To appear in A. Goldman/B. McLaughlin (eds): Metaphysics and Cognitive Science, Oxford University Press

**Natural Language and its Ontology**

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August 20, 2017

**Introduction**

It is uncontroversial that our conception of the world is at least in part reflected in natural language. Natural language displays a great range of types of referential terms that appear to stand for objects of various ontological categories and types, and it also involves constructions and expressions that appear to convey ontological or metaphysical notions, for example identity, causation, parthood, truth, and existence. But it is nowadays also largely agreed that natural language reflects ontological categories, structures, and notions that not everyone may be willing to accept, certainly not every philosopher, but often not even an ordinary person when thinking about what there is and the general nature of things.

 Most notably, natural language appears to involve a wealth of referential terms that display a rich ontology of artefactual, derivative, minor, abstract, and perhaps even ‘nonexistent’ entities that philosophers generally tend to reject and even an ordinary person when thinking about what there really is. They include terms for qualities or properties (*wisdom, the property of being wise*), tropes (*Socrates’ wisdom, John’s tallness*), complex facts (*the fact that John won the race or Bill did*), variable objects, as I call them (Moltmann 2013b, to appear) (*the increasing number of students, the book John needs to write*), truth values (*the truth value true*), and intentional objects (that is, merely conceived or nonexistent objects) (*the building mentioned in the guide that does not exist*). Whether abstract objects such as qualities or properties really exist is disputed as is existence of tropes and facts, and even more so, of course, the existence of variable objects, truthvalues, and intentional objects. But while a philosopher may reject the disputed entities she is likely to use natural language terms for them when engaging in ordinary conversation.

 Also metaphysical concepts may be reflected quite differently in natural language predicates than philosophers would expect. For example, while it is a common view that existence is a univocal concept applying to everything there is, the predicate *exist* is actually restricted to material objects and abstract objects of certain sorts and is inapplicable to events (*The building described in the guide exists* and *the smallest prime number exist* are acceptable, but not so for *the inauguration existed six months ago*). Again, this holds not just for an ordinary speaker (a nonphilosopher), but also philosophers, who will not be able to suspend the restrictions when using the predicate *exist* in ordinary discourse.

 There are different reactions philosophers take in view of such discrepancies between the ontology implicit in language and the reflective ontology that a philosopher or nonphilosopher is willing to accept explicitly. For some philosophers it means a complete rejection of language as a guide to metaphysics, to what there really is and the real nature of things. Many contemporary philosophers take that position, aiming to focus just on the metaphysics of what there really is, not caring about what is reflected in natural language or even other common sense judgments. Other philosophers, in particular in the tradition of ordinary language philosophy (Wittgenstein, Malcolm, Strawson, Austin), have focused entirely on natural language and dismissed purely philosophical arguments for a metaphysical view (or dismissed metaphysics entirely). Yet other philosophers took language seriously for some purposes, but not others, an example being Frege. Frege was guided by language for his view of numbers as objects, but not for his view of truth values having that status. Not all philosophers that appealed to natural language, of course, did so having in mind a discrepancy between the metaphysics displayed by natural language and the metaphysics of what there really is. Aristotle, medieval philosophers, Frege, Twardowski, and even Strawson, it seems, did not.

 In any case, throughout history philosophers have made appeal to language for the purpose of some philosophical arguments. But they did so without an explicit methodology and in a nonsystematic way, citing one or two sentences without ensuring that a real linguistic generalization was at hand. Arguments for numbers and propositions from putative referential terms are examples. Thus, Frege (1884) took it to be evident that a sentence like *the number of planets is eight* is an identity statement in which the subject and the postcopula term could stand only for numbers as abstract objects. However, then the sentence *the number of planets is the number eight* should be equally good, which it is not. Similarly, following Frege (1918), many philosophers consider *that-*clauses to be proposition-referring terms and attitude verbs predicates taking propositions as arguments. But then a sentence like *John claimed that he won* should permit the inference to *John claimed the proposition that he won*, which it does not, at least for most attitude verbs.[[1]](#footnote-1)

 The development of theoretical linguistics in the twentieth century, both natural language semantics and syntax, forces a revision of this way of appealing to natural language for the purpose of a philosophical argument. It is no longer convincing or appropriate to make arbitrary appeal to some linguistic examples or others at a time when establishing linguistic generalizations, including philosophically relevant ones, has become the domain of a highly developed theoretical discipline. Moreover, it is no longer only a matter of a philosopher’s choice of being more or less interested in the ontology reflected in language. Rather the ontology implicit in natural language emerges as a domain of study in itself, as the subject matter of *natural language ontology*, as a branch both of linguistics and of metaphysics.[[2]](#footnote-2)

 This brings with it a range of challenges and issues. One issue is how natural language ontology situates itself within metaphysics: how it relates to pursuits in metaphysics that are not focused on natural language, and to what extent it is independent of them or not. An important challenge then is to make explicit the methodology that natural language ontology should pursue, which in part is the methodology that philosophers throughout history have relied on when making appeal to natural language. One issue this involves is what sorts of linguistic data can be taken to be reflective of the ontology of natural language and what sorts of data cannot, and what part of natural language or its use should matter. Another challenge is the characterization of the ontology of natural language, given that it may significantly differ from the reflective ontology of an ordinary speaker (or philosopher).

 This paper aims to contribute to the issues and challenges of natural language ontology by clarifying its subject matter in relation to other branches of metaphysics, by making the criteria explicit that distinguish linguistic data that may reflect the ontology of natural language from those that may not, by laying out some core cases that show a discrepancy between the reflective or philosophical ontology and the ontology implicit in language, and by giving a general characterization of the ontology of language and the domain of real or conceived objects it includes.

**1. The metaphysics of language as the subject matter of natural language metaphysics**

Throughout the history of philosophy, there has been a practice of making appeal to linguistic examples or generalizations in support of a particular ontological category or structure or a notion, or view. In this sense, natural language ontology has been practiced to a greater or lesser extent throughout the history of philosophy. Aristotle and medieval metaphysicians such as Aquinas and Ockham made appeal to natural language in support of a metaphysical notion or view. In early analytic philosophy, we find explicit appeal to natural language in Frege as well as Twardowski (1911). Appeal to natural language then took center stage in ordinary language philosophy, often going along with a dismissal of what was taken to be metaphysical arguments.

 Along with the development of theoretical linguistics, it is becoming clear that the ontology of natural language is also a subject matter of study in itself, the subject matter of natural language ontology, and that natural language ontology needs to be recognized as a discipline in itself, as part of both natural language semantics and metaphysics. But then how does natural language ontology situate itself within metaphysics in general?

 Natural language ontology would be part of descriptive metaphysics in Strawson’s (1959) sense. Descriptive metaphysics has as its aim to uncover our shared conceptual scheme, or better, since metaphysics is not about concepts but objects, the ontological categories, structures, and notions represented by our shared conceptual scheme. Like descriptive metaphysics in general, natural language ontology would be characterized in terms of the data with which it concerns itself. Those data, however, are not so much common sense judgments, but linguistic intuitions, judgments about the acceptability or grammaticality of natural language sentences and constructions.

 Should natural language metaphysics be based exclusively on linguistically reflected intuitions? The answer must be no, as a quick look at a few analyses in natural language metaphysics shows. To give examples from my own work, the theory of plurals in Moltmann (1997) is motivated by independently developed conditions on gestalt, and the theory of plurals in Moltmann (2016) on independently developed notions of plural reference. Theories within natural language metaphysics cannot and should not be developed solely taking linguistic data into account, but in conjunction with background metaphysical theories and notions.

