*Seminaire Générale*

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**The Core-Periphery Distinction in the Conceptual and Ontological Domain of Language**

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1. **Introduction**

Claim:

A distinction between core and periphery is essential for (part of) semantics and especially for natural language ontology.

This core-periphery distinction is, it seems, at least to an extent structurally based.

Plan:

* Core-periphery distinctions in the linguistic literature: in syntax, in phonology
* The core-periphery distinction in natural language ontology
* An application: reference to abstract objects (the project of my 2013 book)

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1. **Core periphery distinctions in the linguistic literature**

**2.1. The core-periphery distinction in syntax**

Chomsky (1981, 1989, 1998), Yang (2016):

Periphery: parts of a natural language that are anomalous or ‘added on’ from influences from other languages

Core: reflects universal grammar (roughly)

Core-periphery distinction is controversial and does not generally seem to guide syntactic analysis.

**2.2. The core-periphery distinction in phonology**

Îto/Mester (1995a, b):

Core-periphery organization of the lexicon according to degrees of assimilation/integration of the vocabulary. Core-periphery distinction not a binary distinction, but a gradual one, with different types of items being more or less in the periphery or core.

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1. **The core-periphery distinction for the ontology reflected in natural language**

**3.1. Descriptive metaphysics (Strawson 1959) and conceptual analysis**

- Philosophers often appeal to natural language to motivate a philosophical view, and in particular an ontological category or notion

The purpose of descriptive metaphysics is to uncover our shared conceptual scheme

better: our implicitly adopted ontological categories and structures

Conceptual analysis as the main aim of analytic philosophy.

- Philosophers make use only of certain types of linguistic data and avoid others.

Examples of data used by philosophers:

* Frege: natural language involves reference to numbers as objects
1. The number of planets is eight.
* Natural language involves reference to universals or tropes (particularized properties):

 (2) a. Mercy is the virtue Stalin most perspicuously lacked. (Hale 1983)

 b. Socrates’ wisdom is deep.

* Natural language involves propositions as objects of attitudes.

 (3) John believes that it is raining.

*That* S appears to be a referential term, could stand only for something that is both the meaning of a sentence and the object of an attitude.

- Link and others: natural language involves sums of objects in its ontology:

(4) a. John and Mary like each other.

 b. The students gathered.

**3.2. The core-periphery distinction implicit in the pursuit of natural language ontology**

What sorts of data do philosophers (and semanticists) not appeal to?

* technical philosophical terms
* overt sortals, ‘reifying terms’
* non-ordinary uses of expressions

Numbers:

(5) a. There are numbers.

 b. The number eight is even.

Properties / tropes:

*Trope* (introduced in 1953), *property* : are not used to motivate tropes or properties

(6) a. the property of mercy

 b. the trope of Socrates’ wisdom

Propositions:

(7) the proposition that S

Sums:

(8) a. the sum / fusion / set of John and Mary

 b. the group / couple / team of John and Mary

The construction of reifying terms:

* *the proposition that* S, *the property of being wise*
* close appositions: *the number eight, the word ‘rouge’*

general structure: definite determiner - sortal – nonreferential material

How can reifying terms and technical terms be set aside?

They are part of English and their use is fully legitimate

But they belong to the periphery, not the core of language.

What characterizes the relevant core-periphery distinction?

Periphery:

* includes expressions and uses of expressions introduced in a particular theoretical context: e.g. *trope, entity*
* includes sortal nouns, e.g. *property, number, fact, state*

Reifying terms: terms formed with full sortal nouns as head

* 1. **Ordinary and non-ordinary uses of language**

Non-ordinary uses of expressions:

E.g. using *existence, property, object, part* to convey a particular philosophical notion of existence, property, object, parthood

Ordinary language philosophy (Ryle, Wittgenstein, Austin):

Philosophical (metaphysical) problems arise from non-ordinary uses of language.

Fact:

There is nothing illegitimate in the use of nouns having a modified or special conceptual content in mind; this is part of the *expandability* of English.

Recent theories of the Generative Lexicon (Pustejovsky 1995):

Lexicon does not consist in an assignment of meanings to lexical items, but involves lexical operations, which generate polysemies and also allow legitimate enrichments of lexical meaning.

Recent approaches of conceptual engineering (e.g. Eklund 2015, Cappelen 2018)

The task of philosophy: conceptual engineering rather than conceptual analysis

Concepts can legitimately be modified for philosophical purposes.

* 1. **Limits to non-ordinary uses**

Limits to conceptual engineering:

Not all concepts, components of concepts can undergo modification (conceptual engineering)

bedrock concepts (Chalmers (2011), ‘conceptual fixed points’ (Eklund 2015).

