OASIS 1

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**Natural Language Ontology. Challenges and Prospects**

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Issues to address:

* What is the ontology of natural language?
* How is it reflected in natural language?
* What is the discipline that has the ontology of natural language as its subject matter?
* Natural language ontology: how does it situate itself, in relation to philosophy and in relation to linguistics?
* Is Chomsky’s dismissive attitude regarding reference and the involvement of ontology in language a serious threat to natural language ontology?
* What sorts of ambitious are there for natural language ontology?

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**1. Natural language ontology as a practice and as a discipline**

The ontology of natural language - preliminary characterization

the ontological categories, notions and structures implicit in natural language

Appeal to natural language by philosophers throughout the history of philosophy

- Medieval philosophers when arguing for nominalist or platonist views of universals

- Twardowski when arguing for a cognitive notion of a truth bearer (rather than an abstract proposition): thoughts, judgments, beliefs, decisions, claims, requests

- Frege when arguing for numbers being objects

- Frege and many contemporary philosophers of language when arguing for propositions being the objects of attitudes.

- Vendler when arguing for a distinction between facts and events and many other things

Natural language ontology or natural language metaphysics:

the discipline whose aim is to uncover the ontological categories, notions, and structures implicit in natural language

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**2. The *ontology of natural language* and the *reflective ontology* of speakers**

The emerging view

Natural language involves its own ontology (ontological categories, notions, and structures), an ontology that may be different from the one a philosopher may be willing to accept, or a non-philosopher when thinking about what there is.

Cases of discrepancy

[1] Existence (Hacker 1982, Cresswell 1986, Fine 2006, Moltmann 2013b):

(1) a. The house still exists.

b. The largest prime number does not exist.

(2) a. ??? The protest still exists.

b. ??? The cat’s death existed yesterday.

c. ??? The birth of Venus did / does not exist.

(3) a. The protest is still taking place.

b. The cat’s death occurred yesterday.

c. The birth of Venus did not occur / happen.

Existence predicates

A predicate that can gives a true sentence with an empty subject and negation (when sortally suited for the sort of thing the subject would stand for).

Other existence predicates: *obtain, hold, is valid*

[2] Variable objects (Fine 1999, Moltmann 2013a, to appear a)

(4) a. The president of the US is elected every four years.

b. The water in the container has increased.

c. The height of the water level has increased.

d. The quality of her writing has improved.

e. The book John needs to write must be short.

Criteria for referential NPs (terms), occurrences of expressions that stand for objects

anaphora support, replaceability by (ordinary) quantifiers, application of predicates

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**3. Situating natural language ontology with respect to metaphysics and linguistics**

Strawson (1959)

Descriptive metaphysics: aims to uncover our shared conceptual scheme, or better the ontological categories and structures we implicitly or ordinarily conceive

Revisionary metaphysics: aims to conceive of a ‘better’ ontology, for particular purposes

Fine (2017)

Naïve metaphysics

the *metaphysics of appearances*, reflected in language or otherwise in our not language-driven common sense judgments

has as its subject matter what there appears to be, not what there really is.

Foundational metaphysics

the metaphysics of what there ‘really’ is / of what there is fundamentally.

Fine’s points

* Foundational metaphysics presupposes naïve metaphysics, must take naïve metaphysics as its starting point.
* Naïve metaphysics should be pursued without considerations of foundational metaphysics.

[‘Naïve’ is misleading: not the ontology the speakers accept when naively reflecting upon what there is (‘folk metaphysics’): ordinary speakers may engage in reflections upon what there is and the nature of things and accept ontological views not compatible with that reflected in natural language. Better use ‘descriptive metaphysics’.]

Characterization of the ontology of natural language

(5) a. First proposal

The ontology of natural language is the ontology accepted by ‘ordinary’ speakers

(nonphilosophers).

b. Second proposal

The ontology of natural language is the ontology speakers *implicitly* *accept*.

c. Third proposal (Moltmann 2017a, to appear b)

The ontology of natural language is the ontology a speaker *implicitly* *accepts* *when*

using natural language.

Why relativization to language

[1] Part of the ontology of natural language may be driven by the meaning or use of natural language itself.

Examples:

* definite NPs that define variable objects
* mass-count distinction (*the rice - the rice grains - the heap of rice*)
* nonworldly facts (the fact that John or Mary won the race, …)
* Schiffer’s (1996) notion of a pleonastic, language-created entity and related views
* discourse referents

[2] Different languages may involve different ontologies -- either reflecting the Sapir-Whorf Hypothesis or because they set ontological ‘parameters’ differently (for something like a shared set of parameters in Chomsky’s 1981 sense).