 However, unlike other branches of metaphysics, natural language ontology should give priority to linguistically reflected intuitions, rather than common sense intuitions. Common sense intuitions may represent a speaker’s reflective ontology, not the ontology implicit in language. Other projects within descriptive metaphysics may be based on common sense intuitions that are not reflected in language and may even contradict intuitions reflected in language.

 For Strawson, descriptive metaphysics contrasts with what he calls ‘revisionary metaphysics’. The aim of revisionary metaphysics, for Strawson, is to conceive of a better ontology than the one we ordinarily accept. Strawson does not specify further how ‘better’ is supposed to be understood, whether for the purpose of getting a better understanding of the nature of reality or perhaps for the purpose of developing particular scientific theories.

 A notion somewhat similar to descriptive metaphysics has recently been proposed by Fine (to appear a), namely *naïve metaphysics* or the metaphysics of appearances.[[3]](#footnote-3) Naïve metaphysics for Fine concerns itself with how things appear to be, without trying to address the question of what there really is. Naïve metaphysics deals with common sense judgments broadly speaking and has as its subject matter the things and their nature that are reflected in them. The subject matter of naïve metaphysics is not what there really is, but what appears to be. Fine contrasts naïve metaphysics with what he calls ‘foundational metaphysics’. Only foundational metaphysics has as its subject matter what there really is and the real nature of things. Foundational metaphysics, as Fine emphasizes, presupposes naïve metaphysics. Foundational metaphysics has to make use of the notions that naïve metaphysics aims to clarify and has as one of its tasks to explain them, if possible, in more fundamental terms. Naïve metaphysics as the metaphysics of appearances, Fine argues, should not be guided by considerations of foundational metaphysics, but rather foundational metaphysics must take naïve metaphysics as its starting point in order to do its foundational work. Again, natural language metaphysics would be part of naïve metaphysics and as such, given Fine’s point, would have an important role to play even in the interest of foundational metaphysics.

 For Fine, the subject matter of naïve metaphysics is the things that appear to be and how they appear to be in most general terms. No considerations of what is real or fundamental should come into play when pursuing naïve metaphysic. However, this seems problematic. Common sense judgments are directed toward reality and only those held to be true should be taken into account by naïve metaphysics. Considerations of truth and grounding in reality, thus play an important role for naïve metaphysics as well. Also, the individuation of objects, even if they not fundamental or ‘real’ in a certain sense, is generally taken to be grounded in features of reality (Section 3.2.). Objects as semantic values of singular terms and singular terms when combined with a predicate are meant to give true or false statements. To figure out what sorts of objects a singular term stands for thus requires considerations as to what grounds the truth or falsehood of sentences in which it occurs, and thus conceiving of the object in relation to what there really is. Certain considerations of foundationalist metaphysics therefore may have to play a role even for pursuing naïve metaphysics and the two metaphysical projects cannot be strictly separated with one following the other.

 If natural language metaphysics is part of naïve metaphysics in Fine’s sense, the choice of the predicate ‘naïve’ is misleading. Natural language metaphysics does not concern itself with what the ordinary person naively takes there to be -- if one can even speak of a generic ordinary person, the generic nonphilosopher. Rather, it deals with the ontological categories, notions, and structures that only a deep and systematic analysis of natural languages may uncover.[[4]](#footnote-4) It is the ontology implicit in language, not the ontology displayed by ‘naïve’ ontological reflections of nonphilosophers. For that reason, the term ‘descriptive metaphysics’ is a less misleading one and is also to be preferred since it is a more established term.

 Should natural language metaphysics be strictly based on intuitions reflected in natural language? This could hardly be the case. The ontology implicit in language may be manifested in both natural language data and intuitions that are independent of natural language. In fact, the way natural language ontology is practiced generally involves some considerations of ontological notions that have been established language-independently. Natural language may underspecify the ontology that is involved in its semantics. So the condition characterizing natural language metaphysics should better be that it is the branch of metaphysics that gives priority to linguistic data, but may make use of merely conceptual considerations as well.

 There are also areas where natural language may play no role and descriptive metaphysics would also cover metaphysical analyses that are based on common sense intuitions that are not as such reflected in language. Fine’s (to appear b) recent paper on form falls explicitly within naïve metaphysics, but does not take into consideration any linguistic data.

 Linguistically reflected intuitions need not coincide with common sense judgments about ontological issues. There may be discrepancies between a metaphysical notion reflected in language and the one a philosopher, or a nonphilosopher upon reflection, may be willing to accept. An example mentioned already is existence. Existence is commonly held to be a notion that is univocal and trivially applies to everything there is, or at least every actual thing (Inwagen 2014). However, in natural language the predicate *exist* is subject to strict conditions on the type of entity to which it can apply, applying to material and abstract objects, but not to events (Hacker 1982, Cresswell 1986, Fine 2006, Moltmann 2013d):

(1) a. The house still exists.

 b. The largest prime number does not exist.

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

 b. ??? John’s death existed yesterday.

Not only philosophers, but even an ordinary person may have such a reflective notion of existence that is not the one conveyed by the verb *exist.*

 Later we will see a range of objects reflected in terms that belong to the core of language that not only philosophers but also nonphilosophers upon reflection are not likely to accept. These are entities, though, that speakers implicitly accept -- at least when using the language. Characterizing the ontology of natural language thus requires a distinction between implicit acceptance of an object or a category of objects and explicit acceptance -- or in fact degrees of explicit acceptance. Implicit acceptance defines the ontology implicit in language, explicit acceptance, the reflective ontology of speakers. The ontology of natural language thus needs to be distinguished from both the reflective ontology of speakers and the ontology of what there really is.

 It is not quite correct to speak of *the* reflective ontology, actually, since there may be various reflective ontologies of speakers, at least in certain areas. The data for descriptive metaphysics to take into account when directed toward a reflective ontology are much less clear and stable than the data relevant for the ontology of natural language, for example in the case of the ontological categories of events and tropes (Section 2). Natural language metaphysics, of course, raises additional issues, such as the crosslinguistic generality of ontological notions or generalizations (given that the focus is generally on a single language), an issue I will not further pursue in this paper.

 There may be further distinctions of implicit acceptance that need to be made in the context of natural language metaphysics. Some parts of the ontology implicit in natural language may be directly driven by the syntax of the language and thus implicit acceptance will be tied to the use of language itself, whereas other parts may be part of a not so language-driven implicit cognitive ontology (Section 5).

 Also, there are different ways for concepts or entities to be involved in the semantics of natural language and they may reflect different degrees of implicit acceptance or reflection. We can see this displayed with the notion of existence. The noun *existence* can obviously be used so as to stand for a reflective notion, which may be univocal or perhaps not. However, the verb *exist* imposes its constraints regardless of the language user’s reflective ontology. In addition to such a difference between nouns and verbs, a general distinction between the core of language and its periphery is required, the core, roughly corresponding to expressions whose use does not involve ontological reflection and the periphery to expressions that imply a certain degree of reflection (see Section 5).

 To summarize, various levels of judgments need to be distinguished for pursuing metaphysics: linguistically manifested intuitions (of possibly different semantic levels), judgements that reflect a shared conceptual scheme (or perhaps a partly shared conceptual scheme), and those of particular philosophical views.

**2. How is ontology reflected in natural language?**

There has hardly been an explicit effort of clarifying the methodology of natural language metaphysics, as both a practice philosophers have pursued throughout the history of philosophy and an emerging discipline that is part of both theoretical linguistics and metaphysics. The philosophical practice of natural language metaphysics, as a matter of fact, follows rather strictly certain implicit assumptions as to what data could support a metaphysical argument and what data couldn’t. Not just philosophers pursuing natural language metaphysics for the purpose of particular philosophical arguments make use of certain types of linguistic data but not others. This also holds for linguists and philosophers in pursuit of the study of the ontology of natural language by itself. That is, the actual practice of natural language metaphysics follows an implicit methodology. Making those assumptions explicit is very important for an appropriate understanding of the ontology of natural language and the project of natural language ontology.