Linguistic constraints on when non-ordinary use of meaning is available:

Good candidates for resisting non-ordinary use:

* the meaning of light verbs (*have, be, make*),
* morphological categories (plural, singular, tense, mood)
* functional categories, thematic roles
* syncategorematic expressions (*and, or, if-then*)

More generally: functional categories as opposed of the lexicon

Functional categories belong to the core of language in the syntactic sense (Yang 2016)

Lexical expressions displaying a semantic core-periphery distinction

*Existence* vs the verb *exist*

*Existence*:

Common philosophical view about existence (e.g. Inwagen 2014) :

‘Existence is a univocal notion, applies trivially to everything there is.’

*Existence* can also be used to convey a highly restricted notion (e.g. according to which material objects or particles exist).

*Exist, existence* with a nominal complement:

Subject to strict conditions on the type of entity to which it can apply: applies to material and abstract objects, but not to events (Hacker 1982, Cresswell 1986, Moltmann 2013c, 2018):

(9) a. The house still exists.

 b. The largest prime number does not exist.

(10) a. ??? The rain still exists.

 b. ??? The protest existed yesterday.

(11) a. The accident did happen / occur / take place / ???exist.

 b. That state still exists / obtains / ??? is happening / is taking place.

Explanation (Moltmann 2013c, 2018):

*Exist* has primarily a time–relative meaning and conveys the (perceived) complete presence of an entity throughout a time.

Important:

*Exist* cannot be used so as to convey the unrestricted notion of existence, not even by a philosopher convinced of the univocality of existence (van Inwagen).

Conclusion:

The meaning of the verb *exist* belongs to the (semantic/ontological) core of language.

Ordinary meaning – non ordinary meaning: moving from core to periphery?

Perhaps better: core concepts vs flexible concepts

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1. **Natural Language Ontology**

Core-periphery distinction is essential for natural language ontology.

What is natural language ontology?

- A practice pursued by philosophers throughout history, whenever philosophers appealed to natural language to motivate an ontological category or notion.

- An emerging discipline that is part of both linguistic semantics of metaphysics

Natural language reflects ontological categories, structures, and notions:

Referential noun phrases: stand for entities

Entities also play a role as arguments of predicates and in constructions that involve them in other ways.

Lexical items and syntactic constructions that reflect ontological notions

The subject matter of natural language ontology:

The ontology reflected in natural language, which is distinct from:

* the ontology of what there *really* is
* the ontology that ordinary speakers (non-philosophers) *naively accept* when thinking about what there is: *folk metaphysics*, not natural language ontology.

(12) The subject matter of natural language ontology is the ontology that a speaker *implicitly*

 *accepts* when using the (ontological) core of the language in the ordinary way

 (Moltmann 2017).

Core: involves implicit acceptance

Periphery: involves (philosophical) reflection

Examples of implicit acceptance: ontological categories that go along with syntactic categories and features (verbs with events, adjectives with tropes)

Example of reflective acceptance: sortal nouns

Reifying terms require more differentiated forms of ontological acceptance:

Not just acceptance of the entities in the domain of the ontology, but acceptance of ontological operations, with or without acceptance of the output of such operations.

*Implicit acceptance* of an ontological operation vs the *reflective acceptance* that may or may not apply to the output of an ontological operation and would lead to the periphery

The ontology of natural language involves not so much a particular domain of objects, but ontological operations that serve the introduction of new objects (constructional ontology, cf. Fine 1991). These may go along with the compositional semantics of particular syntactic constructions.

Examples of operations with outputs that remain in the core:

* introduction of a trope (particularized property) as the meaning of the construction

NP’s NA, where NA is the nominalization of the adjective A:

*John’s happiness, Socrates’ wisdom, Mary’s courage*.

* formation of a kind as the meaning of the construction bare (determinerless) plural and mass nouns in English:

*giraffes are rare, water is transparent*

* with the introduction of a sum composed of the individuals as the meaning of the construction of definite plurals (*the students*)
* with the introduction of a variable object, an object that has potentially different concrete manifestations at different times and perhaps (possible) situations as the meaning of the construction of definite NPs with a functional noun as head or that is modified by an intensional relative clauses (Moltmann 2013a, to appear):

*the president of the US* (as with *is elected every four years*), *the water in the pool* (as with *decreased*), and *the book John needs to write*

The linguistic ability to use such constructions goes along with the implicit acceptance of the ontological operation, and an actual use of such a construction goes along with the implicit acceptance of the output of the operation.