[3] The ontology implicit in natural language may be driven by language-specific conditions, rather than general cognitive conditions, just like the rest of language according to Chomsky (2005).

Natural Language Ontology as a branch of metaphysics and as part of linguistics/cognitive science

Natural language ontology as a branch of metaphysics

Natural language ontology as part of descriptive metaphysics:

as the branch of metaphysics that *gives priority* to what is reflected in natural language (but is not only based on what is reflected in natural language).

The philosophical importance of natural language ontology:

- Rectify philosophical views that may have been based on a mistaken, naïve linguistic analysis (e.g. the use of propositions)

- Fulfill the aim of conceptual analysis, but even more than that: NLO may uncover implicit notions in natural language constructions or categories, not just predicates

- Uncover philosophical views that are implicit in language (views that may be the right ones about certain topics, perhaps attitude reports)

Situating naturalLlanguage ontology relative to linguistics

Natural language ontology as part of the theory of semantics?

No, natural language ontology is not part of metasemantics, but deals in part with notions that are *part* of the semantics of natural language (ontological categories, part-whole structures, the notion of an object, causation, unity and plurality etc)

Natural language ontology as part of semantics?

No: the ontology of natural language may be richer than what is reflected in natural language.

Better:

Natural language ontology as a discipline that is a branch of metaphysics, that overlaps with semantics, and that is perhaps part of cognitive science.

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**4. What sorts of linguistic data reflect the ontology of natural language?**

**4.1. Ontological assertions do not count**

For example assertions explicitly involving the ontological category (sortal) itself:

Sortal quantification

(6) a. There are propositions.

b. There are events.

Sortal predication

(7) a. Numbers are objects.

b. Three is a number.

c. John’s arrival is an event.

Linguistic data that may count:

Nonsortal quantification

(8) a. There is a war in this country.

b. John arrived yesterday.

Specific identity statements

(9) a. The number of planets is eight. (Frege)

b. John’s belief is that 2 is prime.

(10) a. ??? The number of planets is the number eight.

b. ??? John’s remark is his belief. (Moltmann 2013a)

Lexical presuppositions reflecting ontological categories

- Semantic selectional requirements of existence predicates

Predicates distinguishing facts and events (Vendler 1967)

(11) a. John observed Bill’s arrival.

b. ??? John observed the fact that Bill arrived.

Predicates distinguishing actions and products (attitudinal objects) (Twardowski 1912, Moltmann 2013a, 2017b):

(12) a. John’s claim is true.

b. ??? John’s speech act is true.

(13) a. John kept / broke his promise.

b. ??? John kept / broke his speech act.

Other ways in which ontological categories are (may be) reflected in natural language: syntactic categories, classifiers, functional elements

**4.2. The core-periphery distinction**

Irrelevant identity statements

(14) a. The number nine is the number nine.

b. The proposition that it is raining is what John believes.

Irrelevant referential terms: reifying terms

(15) the number nine, the value true, the property of being wise, the proposition that S

‘Reifying’ terms do not reflect the ontology of natural language, nor do technical (philosophical) terms or predicates or non-ordinary uses of terms or predicates.

The necessity of distinguishing between the (ontological) periphery and core of language -- analogous to that of Chomsky (1986) for syntax(Moltmann 2013a, 2017, to appear b)

(16) The ontology of natural language is reflected in the (ontological) *core* of language, not its

*periphery*.

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**5. Chomsky’s doubts about reference and thus the involvement of ontology in language**

Chomsky (1998)

Natural language terms do not involve reference to real objects, but just lexical/conceptual structures deployed by speakers in particular contexts.

Linguistically relevant semantics must be internalist, involving another level of syntax (lexical-conceptual structure).

Two points:

[1] Reference need not be viewed a relation to real objects. *Refer* in English is an intentional transitive verb, on a par with *imagine, describe, mention* (Moltmann 2016, to appear b).

[2] Natural language ontology is about apparent objects of reference and their apparent nature, not about ‘real’ objects and their ‘real’ nature.

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**6. The ‘ontology of appearance’**

Descriptive (naive) metaphysics deals with *what there appears to be*, not with *what there really is* (Fine 2007).

The domain of the ontology of natural language consists of *conceived objects*, not *conceptions* of objects; entities that have properties of objects, not representations

Conceived objects may turn out to be *real objects*, *derivative objects grounded in features of reality*, and *merely conceived objects* (intentional, nonexistent objects).

The ontology of NL also includes objects *acknowledged* as potentially merely conceived objects by the speaker: referential and quantificational NPs in natural language are not as such ontologically committing.

Linguistic support:

Problematic data -- statements of a philosophical view

(17) There are things that do not exist.

Relevant data

(18) The building mentioned in the guide does not exist.