 Natural language ontology obviously should not take into account statements that only a particular philosopher would accept – statements of a particular philosophers’ philosophy, say. Natural language ontology likewise should not take into account statements articulating what may also be a view of a nonphilosopher, say *Everything there is exists*. Such statements may articulate what one may call the reflective ontology of an ordinary person, but they are not indicative of the ontology implicit in natural language.

 What sorts of criteria distinguish statements that reflect the ontology implicit in natural language from those that do not? One distinction that plays a role in distinguishing relevant and irrelevant data for natural language ontology is the distinction between assertions and presuppositions. Sentences that themselves make metaphysical assertions can hardly be taken to be revealing for the ontology implicit in natural language. Philosophers never make use of such sentences when appealing to natural language for the purpose of metaphysical arguments. Thus, no practitioner of natural language metaphysics would appeal to sentences like (3) to argue for events being part of the ontology of natural language:

(3) There are events.

Also, philosophers who would *not* want to endorse events as an ontological category would generally be unimpressed by statements like (3) (just as atheists would not be impressed by sentences such as *There is god*).

 Similarly, platonists that seek support from natural language for properties being abstract objects would never appeal to statements of the sort in (4):

(4) There are properties / qualities / virtues.

Similarly, nominalists generally would be unimpressed by the availability of statements like (4).

 One type of statement that *is* used to argue for natural language supporting an ontological category is a statement in which a particular referential noun phrase standing for an entity of the relevant ontological category occurs. Thus, statements like (5a, b) support events as part of the ontology of natural language:

(5) a. John’s walk was slow.

 b. The rain caused the roof to fall down.

 c. The war took place a decade ago.

But why should the semantic values of nouns such as *walk , rain,* and *war* stand for events?That is because the predicates that are applicable to what such nouns stand for express properties characteristic of events, such as properties of duration, causation and perdurance (*take place*). Those properties taken together are applicable only to events.

 Similarly, statements such as (6) are suited to motivate properties or qualities being part of the ontology of natural language:

(6) a. Socrates has wisdom.

 b. Socrates and Plato share great wisdom.

 c. Wisdom is everywhere in this book.

Here referential noun phrases stand for entities that can be possessed, shared by individuals, and be at different locations at once, properties characteristic of qualities.

 Being the semantic value of a referential noun phrase, in general, is considered the primary criterion for an object to be part of the ontology of natural language. Referential noun phrases, that is, names and referential (nonpredicative) occurrences of definite noun phrases, presuppose the existence of their semantic value, an object. Sentences such as (5a-c) and (6-c) presuppose rather than assert the existence of events and properties. Thus, here it is presuppositions that are indicative of the ontology implicit in language.

 In addition to presuppositions, quantification over individual members of an ontological category is considered indicative of an ontological category being reflected in natural language.[[5]](#footnote-5) These would be examples involving quantification over individual events:

(7) a. A walk helped John to relax.

 b. Heavy rain caused the roof to fall down.

 Davidson (1967), the most influential advocate of events as part of the ontology of natural language, did not so much appeal to statements such as (7a, b), though. Rather he argued that verbs take events as implicit arguments and adverbial modifiers are predicates of those events. That was to account for valid inference such as from (8a) to (8b):

(8) a. John walked slowly.

 b. John walked.

Thus, for Davidson, the verb *walk* describes a two-place relation between events of walking and agents and *slowly* will act as a predicate of an event argument the sentence existentially quantifiers over, as in the logical form of (8a) in (9):

(9) ∃e(walk(e, John & slowly(e))

Of course, *slowly* as an adverbial event predicate has the very same meaning as the adjectival event predicate *slow* in the sentence below:

(10) John’s walk was slow.

Why did Davidson’s data qualify as reflecting the ontological category of events? For Davidson, adverbials act as predicates, and they act as predicates of the sort of entities described by verbs, which can only be events, the sorts of things the corresponding deverbal nominalization stands for.

 The very same arguments that had motivated events being part of the ontology of language motivate tropes, that is, particularized properties, to be part of it. As an ontological category, tropes have played an important role since Aristotle, for whom tropes were one category besides substances, secondary substances, and qualities. Tropes have traditionally been considered the semantic values of referential NPs formed with adjective nominalizations such as *Socrates’ wisdom*, *John’s happiness*, or *the redness of the apple* (Strawson 1959, Woltersdorff 1970, Moltmann 2004, 2013b, Chap 2). But tropes also play a role as implicit arguments of adjectives. Modifiers of adjectives, at least to an extent, also occur as predicates of the corresponding trope-referring term obtained from the adjective (Moltmann 2009, 2013b), as illustrated below:

(11) a. Socrates is extremely wise.

 b. Socrates’ wisdom is extreme.

This means that *wise* describes a relation between wisdom tropes (manifestations of wisdom) and agents, so that (11b) will have the logical form in (12):

(12) ∃t(wise(t, Socrates) & extreme(t))

 Natural language gives equal support for tropes and for events. One might say, though, that the reflective ontology of at least certain types of speakers tends to not support both categories equally well. While events are an established category in contemporary linguistic semantics (and syntax) and in philosophy, tropes are much less so. This was different, however, in earlier periods in the history of philosophy, as already mentioned. Tropes during those periods played a much more important role in metaphysics and presumably the reflective ontology of speakers. This means that for events and tropes, and perhaps in general, natural language gives a more stable ground of judgments for ontology than the more explicit assumptions underlying a reflective ontology.

**3. Reifying terms and the ontological core-periphery distinction**

While deverbal and deadjectival nominalizations generally are considered good support for events and tropes being part of the ontology of natural language, there is a type of referential noun phrase in English that is generally not considered a reflection of the ontology implicit in language. These are what I call ‘reifying terms’ (Moltmann 2013b, Chap 6). An example of a reifying term is *the property of wisdom*, as below:

(13) Socrates has the property of wisdom

Whereas properties may seem unproblematic to some, the very same construction also permits reference to numbers, degrees, truth values, and propositions:

(14) a. the number eight

 b. the truth value true

 c. the degree of John’s happiness

 d. the proposition that S

Philosophers hardly ever appeal to constructions of this sort when arguing for ontological categories. Thus, Frege did not appeal to terms like (14a), but rather to terms like *the number of planets* when arguing for numbers as objects, and he certainly did motivate truth values by appealing to terms like (14b). Semanticists that posit degrees as objects in the semantics of natural language generally do not appeal to noun phrases like (14c) but rather to constructions with positive or comparative adjectives (Cresswell 1977). Finally, the linguistic motivation for propositions generally comes from the apparent referential status of simple *that*-clauses, not the presence of noun phrases as in (14d) in English (e.g. Schiffer 2003).

 Reifying terms as in (14) introduce new entities on the basis of a sortal and, generally, a nonreferential expression or use of an expression (a nouns or adjective, for example), leading to a reified concept or propositional meaning (Moltmann 2013b, chap. 6). Thus, *the number eight* introduces a number as an object on the basis of a number adjective or quantifier *eight* and *the truth value true* introduces a truth value of an object on the basis of the truth predicate *true*.[[6]](#footnote-6) Reifying terms are part of English. But they can be taken at best as evidence for certain types of objects playing a role in a special discourse, not as a reflection of objects being part of the ontology of ordinary language.

 In addition to reifying terms, natural language also permits extensions in the form of new names or other expressions, defining new technical terms for a special philosophical or scientific discourse. Those terms should have the same semantics as other referential noun phrases, namely that of standing for an object. But those objects need not belong to the ontology of natural language; instead they would belong to an extension of it (and like all referential noun phrases, the terms in the periphery may stand for merely conceived objects not actual ones, see Section 6).