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1. **An application: reference to abstract objects in natural language**

(13) The Abstract Objects Hypothesis (Moltmann 2013a)

 Natural language does not involve reference to abstract objects in its core, but only in its

 periphery.

Abstract objects:

Properties, numbers, propositions, kinds (in a certain sense), expression types

Reference to abstract objects in the periphery:

* with reifying terms (*the property of being wise, the number eight, the proposition that S, the kind human being, the word ‘rouge’*)
* with technical terms (e.g. names for specific numbers)
* with other constructions involving sortal nouns

Putative terms in the core of language referring to abstract objects:

*Wisdom, eight, the number of planets, ‘rouge’, that it is raining, human beings, the book John needs to write, John’s height, two feet (two feet tall), taller than*

Alternative analyses not involving reference to abstract objects:

[1] The expression involves no reference to an abstract object, but instead to a concrete one (reference to a trope (particularized property) rather than a property, e.g. *Socrates’ wisdom, the number of planets, John’s height*; tropes instead of degrees in the semantics of positive and comparative adjectives)

[2] The expression involves no reference to a single abstract object, but plural reference to various actual or possible particulars (pluralities of actual and possible tropes rather than properties, kinds as pluralities of particulars)

[3] The expression does not involve reference to a truly abstract object, but rather reference to an object that strictly inherits all its properties from actual or possible concrete entities (kinds of tropes rather than properties, variable objects (*the water in the container, the book John needs to write*)).

[4] The expression does not act as a referential term (in relevant environments), but rather as a nonreferential complement or subject (number words, *that*-clauses, pure quotations)

Example of specific support for such a reanalysis:

bare plurals vs explicit property-referring NPs:

(14) a. Wisdom exists.

 b. The property of wisdom exists.

(15) a. John found wisdom.

 b. ??? John found the property of wisdom.

(16) a. Wisdom is admirable.

 b. ??? The property of wisdom is admirable.

(17) a. True wisdom is rare.

 b.??? The property of being truly wise is rare.

Analysis of type [3]:

Bare adjective nominalizations stand for a type of entity (an Aristotelian ‘kind’) which is unable to bear properties directly but only by inheritance from its instances, namely a kind whose instances are particular tropes (Moltmann 2004).

Analysis of type [2]:

Bare adjective nominalizations stand for kinds conceived as ‘modalized pluralities’, pluralities of all the actual and possible tropes (Moltmann 2013a).

Overall view:

Natural language in its core reflects an ‘Aristotelian’ ontology of just concrete entities, or at least objects whose involvement in a statement would guarantee truthconditional equivalence with a statement just about concrete entities.

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1. **What to do with the semantics and ontology of the periphery**

Reifying terms introduce objects on the basis of nonreferential material.

via constraints on the properties of such objects:

(18) a. *The number eight* is divisible by two iff eight is divisible by two.

 b. John has *the property of being happy* iff John is happy. (Schiffer 2003):

Where do these constriants come from?

* From the construction itself? – the pleonastic account
* More plausibly from background assumptions or a back ground theory.

The pleonastic account of abstract objects (Schiffer 2003):

There is nothing more to the nature of the introduced object than the properties that are attributed to it in that way.

Present approach

The semantics of reifying terms should accommodate various philosophical views of abstract objects and their associated uses of sortals based on philosophical definition.

- (18a) is compatible with a view on which *the number eight* is a set-theoretical construct or else a type of collection or just a light object whose properties are to be read off equivalences as in (18a)

- (18b) is compatible with a view on which properties are platonic objects, collections of similar tropes, or else light objects ‘mere shadows’ of predicates.

Given the Abstract Objects Hypothesis, abstract objects can be part of the ontological periphery and (at least as merely conceived objects) fall under various philosophical views.

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1. **Conclusion**
* The core-periphery distinction in the conceptual and ontological domain is due to

legitimate expandability of language (with its associated ontology)

* Expansion goes along with additional cognitive effort of reflection
* Example of such reflection: recognition of an object as belonging to a particular ontological category in the application of a sortal noun.
* The core-periphery distinction permits natural language semantics to give justice both to the ontology implicit in natural language and the reflective ontology of philosophers and non-philosophers.

The relation between the core-periphery distinction in syntax and in natural language ontology:

The core-periphery distinction in syntax and in natural language ontology may coincide:

- Functional categories make up the syntactic core and they reflect core ontology; sortals belong to the lexicon, hence the syntactic periphery, and they reflect ontologies in the ontological periphery.

- Chomsky’s core-periphery distinction is motivated also by the interest in universal aspects of language. Only when focusing on the core of language is the pursuit of universals in the cognitive ontology reflected in language possible, such as the Abstract Objects Hypothesis.

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