(19) a. ??? The building does not exist.

b. ?? There is a building that does not exist.

*Compositional semantics* of NPs modified by relative clauses with intentional verbs requires merely conceived objects as semantic values (Moltmann 2016).

Restrictions on the semantic roles of intentional objects

1. act only as semantic values of (quantificational or referential) NPs, not as implicit arguments

2. require implicit or explicit reference to pretend or unsuccessful referential acts (quasireferential acts) 🡪 intentional objects as *abstractions from quasi-referential acts* (Moltmann 2016)

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**7. Chomsky’s remaining doubts**

With referential NPs (artifact terms, terms for organisms, simple terms like *water*), speakers just refer to various aspects of reality, but not to objects on any common understanding, not even as part of the ontology of appearance.

Main problem for the notion of an object of reference, even as part of the ontology of appearance: possibility of contradictory properties, co-predication problems

But existing ontological approaches dealing with the issues:

Variable objects, objects with different facets, with different ways of inheriting properties…

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**8. Prospect for natural language ontology**

The issue of the involvement of objects with referential terms is at least an open one.

Natural language ontology concerns a lot of other topics not affected by that:

* construction-driven objects
* ontological notions, relations and structures: ontological categories, part-whole relations, unity and plurality, existence, truth, dependence …

Natural language ontology may set itself the same sorts of ambitions as syntax: universality, explaining learnability, appreciating the deep and surprising nature of the involvement of ontology (the ontology of appearances) in natural language.

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**References**

Bach, E. (1986): ‘Natural Language Metaphysics’. In R. Barcan Marcus et al. (eds): *Logic,*

*Methodology, and Philosophy of Science* VI , North Holland, Amsterdam et al., 573-595.

Chomsky, N. (1986): *Knowledge of Language. Its Nature, Origin, and Use*. Praeger,

Westport (Ct) and London.

---------------- (2005): ‘Three Factors in Language Design’. *Linguistic Inquiry* 36. 1, 2005,

1-22.

Chao, W. / Bach, E. (2012): 'The Metaphysics of Natural Language(s).' In Kempson et

al. (eds.): *Philosophy of Linguistics, 14.* North Holland, Elsevier, Amsterdam, 175-196.

Cresswell, M. J. (1986): ‘Why Object Exists, but Events Occur’. *Studia Logica* 45, 371-5.

Fine, K. (1999): ‘Things and Their Parts’. *Midwest Studies of Philosophy* 23, 61-74.

---------- (2006): ‘In Defense of Three-Dimensionalism’. *Journal of Philosophy* 699-714.

---------- (to appear): ‘Naïve Metaphysics’. *Philosophical Issues* (vol. 27), ed. by J. Schaffer.

Moltmann, F. (1996): *Parts and Wholes in Semantics*. Oxford UP.

---------------- (2013a): *Abstract Objects and the Semantics of Natural Language*. Oxford UP,

---------------- (2013b): ‘The Semantics of Existence’. *Linguistics and Philosophy* 36.1., 31-63.

---------------- (2016): ‘Quantification with Intentional and with Intensional Verbs’. In

A. Torza (ed.): *Quantifiers, Quantifiers, Quantifiers*. Synthese Library, Dordrecht.

----------------- (2017a): ‘Natural Language Ontology’. *Oxford Encyclopedia of Linguistics*,

Online

----------------- (2017b): ‘Cognitive Products and the Semantics and Attitude Verbs and

Deontic Modals’. In F. Moltmann / M. Textor (eds.): *Act-Based Conceptions of*

*Propositional Content*, Oxford University Press, New York.

---------------- (to appear a): ‘Variable Objects and Truthmaking’. To appear in M. Dumitru

(ed.): *The Philosophy of Kit Fine*, Oxford UP, New York.

--------------- (to appear b): ‘Natural Language and Its Ontology’. In A. Goldman / B.

McLaughlin (eds): *Metaphysics and Cognitive Science*, Oxford UP, New York.

Schiffer, S. (1996): ‘Language-created and Language-independent entities’. *Philosophical*

*Topics* 24.1., 149-167.

-------------- (2003): *The Things we Mean*. Clarendon Press, Oxford.

Strawson, P. (1959): *Individuals. An Essay in Descriptive Metaphysics*. Methuen, London.

Twardowski, K. (1912): ‘Actions and Products. Some Remarks on the Borderline of

Psychology, Grammar, and Logic’. In J. Brandl/J. Wolenski (eds.): *Kazimierz*

*Twardowski. On Actions, Products, and Other Topics in the Philosophy*. Rodopi,

Amsterdam and Atlanta, 1999, 103-132.

Vendler, Z. (1967): Linguistics in Philosophy. Ithaca, NY: Cornell University Press