 Two sorts of linguistic data thus need to be distinguished: linguistic data that in some sense belong to the *core* of language and data that belong to a part that conveys an ordinary speaker’s or a philosopher’s reflections, its *periphery*. The periphery in that sense includes reifying terms or terms. The periphery reflects entities that some philosophers or nonphilosophers may accept, but which would not be part of the implicit ontology of natural language, the ontology any speaker implicitly accepts when using the language. The ontology reflected in the periphery needs to be distinguished from the one reflected in the core of language, the ontology any speaker accepts when using natural language. Thus a condition of the following sort obtains:

(15) The ontology of natural language is reflected in the core of language, not its periphery.

Certainly, the periphery of language also has a semantics, and it also reflects an ontology with its referential terms standing for entities of some sort. Using Fine’s (to appear) notion, this ontology would also be part of the subject matter of the metaphysics of appearances. This holds even if the extension of the language involves terms of foundational metaphysics.

 The terms *core* and *periphery* recall a distinction of the same name that Chomsky (1986) made regarding the syntactic structure of languages. The Chomskyan distinction is in a way the analogue for syntax of the present ontology-oriented distinction. For Chomsky, roughly, the ‘core’ of a language consists in what is determined by (innate) Universal Grammar, that is, universal principles together with the way the parameters of Universal Grammar are set for that language. By contrast, what Chomsky calls the ‘periphery’, roughly, consists in idiosyncratic rules unique to that language and added on in the historical development of the language. Chomsky’s distinction does not in any way coincide with the present one. Clearly, the formation of new philosophical terms may take place entirely within what Chomsky would call the ‘core’ of language. This most certainly is the case with reifying terms, which are formed productively across European languages.

 One might speculate that the ontology associated with what I call of the core of language forms part of Universal Grammar when supplemented by cognitive ontology, whereas the ontology reflected in the periphery in my sense forms part of the periphery of language supplemented by cognitive ontology. However, ontology itself may not so much consist of ranges of categories of objects, but (universal) conditions for generating objects from given ones. Such conditions may then be partly what is reflected in the periphery of the language.[[7]](#footnote-7)

 Not all noun phrases that are of the construction of reifying terms belong to the periphery in the present sense. Explicit fact-referring terms, which stand for non-worldly facts (*the fact that John won the race or Bill did*) are a sort of intermediary case and even explicit property-referring terms may be so (*the property of wisdom*). Philosophers practicing natural language ontology in fact have made use of such terms. An example is Vendler (1967) when arguing for a fundamental distinction between facts and events, and I myself in Moltmann (2004) when arguing for a distinction between qualities and properties.

 **4. The ontology of natural language reflected in its referential terms**

**4.1. Referential terms and the notion of an object**

It is one of the most striking features of natural language that it contains a wealth of referential terms displaying a great range of abstract, ‘derivative’, and ‘minor’ entities, many of which would not be part of the reflective ontology of an ordinary speaker or philosopher. In the following subsections, I will present a number of cases of a particularly striking discrepancy between the ontology displayed by certain referential terms in natural language and what is likely the reflective ontology of ordinary speakers or philosophers.

 First a few clarifying remarks are in order concerning the notion of a referential term. The notion of a referential noun phrase (or term) is used by philosophers and linguists alike as a criterion for the kinds of objects that are part of the ontology of natural language.[[8]](#footnote-8) The notion of a referential term must be understood in a certain way when applied to natural language (rather than a formal language), namely as a syntactic role of occurrences of expressions in sentences, rather than as a syntactic category. Definite noun phrases as such can also occur predicatively and as complements of intensional transitive verbs (*need, look for*), and then they do not stand for objects. While there is no agreed-upon set of criteria for identifying an occurrence of a noun phrase in a sentence as a referential term, there are two sorts of criteria for referential terms that philosophers and linguists generally make use of. This is the ability of supporting anaphora and the ability of being replaceable by a quantifier (under suitable circumstances).[[9]](#footnote-9) In addition to the anaphora and quantifier criterion, a criterion for referential terms that is implicitly used in the philosophical and linguistic literature is the uniformity of the meaning of predicates, identified as extensional predicates, with the variety of noun phrases with which they can occur. If an extensional predicate with a range of referential noun phrases can yield a true sentence with another noun phrase *X*, then *X* should be a referential noun phrase standing for an object. This criterion highlights the connection between ontology and compositional semantics and the connection between truth and ontology (Section 2). It makes clear that the question of what objects are involved in the semantics of sentences can be pursued only together with the question under what circumstances a sentence is true.

**4.2. Referential terms and the discrepancy between implicit and reflective ontology**

The referential terms of natural language do not display an ontology of what is ordinarily understood as ‘real’ objects. Rather they present a great range of cases of a discrepancy between the ontology of natural language and the reflective ontology of speakers, philosophers as well as nonphilosophers.

**4.2.1. Chomsky’s cases**

Based on a range of examples, Chomsky (1998) argued against the standard view that natural language involves the relation of reference with its referential terms, that is, reference to ‘real’ objects. Chomsky’s examples involve referential noun phrases that appear not to stand for what would be considered real objects. For example, what we refer to as a ‘door’ could be painted, replaced, and walked through, properties that could not be attributed jointly to ‘real’ object as standardly understood. Another example is a home. Unlike a house, a well-accepted object in our reflective ontology, what we refer to as a ‘home’ has peculiar combinations of properties: one can own or sell a home, but not, for example paint a home, as Chomsky notes. Chomsky’s (1998) conclusion is that natural language terms do not involve reference to real objects, in fact that they do not serve to refer at all. They only involve lexical/conceptual structures deployed by speakers in particular contexts. Instead of a semantics with the notion of reference as its central notion, the linguistic treatment of referential terms requires another level of syntactic representation, that of lexical-conceptual structures.

 It is doubtful whether this picture can be right. Clearly, the sorts of objects Chomsky cites are in some respects grounded in reality, and they play a crucial role in the truth conditions of sentences about them. They are simply not just material objects as standardly conceived, but rather highly derivative objects or perhaps objects viewed from certain perspectives (facets of objects). In any case, they are objects with complex individuation conditions that *do* involve features of reality.

 In regard to his conclusion about reference and semantics in general, Chomsky fails to recognize how the ontology that natural language relates to should be understood: not as what there really is and how things really are, but as what sorts of things we conceive of and how we conceived of them, to the extent that this is reflected in language. Chomsky fails to appreciate the fundamental distinction between what Fine calls the metaphysics of appearances (or naïve metaphysics) and foundational metaphysics.

 Natural language ontology is about the ontology of appearances, not about what there really is. As such, it will be part of linguistics/cognitive science and more specifically semantics. Chomsky’s examples simply involve a discrepancy between the reflective ontology of speakers, with its focus on material objects meeting certain conditions on form or gestalt, and the ontology implicit in natural language.

 A further issue about Chomsky’s argument concerns the notion of reference. Chomsky takes the reference relation to be a relation to a real object, and Chomsky makes clear that it is generally understood that way. But in fact, the semantically relevant reference relation can be regarded a relation that may involve merely intentional objects as arguments, an issue we will turn to in Section 6.

Not only particular lexical items (*door, home*) may lead to referential terms that stand for highly derivative entities. There are also particular constructions with complex definite noun phrases that stand for objects of that sort.

