other DPs displaying the Substitution Problem:

1. Simple number words

(19) a. What is two and two?

b. ??? Which number is two and two.

2. Plural DPs

(20) a. John counted the peas / ??? the sum of the peas.

b. John counted something, the peas.

(21) a. John cannot distinguish the kittens / ??? the group / sum of the kittens.

b. There is something John cannot distinguish, the kittens.

3. Kind terms (bare plurals and mass nouns)

(22) a. John likes many different things, beans, peas, apples, and carrots.

b. ??? John ate many different kinds, beans, peas, apples, and carrots.

Are special quantifiers mass or count?

(23) a. John something, the rice.

b. John ate something, the beans

(24) a. John forgot two things, the rice and the milk.

b. John forgot two things, the beans and the apples.

(25) What did John count? John counted the apples.

English special quantifiers are mass with singular *–thing*, plural with plural *things*.

Special plural quantifiers are able to quantify over quantities and pluralities.

Special quantifiers can act as genuine plural quantifiers!

Special quantifiers can have a reifying force in extensional contexts.

3.4. Special quantification as non-nominal quantification?

A common philosophers' view

Special quantifiers are non-nominal quantifiers.

But not all special quantifiers can non-nominal in a syntactic sense

Special quantifiers *something*, *everything* etc are nominal!

E.g. they require case (not assigned by adjectives or nouns):

(26) a. John is happy that he won / * something.

b. the proof that he won / * something

They can appear after prepositions:

(27) John is happy about something / * that he won.

They cannot be extraposed:

(28) It is true that John won / * something.

The morpheme *thing* (*-things*) is nominal.

Better candidates for syntactically non-nominal quantifiers

Philosophers' favorite example: *somehow*

But adverbial quantifiers of this sort are highly restricted:

(29) a. * *everyhow*, * *nohow*

b. *in every way*, *in no way* (nominal!)

Other adverbial quantifiers:

(30) a. *sometime*, **everytime*, **notime*,

b. *always*, *never*

c. *somewhere*, *everywhere*, *nowhere*

Difference in accepting restrictions (see below)

(31) **somehow* unusual, ok *somewhere* nice, ok *always* when it rains

The quantifiers in (30b, c) are more likely nominal quantifiers.

3.5. Semantic approaches to special quantifiers as non-nominal quantifiers

Non-nominal quantification in a semantic sense

Semantic views according to which special quantifiers

- do not range over the same entities that serve as semantic values of DPs (propositional contents or concepts vs. propositions, Fregean distinction between objects and concepts)
- do not contribute the same way a referential DPs contributes to the meaning of sentences, but rather contribute just in the way the expressions they replace contribute in that syntactic

position, are of the same type as the expression they replace; quantify over higher-order semantic values, also in the metalanguage (higher-order metaphysics view: Prior, Rosefeldt, d'Ambrosio),

3.6. The nominalization theory of special quantifiers

3.6.1. Semantic generalizations about special quantifiers:

1. Special, non-adverbial quantifiers permit restrictions that are first-order predicates

Special quantifiers in predicates position

Adjectival modifiers:

- (32) a. Mary is something admirable, courageous.
 b. Sue is something not uncommon, nervous.

Relative clauses that are predicates of individuals:

- (33) a. Mary is something I admire *e* a lot, courageous.
 b. Bill is everything Mary likes *e* in a man.
 c. Joe is something I hate *e*, sloppy

Relative pronoun does not originate in predicate position!

Special quantifiers in clausal complement position

- (34) a. John said something true.
 b. Bill claimed something outrageous.
- (35) a. John said something that caused an uproar.

Relative pronoun originates in a position not accepting clausal complements:

- (35) b. John said something I really do not like *e*.
 c. John said something I would strongly object to *e*.
 d. John believed something we never talked about *e*.

Special quantifiers as complements of intensional transitive verbs

- (36) a. John is looking for something expensive, a villa with a sea view.
 b. John only needs something inexpensive, only some paper and a pen.
- (35) a. John needs something that is hard to get *e*.
 b. John needs something I have never seen *e* anywhere.