 An example mentioned by Chomsky and often discussed in the context of the challenges of natural language ontology are noun phrases like *the average American*. *The average American* is a noun phrase that appears to satisfy standard criteria for referential terms, allowing for a range of predicates that apply to clearly referential terms (*the average American likes Hamburgers*) and supporting anaphora (*the average American likes hamburgers he also likes French fries*). However, clearly, *the average American* does not stand for an object speakers would accept explicitly. There isn’t a real individual that is the average American. Thus natural language ontology may have to make sense of the sort of objects *The average American* stands for.[[10]](#footnote-10) This will not be just some fictional object, but rather an object whose properties are strictly based on properties actual Americans have. The *ideal student* is a similar case. It is exhibits criteria of referentiality and thus should stand for an object in the ontology of natural language. The object it stands for may have properties that are just based on counterfactual assumptions about students meeting certain standards. Noun phrases with modifiers such as *average, typical, ideal,* or *perfect* thus stand for highly derivative entities, entities whose properties, though, are grounded in facts or assumptions about particular entities. Such entities would be construction-driven, generated by the semantics of noun modification with certain sorts of modifiers.

**4.2.2. Definite NPs and the notion of a construction-driven variable object**

In Moltmann (2013b, to appear), I discussed and analysed a construction with definite NPs that also shows a discrepancy between the ontology implicit in natural language and ordinary speakers’ reflective ontology. The construction takes as its semantic value what I call *variable objects*, following Fine’s (1999) notion of a variable embodiment (Moltmann 2013b, to appear). It comes in different varieties:

(15) 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. John’s happiness has not changed.

The variable objects may be variable individuals as in (15a), variable quantities as in (15b), variable degrees (or quantitative tropes) as in (15c), or variable tropes as in (15d). This means, following Fine (1999), that (15a) and (15b) stand for objects that have possibly different individuals / quantities as manifestations at different times. This account was carried over to (15c) and (15d) in Moltmann (2013b, to appear). If heights are degrees (or quantitative tropes), then (15c) stands for a variable object whose manifestations are degrees (or quantitative tropes), and (15d) for one whose manifestations are tropes (Moltmann 2013b, to appear). Variable objects are objects that are associated with a function mapping a circumstance (time and world or situation) to an entity that is the manifestation of the object at the circumstance.

 With the use of an intensional verb inside the relative clause, the same construction permits reference to variable objects that may lack actual manifestations but have manifestations only in counterfactual circumstances, as below (Moltmann 2013b, to appear):

(16) The book John needs to write must be short.

The book John needs to write is a variable object that has as its manifestation a book John has written in any circumstance satisfying the need in question (Moltmann 2013b, to appear).

 The motivations for positing variable objects as semantic values the noun phrases in (15) and (16) are the same as for positing any other objects as semantic values. Variable objects noun phrases permit replacement by quantifiers, support anaphora, and may provide arguments of the very same predicates as noun phrases standing for ordinary objects. Thus, (16) can be continued by *It cannot be any shorter or longer*. In addition, they may be part of a plurality together with ordinary objects (as in *The book he need to write and the renovation of his house are the things John thinks most about*).

 For Fine (1999), variable embodiments include organisms and artifacts, as entities that permit a replacement of parts and thus have different material manifestations in different circumstances. The notion of a variable object would then be an extension of notions that are well-accepted in the ontology speakers explicitly accept. As semantic values of the definite noun phrases in (20b-d), though, they would be closely tied to the content of the construction, and as such belong to a language-driven creative part of the ontology implicit in natural language.

 Speakers certainly are not likely to accept variable objects in their reflective ontology (though this may be different for presidential roles). However, the construction of noun phrases for variable objects is entirely productive and speakers make use of it whether or not they accept or would accept variable objects when thinking about what there is.

 What is also important about variable objects is that they are not just conceptual creations, but rather are constituted by their manifestations strictly grounded in actual or perhaps possible circumstances. Thus, variable objects are not just part of what appears to be or some conceptual-lexical structure.

**4.2.3. Kind reference with bare nominals**

Another construction in English that appears to generate a derivative objects in a fully productive way are determinerless or bare mass or plural nouns or nominals (modifier-noun combinations). In the contexts below, the bare nouns are generally taken to stand for kinds (17a) (Carlson 1977) or qualities (17b) (Moltmann 2004, 2013b):

(17) a. Giraffes are not extinct.

 b. Wisdom is better than cleverness.

*Giraffes* in (17a) stands for a kind of individual, a kind whose instances are semantic values of corresponding definite or quantificational noun phrases, of the sort *that giraffe* or *some giraffe*. *Wisdom* in (17b) stands for a kind whose instances are tropes, semantic values of corresponding definite or quantificational noun phrases, of the sort *Socrates’ wisdom* or *some wisdom*. The anaphora criteria appear to support the referential status of such terms ((17a) can be continued by *They can be found in Africa*, and (17b) by *It is much better than cleverness*).

 Bare nouns as kind terms (*giraffes*) with their associated terms for instances (*that giraffe*) seem to support the Aristotelian view of two sorts of universals with two sorts of particulars: secondary substances with primary substances as instances and qualities with tropes as instances (Moltmann 2004). Moreover, kinds seem to share other characteristics Aristotle attributes to them. A universal for Aristotle exists only if instantiated. This seems to be reflected in the behavior of existence predicates:

(18) Wisdom exists.

*Exist* when predicated of a kind can only state the existence of an instance, not the existence of a possibly uninstantiated kind. Moreover, kinds inherit nonepisodic properties from their instances: men have legs because individual men have legs etc (Moltmann 2004).[[11]](#footnote-11)

 However, kinds as semantic values of bare nominals differ significantly from any notion of a kind relevant in philosophical or scientific contexts. Any adjective-noun combination can make up a kind term, regardless of its content. *Tired giraffes* behave semantically in the very same way as terms like *giraffes*. Similarly, any combination modifier – adjective nominalization can serve as a term standing for a quality, for example *acquired wisdom*. The kinds in question thus do not match natural kinds or even kinds of artifacts, and the qualities do not match natural properties but abundant ones.

 In addition to kind terms or quality terms in this sense, natural language displays explicit property-referring terms of the sort in (219) or:

(19) the property of being wise

Such property-referring terms can be formed from any complex predicate (in the form of a gerund), regardless of its content (*the property of being wise and tall, the property of being wise or not wise, the property of being extremely wise* etc).

 Natural language appears to display an ontological distinction between kinds as semantic values of kind terms and properties as semantic values of such property-referring terms (Moltmann 2004, 2013b). Kind terms differ from property-denoting terms with respect to the way predicates are understood. *Exist*with kind terms can claim only the existence of an instance as in (18), but with property-denoting terms it claims the existence of a possibly uninstantiated kind (*The property of wisdom exists*). *Look for* when applied to a kind term requires just an instance to satisfy the search, as in (20a); but when applied to a property-referring term, it requires the property itself to play that role, as in (20b):

(20) a. John is looking for wisdom.

 b. John is looking for the property of wisdom.

The two readings are also reflected in the way *find* is understood in (21a) and in (21b):

(21) a. John found wisdom.

 b. John found the property of being wise.

Both kind terms and property-referring terms stand for things whose nature is specified by the descriptive content of the terms, not concerns about what kinds or properties are real or natural.[[12]](#footnote-12) The quality–property distinction again is a distinction that is generally not part of the reflective ontology of philosophers or nonphilosophers. A related distinction, not involving a reifying term as in (19), is the distinction between qualities and conditions, semantic values of gerunds like *being wise* (Levinson 1978), again a distinction that is not generally part of a speaker’s reflective ontology.

**4.2.4. Reference to tropes**

Also tropes (particularized properties) display a significant discrepancy between the ontology many contemporary philosophers accept and the ontology reflected in natural language. Tropes, more recently, have come to play a central role within foundational metaphysics. Since Williams’ (1953) influential article, a number of philosophers have pursued a trope nominalist one-category ontology, proposing to conceive of properties as classes of similar tropes and individuals as bundles of co-located tropes (Campbell 1990, Bacon 1995, Simons 1994).

 Natural language displays a wealth of trope-referring terms, namely noun phrases with adjective nominalizations such as *Socrates’ wisdom* or *the redness of the apple* (Woltersdoff 1970, Moltmann 2004, 2009, 2013b). Natural language also reflects the crucial notion of exact similarity among tropes, in the applicability of *the same as* (as in *The redness of the apple is the same as the redness of the tomato*). However, tropes as part of the ontology of natural language differ significantly from tropes as discussed in contemporary foundational metaphysics.

 First of all, tropes in foundational metaphysics are generally taken to be manifestations of natural (or sparse) properties. By contrast, adjectives hardly ever express natural or fully specific properties. Yet trope-referring terms in natural language generally refer to fully specific complex tropes. The term *the redness of the apple* refers to a specific shade and hue of redness manifested in the apple and thus a fully specific trope, even though the adjective *red* as such describes an unspecific property. *John’s happiness* refers to a complex trope composed of the very specific things that together constitute John’s happiness. In that respect, John’s happiness differs from the state or condition that is the referent of *John’s being happy* and the nonworldly fact that is the referent of *the fact that John is happy*. The latter are not grounded in specific features of reality, but rather are just constituted by the property of being happy and John, as the holding of that property of John (at a time) (Moltmann 2013c). For example, one can describe John’s happiness (in detail), but not John’s being happy or the fact that John is happy. The same holds for Socrates wisdom as opposed to Socrates’ being wise and the fact that Socrates is wise, as well as Mary’s beauty as opposed to Mary’s being beautiful and the fact that Mary is beautiful.

 Natural language moreover displays a difference between a trope that is the referent of *John’s height* and a trope that is the referent of *John’s tallness*. The former can exceed Bill’s height, but not really the latter, for example. John’s tallness is a considerably more complex trope than John’s height; it is something like John’s height qua exceeding the contextual standard suitably construed (Moltmann 2009). Natural language furthermore displays a difference between the trope that is the referent of *John’s strength* and the trope that is the referent of *John’s weakness*, and that even in a case where John is in a way both strong and weak (Moltmann 2009). In such a case, John’s strength and John’s weakness could not possibly refer to the same physical condition, the same simple trope that has John as bearer. John’s strength may exceed Mary’s strength, but then that could not be true of John’s weakness. This means that John’s strength and John’s weakness are both inherently ordered with respect to the same sorts of physical conditions, but in different directions.

 The ontology of tropes or trope-related entities that natural language reflects is thus considerably richer than the foundationalist trope ontologies that philosophers more recently have pursued. Still trope terms in natural language stand for entities grounded in fully specific tropes, unlike terms for states or conditions or nonworldly facts, which stand for entities strictly constituted by the descriptive content of the noun phrases making reference to them.

**5. The ontology of natural language**

We have seen that with a range of cases that the ontology displayed by natural language may differ from the sort of ontology that a philosopher may be willing to accept, and of course from the ontology of what there really is. But it may also differ from the ontology an ordinary speaker of the language may be willing to accept when reflecting upon what there is. An ordinary speaker may hold various views when thinking about what sorts of things there are, what general characteristics they have, and how they relate to each other, and she may endorse or reject various ontological statements as a result of such reflections. Natural language ontology concerns itself with the ontological categories, notions, and structures implicit in ‘ordinary’ statements of a nonphilosophical discourse, not those that form the assertive content of philosophical or quasi-philosophical reflections or statements.

 How then should the ontology of natural language, as an ontology distinct from the reflective ontology of both philosophers and non-philosophers, be characterized? Certainly, such a characterization will involve an implicit object-related attitude, implicit acceptance. A first proposal then of characterizing the ontology of natural language would be this:

(22) The ontology of a natural language is the ontology that speakers of the language

 implicitly accept.

Given that characterization, the ontology implicit in natural language should be an ontology that is part of our cognitive system, as an ontology that goes along with speakers’ implicit beliefs using or not using the language.

 However, this is too strong a condition. We have seen that the ontology of natural language may in part be driven by language itself, by the semantics of particular constructions that make certain types of derivative objects as semantic values available.

 In addition to variable objects and the quasi-kinds that act as semantic values of certain definite NPs and of bare nominals in English, the ontology of natural language may be language-driven in other respects. The mass-count distinction is a case in point. The mass-count distinction at first appears to reflect an ontological distinction. But as an ontological distinction, it would be a highly language-dependent distinction. *The rice, the rice grains*, and *heap of rice* are likely to stand for the very same thing not just for the philosopher, but for a non-philosopher as well. However, the semantic values of the three terms bear different properties and need to be treated as distinct. The rice grains can be counted or be indistinguishable, but not the rice. The heap of rice may be small, but not the rice (and neither may the rice grains in the same sense).

 Another example of a language-driven part of the ontology of natural language discourse referents, semantic values of unbound anaphoric pronouns (or donkey pronouns), on a quasi-ontological conception. Discourse referents are presented as objects individuated by the flow of discourse in Karttunen (1976), Landman (1986), and Edelberg (1986) (though they do not have an ontological status as objects in most developments of dynamic semantics).

 Yet another example are non-worldly facts described by NPs of the form *the fact that it is raining or it is snowing* – their canonical fact descriptions (Moltmann 2013b). Non-worldly facts are entities whose nature is exhausted by the descriptive content of their canonical description.

 The ontology tied to constructions of the language or the discourse would not be part of the ontology that speakers implicitly accept as such, but only when using the language. More precisely, it is the ontology a speaker accepts when using the core of language, and engages in an ordinary use of language. This then motivates the weaker characterization of the ontology of natural language below:

(23) The ontology of a natural language is the ontology a speaker implicitly accepts when

 using (in the ordinary way) the core of the language.

‘Ontology’ in (23) should not be understood as just consisting of a particular inventory of objects, but also includes methods or generating functions for introducing objects along with certain constructions or during the flow of a discourse (which may set up discourse referents, should they be understood ontologically). This takes care of the creativeness of the ontology implicit in natural language, in particular, of its language- or construction-driven part. Acceptance of an ontological operation of generating objects then means potential acceptance of the objects that can be generated by that operation.

 The characterization of the ontology of natural language in (23) makes reference to the ordinary use of the core of language. The notion of an ordinary use of language is not new, but had played already a central role in ordinary language philosophy, were the focus also was on non-philosophical, non-technical uses of philosophically relevant expressions. However, ordinary language did not pursue a systematic semantic analysis of the expressions in questions, let alone ontological analyses.

**6. Intentional (‘nonexistent’) objects and the ontology of natural language**

The objects that a speaker implicitly accepts when using a natural language need not be real objects, but may also include merely conceived objects, objects the speaker mistakenly takes there to be. The relation of acceptance is an intentional relation, not requiring the existence of its object arguments. In fact, the domain of objects reflected in the core of language as well as its possible extensions cannot be characterized as a domain of ‘real’ objects or objects grounded in reality in some way, but may include merely conceived objects. The notion of a real object and the difference between a real and a merely conceived object should in fact not play a role at all for the ontology of natural language. Natural language does not semantically differentiate between terms standing for actual objects and terms standing for merely conceived ones, as long as the entities they purport to stand for are accepted as such by the language user.

 Not only the object-related related notion of acceptance is an intentional notion, but also reference. Along with verbs like *accept, describe*, and *mention*, the object language predicate *refer* is an transitive intentional verb, which permits its object argument to be a nonexistent object (Moltmann 2016). The notion of reference reflected in natural language itself thus is an intentional notion. Making use of that notion of reference, as a notion that is part of the philosophy of language implicit in natural language, permits the semantic values of referential NPs to include merely conceived objects.