2. Identity statements with special quantifiers (and pronouns)

Clausal complements of attitude verbs

- (36) a. ??? John thought what Bill claimed, that it will rain.
 b. ??? John thought everything that Bill had claimed.
- (35) a. ??? Joe hoped what Bill claimed, that it will rain.
 b. ??? Joe fears what Bill wrote, that it will rain.

Complements of intensional transitives

Apparently no need for a shared attitudinal or modal object:

- (36) a. John needed what he now has, a house.
 b. John needs what he is looking for, a computer.
- (37) ?? John needs what Mary painted, a house.

The shared object of intensional transitives (verbs of absence: *need*, *look for*)

Not a need, a search, but ‘the satisfaction of a need’, ‘the satisfaction of a search’

The satisfaction of a need: objects in situations satisfying the need = *variable satisfiers* of the need

In (37a): a house in a situation satisfying John’s need = a house John has

In (37b): a computer in a situation satisfying John’s need = a computer in a situation satisfying John’s search.

Restrictions on direct quotes and measure complements?

3.6.2. Developments of the nominalization theory of special quantifiers

(38) The Nominalization Theory of special quantifiers

Special quantifiers range over the very same entities that a corresponding nominalization would stand for.

With attitude verbs:

Special quantifiers range over *attitudinal objects* or kinds of them (claims, thoughts, assumptions etc.).

With copular verbs:

Special quantifiers range over *modes* (tropes) or kinds of them (happiness, sloppiness, wisdom, ...).

With intensional transitives

Special quantifiers range over *variable satisfiers*.

With measure verbs

Special quantifiers range over *quantitative modes* (tropes) or kinds of them (weights, heights).

With verbs of saying taking direct quotes

Special quantifiers range over *utterances* - locutionary objects ('sayings').

What the view leaves open

How do special quantifiers manage to range over such objects?

Two options

1. Special quantifiers introduce a 'new domain' of entities that would not have been present in the semantic structure without the special quantifier.
2. Special quantifiers pick up on the denotation of an underlying noun.

Semantics of special quantifiers with attitude verbs

Option 1: my older work (neo-Russellian semantics of attitude verbs)

Option 2: my most recent work (Moltmann 2021): with connections to syntactic proposals by R. Kayne (2010) and B. Arsjenevic (2009)

3.6.3. The nominalization theory of special quantifiers with attitude verbs (most recent version)

Attitude reports based on lexical decomposition: Arsjenevic (2009), Moltmann (2021)

(38) a. John claimed that S.

b. . John made (the) claim that S.

c. John made [claim [that [e +ass] S]]

d. John claim-made ~~claim~~ [that [[_{force}~~claim~~ +ass] S]]

Attitude verbs derived from light verb-noun combinations

The analysis of special quantifiers

The light noun *-thing* forms a compound with the nominal root.

(39) a. John claim-made [some ~~claim~~-thing]

b. [claim-thing] = [claim_N]

(40) * [claim-proposition] , * [claim-objects]

The general view

Attitude verbs are underlyingly light verb-noun combinations.

See also Hale/Kayser (2002) for a view of lexical decomposition of verbs in syntax.

Trying to carry the view over to intensional transitives

(41) a. John needs₂ a computer.

b. John have need₂ for a computer.

(42) a. John needs₂ something.

b. John have some need₂-thing.

c. John need-have ~~need~~ some ~~need~~₂-thing.

Carrying the view over to copula-predicate sentences:

Have = *be*+P (R. Kayne)

Requires quantification over predicates / concepts

(43) a. John is something.

b. For some N, John is / be some N-thing

c. [happy-thing] = [happiness]

d. * [happy-property]

More general hypotheses going along with the nominalization theory

- Nouns play a more important role in the underlying syntactic structure of sentences.
- *That*-clauses are special relative clauses.
- Intensional verbs are derived from light verb – noun combinations.
- *-Thing* as a light noun plays a crucial role in the syntax and semantics of special quantifiers.

Further motivations for the Nominalization Theory

The reifying function of special quantifiers involving (count *-things*) with plural definites and kind-denoting bare plurals (and mass nouns).

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