 Note that (merely) conceived objects need to be distinguished from concepts or conceptions of objects. The latter are representations, the former are things meant to be represented. The latter share properties with ‘real’ objects. By contrast, representations have representation-specific properties, not the properties of what they represent.

 Objects of reference that turn out to be nonexistent need to be distinguished from objects the speaker takes to be merely intentional. Natural language permits referential terms to stand for merely intentional objects that the speaker herself takes to be nonexistent. That is, natural language reflects a Meinongian view of there being objects that fail to exist (Parsons 1980,

Salmon 1987, 1998, Fine 1982a, Priest 2005, Moltmann 2013a, 2016). To show this requires of course the right sorts of data. These could not be statements of this sort:

(24) There are things that do not exist.

Support for Meinongianism being reflected in language cannot take the form of assertions of the Meinongian view itself, but must take the form of presuppositions or quantification over particular sorts of intentional objects, and that from statements from the core, not the periphery of language. The following sentences satisfy those requirements:

(25) a. The building described in the book does not exist.

 b. A building described in the book does not exist.

(26) a. John thought about the building described in the book.

 b. John thought about a house he wants to build.

Complex definites with intentional verbs such as *describe* and *think* as in (25a) and (26a) respectively presuppose intentional objects, as semantic values resulting from their compositional semantics. Indefinites as in (25b) and (26b) quantify over particular intentional objects, again required by the compositional semantics of the complex indefinites.

 Reference to what the speaker herself takes to be merely intentional objects does not come for free, but requires particular lexical and syntactic conditions. While most predicates are existence-entailing, requiring as arguments entities that the speaker takes to be actual objects, there are certain predicates, especially predicates of existence and intentional predicates, which permit as arguments entities the speaker takes to be merely conceived objects (Moltmann 2016). Entities the speaker considers merely conceived objects would be part of the creative ontology of natural language on a view on which merely conceived objects are constituted by relations of coordination among acts of pretended or unsuccessful reference, reference acts that play a role explicitly or implicitly in the linguistic context (Moltmann 2016).

 A distinction thus needs to be made between the semantic values of referential terms that speakers conceive to be objects and those that speaker view as possibly merely intentional objects. A predicate selects one or the other sort as arguments, depending on whether the predicate are existence-entailing or not. The ontology of natural language then is an ontology of real or conceived objects, including objects a speaker conceives as being merely conceived objects. Merely conceived objects are of course entities that many philosophers are unwilling to accept (for example Inwagen 2001). However, they are clearly reflected in natural language and indispensable for its compositional semantics.

 Besides being semantic values of referential terms, entities may play other roles in the semantic structure of sentences. In particular, entities may play a role as implicit arguments of predicates. In addition, entities may play a role as parameters of evaluation (times on the standard semantics of tense and possible world on the standard semantics of modals and conditionals). What sorts of semantic roles entities play in the semantic structure of sentences depends to an extent on particular semantic theories about relevant constructions or expressions, and it depends very much on the way the contribution of occurrences of expressions to the composition of the meaning of the sentence is conceived.

 It is worth noting that merely conceived, nonexistent objects can play a role only as semantic values of referential terms, not as implicit arguments or parameters of evaluation. This would confirm an account of the sort in McGinn (2000) or Moltmann (2016) according to which merely conceived objects are strictly based on acts of pretended or unsuccessful reference.

**7. Conclusion**

The ontology that is implicit in natural language may diverge from the reflective ontology of philosophers and nonphilosophers in various respects. There are number of distinctive features which set the ontology of natural language apart from the reflective ontology of philosophers or nonphilosophers. In particular, the ontology of natural language is a rich, in part construction-driven ontology of derivative and minor objects, which includes various complex objects grounded in something real, as well as merely intentional objects and objects recognized as merely intentional by the speaker.

 The ontology of natural language, conceived along the lines of this paper, may be regarded as playing an equally important role within the human cognitive faculty as syntax and phonology. In fact, the same expectations may be set in regard to the ontology of natural language as on syntax: that a deeper analysis of a particular language or different languages with respect the ontology they reflect should reveal highly systematic and universal features, shared ontological categories or ontological operations, structures, and notions.

 Not only metaphysics requires a distinction between what is implicit in natural language and what is explicitly represented in theories or philosophical (or naive) reflection. The same distinction applies to other branches of philosophy, such as philosophy of mind, philosophy of language, and epistemology. Thus, in epistemology, features of the concept of knowledge have been analysed by paying close attention to the verb *know* and the complements it takes. There is to an extent also a philosophy of language implicit in language, reflected in part in the syntax and semantics of verbs like *refer* and *mean*, of truth predicates, and of attitude and speech act verbs. For the philosophy of mind, what is implicit in language is particularly important, since its subject matter is, at least in part, the folk psychology of propositional attitudes and other notions, on which the syntax and semantics of verbs of propositional attitudes, perception and emotion bear a lot (though not all the relevant intuitions need to be tied to linguistic data).

**Acknowledgments**

I would like to thank Boban Arsenijevic, Mark Blechner, Susanne Bosche, Jean-Claude Dumoncel, Roegnvaldur Ingthorsson, Eve Kiltsik, Brian McLaughlin, Spiros Moschonas Benjamin Nelson, Miika Oksanen, Paolo Petricca, Maîk Suehr, Tristan Tondino, among others for comments on a previous version of this paper. The paper has also benefitted greatly from conversations with Chris Collins as well as from audiences of talks at the University of Milan, Yale University, the IHPST in Paris, Princeton University, and the FOIS conference in Annecy.

**References**

Bacon, J., (1995): Universals and Property Instances—The Alphabet of Being, Blackwell,

 Oxford.

Campbell, K. (1990): *Abstract Particulars*. Blackwell, Oxford.

Carlson, G. (1977): ‘A Unified Analysis of the English Bare Plural’. *Linguistics and*

 *Philosophy*, 413-457.

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

 Westport (Ct) and London.

--------------- (1998): *New Horizons in the Study of Language and Mind*. Cambridge UP,

 Cambridge.

---------------- (2013): ‘Notes on Denotation and Denoting’. In I. Caponigro / C. Cecchetto

 (eds.): *From Grammar to Meaning: The Spontaneous Logicality of Language*. Cambridge

 University Press, Cambridge.

Cresswell, M. J. (1977): ‘The Semantics of Degree’. In B. Partee (ed.): *Montague Grammar*,

 Academic Press, New York, 261–292.

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

Davidson, D. (1967): 'The Logical Form of Action Sentences'. In N. Rescher (ed.): *The Logic*

 *of Decision and Action*. Pittsburgh UP, Pittsburgh, 81–95.

Edelberg, W. (1986): ‘A New Puzzle about Intentional Identity’. *Journal of Philosophical*

 *Logic* 15, 1–25 (1986).

Fine, K. (1982a): ‘The Problem of Non-Existents. I. Internalism.” *Topoi*, 1: 97–140.

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

---------- (2001): ‘The Question of Realism’. *Philosophers Imprint1*.1.

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

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

 Schaffer.

---------- (to appear b): ‘Form’. Ms NYU.

Frege, G. (1884): *Die Grundlagen der Arithmetik*. Breslau: W. Koebner. Translated as The

 Foundations of Arithmetic: A logico-mathematical enquiry into the concept of number, by

 J.L. Austin, Oxford: Blackwell, second revised edition, 1974.

|  |  |
| --- | --- |
| ----------- | (1981): ‘Der Gedanke. Eine Logische Untersuchung’, in *Beiträge zur Philosophie des deutschen Idealismus*, I (1918–1919): 58–77. Translated as ‘Thoughts’, by P. Geach and R. Stoothoff, in McGuinness (ed.) 1984, *op. cit.*, pp. 351–372. |

Hacker, P.M.S. (1982): ‘Events, Ontology, and Grammar’. *Philosophy* 57, 477-486.

Hale, B. (1987): *Abstract Objects*. Blackwell, Oxford.

Van Inwagen, P. (2001): ‘Existence, Ontological Commitment, and Fictional Entities’. M.

 Loux / D. Zimmerman (eds.): *The Oxford Handbook of Metaphysics*. Oxford UP, Oxford.

------------------- (2014): ‘Modes of Being and Quantification’. *Disputatio* 6.38, 1-24.

Karttunen, L. (1976): ‘Discourse Referents’. In J. D. McCawley (ed.): *Syntax and Semantics,*

 *Vol.7.* Academic Press, New York, 363 - 386.

Kennedy, C. / J. Stanley (2009): ‘On Average’. *Mind* 471, 583 - 646.

Landman, F. (1986): ‘Pegs and Alecs’. In F. Landman: *Towards a Theory of Information.*

 *The Status of Partial Objects in Semantics*, GRASS 6, Foris, Dordrecht, 97-155.

Levinson, J. (1978): ‘Properties and Related Entities’. *Philosophy and Phenomenological*

 *Research* Vol. 39. 1, 1-22

Lowe, J. (2006): *The Four-Category Ontology. A Metaphysics Foundation for Natural*

 *Science*. Oxford UP.

McGinn, C. (2000): *Logical Properties*. Oxford UP, Oxford.

Moltmann, F. (1997): *Parts and Wholes in Semantics*. Oxford UP, New York, 1997.

---------------- (2005): ‘Part Structures in Situations: The Semantics of *Individual* and *Whole*’. *Linguistics and Philosophy*, 28.5., pp. 599-641.

---------------- (2009): ‘Degree Structure as Trope Structure: A Trope-Based Analysis of

 Comparative and Positive Adjectives’. *Linguistics and Philosophy* 32, 51-94.

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

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

 Oxford.

---------------- (2013c): ‘On the Distinction between Abstract States, Concrete States, and

 Tropes’. In C. Beyssade, A. Mari, F. Del Prete (eds.): *Genericity*, Oxford UP, Oxford,

 pp. 292-311

---------------- (2014): ‘Parts, Wholes, Abstracts, Tropes and Ontology. 3am interview with

 Richard Marshall, Feb. 14, 2014,

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

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

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

 Online

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

 (ed.): *The Philosophy of Kit Fine*, Oxford UP, New York, 33pp.

Oliver, A. / T. Smiley (2013): *Plural Logic*. Oxford UP. Oxford.

Parsons, T. (1980): *Nonexistent Objects*. Yale UP, New Haven.

Priest, G. (2005): *Towards Nonbeing*. Oxford UP, Oxford.

Schiffer, S. (1996): ‘Language-Created and Language-Independent Entities’. *Philosophical*

 *Topics* 24.1., 149-167.

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

Simons, P. (1994): ‘Particulars in Particular Clothing: Three Trope Theories of Substance’.

 Philosophy and Phenomenological Research 54(3), 553–575.

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

Vendler, Z. (1972): *Res Cogitans*. Cornell UP, Ithaca, NY.

Williams, D. C. (1953): 'On the Elements of Being'. *Review of Metaphysics* 7, 3-18.

Woltersdorff, N. (1970): *On Universals*. Chicago UP, Chicago.

Wright, C. (1983): *Frege's Conception of Numbers as Objects*. Aberdeen UP,

 Aberdeen.

Yi, B.-Y. (2005): ‘The Logic and Meaning of Plurals. Part I’. *Journal of Philosophical*

 *Logic* 34, 459-506.

---------- (2006): ‘The Logic and Meaning of Plurals. Part II’. *Journal of Philosophical*

 *Logic* 35, 239-288.

1. There are a few verbs with which such substitution is possible, such as *assert, believe*, and *prove*, but they are the exception rather than the general case. See, for example, Moltmann (2013b, chap. 4). [↑](#footnote-ref-1)
2. I choose the term ‘natural language ontology’ rather than ‘natural language metaphysics’. The latter would be more accurate since metaphysics is generally understood as the more general term whose subject matter is not just what there is, but also the nature of things. However, ‘ontology’ is a term more suited to talk also about the subject matter of the discipline, the ontology of natural language. Moreover, there are irrelevant connotations associated with ‘metaphysics’ (or the surreal, the meta-physical). In addition, ‘ontology’ is a term more customary in linguistics or other ‘applied’ domains (‘applied ontology). ‘Ontology’ is then to be understood to be as general as metaphysics, as being not just about what there is but also the nature of things. [↑](#footnote-ref-2)
3. See also Fine (2001). [↑](#footnote-ref-3)
4. Fine (p.c.) also uses the term ‘shallow metaphysics’ instead of ‘naïve metaphysics’, perhaps a better choice when it comes to natural language ontology. ‘Shallow metaphysics’ is the term I use, following Fine (p.c.), in Moltmann (2014) for the branch of the metaphysics that natural language ontology belongs to. [↑](#footnote-ref-4)
5. This is an addition to Moltmann (2017), where only presuppositions are considered as indications of the ontology implicit in natural language. [↑](#footnote-ref-5)
6. Predicate-initial sortals also have a reifying function:

(i) a. Wisdom is a property few have.

 b. Eight is a number that is divisible by two.

See Moltmann (2013b, chap. 6) for discussion. [↑](#footnote-ref-6)
7. Such conditions, in particular for the semantics of reifying terms, may take the form of abstraction principles (Hale 1983, Wright 1987) and conditions of generating pleonastic entities (Schiffer 1996, 2003). See Moltmann (2013, chap. 6) for an approach to reifying terms of that sort. [↑](#footnote-ref-7)
8. For Frege referential terms even serve as a criterion for objecthood: An object is what can be the semantic value of referential term’ (Wright 1983, Hale 1987). However, objects may also play a role in the ontology of natural language as implicit arguments and as parameters of evaluation, without acting as semantic values of referential terms. [↑](#footnote-ref-8)
9. Hale (1987) as well as Chomsky (1998), for example, make use of the anaphora criterion. The anaphora and quantifier criteria need to be applied with caution, though. Not all quantifiers and pronouns that are able to replace an occurrence of an expression in a sentence are indicative of the expression acting as a referential term. There is a class of special quantifiers and pronouns that characteristically are able to replace nonreferential occurrences of expressions, which in English consists of quantifiers like *something,* *everything, nothing*, *several things*, and *that.* They can replace predicative complements, for example:

(i) a. Socrates is wise.

 b. Socrates is something admirable.

Such special quantifiers and pronouns arguably are nominalizing expressions introducing a ‘new’ domain of entities into the semantic structure of sentences, entities that would be referents of corresponding nominalizations (*wisdom* in (ib)) (Moltmann 2003, 2013b, chap. 3). [↑](#footnote-ref-9)
10. For an alternative analysis of *the average American* not making use of derivative objects see Kennedy/Stanley (2009). That some putative referential noun phrases should be reanalyzed as not standing for derivative objects of an enriched ontology is of course a theoretical option that is always in principle available. [↑](#footnote-ref-10)
11. The view of bare plurals and mass nouns standing for kinds as objects goes back to Carlson (1977). This view was taken to over to quality terms as terms for kinds of tropes in Moltmann (2004). In Moltmann (2013b), by contrast, I explored an account of kinds as semantic values of kind terms in terms of plural reference (Oliver/Smiley 2013, Yi 2005/6). [↑](#footnote-ref-11)
12. The peculiar status of kinds as semantic values of anaphora support is also compatible with *wisdom* not being a singular term, but a plural term standing for the plurality (as many) of the actual and possible instances of the kind (in the sense of plural reference of Yi 2005, 2006, Oliver/Smiley 2013) (Moltmann 2013b). [↑](#footnote-ref-12)