Introduction[*]
The Semantics of Nominals

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This special volume presents a series of papers which all deal with the semantics of nominal expressions.

It has long been clear that the relatively simple picture of the relationship between syntactic category and semantic type on which all noun phrases denote generalized quantifiers, while perhaps feasible to maintain, is an idealization that does little to advance our understanding of the great richness and variety in the semantics of nominals that is attested in the world's languages. In the last thirty years, this picture has grown progressively more complex along at least two dimensions that we would like to emphasize here.

Since the early 1980s many researchers have explored the possibility that the nominal expressions found in syntactic argument positions do not all belong to the same semantic type (see Partee 1987 for a comprehensive discussion). Kamp (1984) and Heim (1982) provided strong evidence that many noun phrases lack quantificational force and thus should be given a non-quantificational analysis. Partee and Rooth (1983) argued that NPs should be able to type shift between entity and quantifier-type denotations. Pustejovsky (1995) proposed expanding the inventory of type-shifting functions to cover certain cases in which NPs are acceptable in argument positions where a type clash would be expected. Romero's contribution to this volume can be considered as belonging to this general line: she argues that both the NP complements to concealed question verbs such as *know* and the subjects of specificational copular sentences, contrary to what it might appear superficially, denote propositions (modeled as sets of worlds). Still another line of research on the semantic type of NPs has centered around modeling noun phrases semantically as choice functions (Reinhart 1997, Kratzer 1998).

In the early 1990s, some researchers began to pursue the idea that nominals in non-predicative positions might denote properties, as opposed to quantifiers or entities (see e.g. de Hoop 1992; McNally 1992, 1995/this volume; Ladusaw 1994;

Van Geenhoven 1995). The proposal that noun phrases in argument positions might denote properties is perhaps surprising at first. If verbs and similar predicates are assumed to denote functions on individuals, and if the fundamental semantic composition rule available is functor-argument application, NPs would seem to have to be interpreted as either entity- or quantifier-denoting. It is not obvious, under these assumptions, how an NP which denotes a property can compose semantically with the predicate that selects for it. This problem has led some researchers, perhaps most notably Chierchia (1998) and Longobardi (1991, 1994, 2003) to reject the hypothesis that such property-type arguments exist.

Nonetheless, it is not impossible to solve this composition problem, and in recent years a number of proposals for new composition rules have been proposed (see e.g. McNally 1995/this volume; Van Geenhoven 1998; Farkas & de Swart 2003; Chung & Ladusaw 2004). Adopting a Minimalist perspective, the answer provided to this problem has been that these nominals are subject to a particular Merge operation (Chomsky 1995) according to which the nominal is not interpreted as an argument of the predicate-like expression it is a sister of, but rather as fused with that expression in such a way that a complex predicate results as the output of the incorporation process at some level of meaning representation (either LF or logical form). Moreover, there is a growing set of arguments in favor of positing property-type arguments (or something analogous), including several examples discussed in this volume: the semantic behavior of bare singular object nominals in Romance idiomatic constructions (Espinal 2001, this volume), the special properties of incorporated nominals in Hungarian (Farkas & de Swart, this volume), the interaction of bare plurals with the object-marker *a* in Spanish (Leonetti, this volume).

The second dimension along which the semantics of nominal expressions has been enriched in the last few decades involves the sortal complexity of the entity domain. Nouns describe entities, but how many sorts of entities do we need for semantic theory? Carlson (1977) demonstrated that distinguishing between kinds and objects could shed significant light on genericity in natural language. Chierchia (1984) argued for including counterparts of properties and propositions in the entity domain as well, in order to account for a range of nominalization phenomena. Other semanticists have underscored the importance of distinguishing between atomic and non-atomic individuals for purposes of understanding phenomena involving plurals and mass terms (e.g. Link 1983, Ojeda 1993). The paper by Ojeda in this volume postulates yet another sort within the entity domain – one that corresponds to a partitioning function on (possibly non-atomic) entities (see below for additional comments) – in order to explain otherwise unpredicted uses of the definite article in Spanish and other languages.

The papers in this volume exemplify developments along both of these dimensions. McNally's paper is a slightly revised version of McNally (1995), not previously available in an accessible venue. It constitutes one of the early proposals for formalizing a compositional semantics for predicates in combination with property-type arguments, arguing specifically that bare plurals in Spanish should not be analyzed as kinds or as Heimian indefinites.

Espinal's paper focuses on two Romance idiomatic patterns and the different semantic properties nominals have in these patterns. It is shown than an appropriate mapping between syntax and semantics in the domain of the lexicalization patterns under study requires postulating various instantiations of Merge from different argument structures. The paper demonstrates that bare singular nominals are interpreted as properties when they are in object position of a monadic argument structure and, because of this, they permit quantification over degrees. In contrast, the DP object of a composite argument structure licenses an individual or a kind denoting reading.

Farkas and de Swart's paper focuses on the semantic differences between incorporated and non-incorporated nominals, and between bare singular and plural incorporated nominals in Hungarian. They argue that the key to understanding these differences, and in particular the behavior of bare plurals, lies in the interaction of the semantics of plural morphology with the different semantic composition rules used in incorporating and non-incorporating constructions. The proposed analysis effectively teases apart the semantic type of a nominal from its ability to introduce a discourse referent. Hungarian bare plurals are analogous in important ways (e.g. in their scopal behavior) to those nominals treated by other researchers as properties, and yet differ in virtue of licensing a discourse referent—a possibility not contemplated in other works. This novel aspect of their proposal should inspire a re-evaluation of other cases of apparently property-type nominals.

Leonetti's paper focuses on the interpretive differences between direct object nominals in Spanish marked by the preposition *a* and those not marked by *a*. He begins by weighing the arguments for and against the classic treatment of *a* as a specificity marker, concluding that any specificity associated with *a*-marked nominals is epiphenomenal. He then considers the possibility that *a* is a kind of secondary topic marker, indicating among other things that the direct object is referentially autonomous. Crucially, he observes, if bare nominals denote properties and are not referentially autonomous, it correctly follows that they will strongly resist appearing marked by *a*. In this respect his analysis constitutes another piece of evidence in favor of treating bare nominals in Spanish as properties.

Romero's paper deals with the semantics of nominals in two types of contexts, concealed questions (e.g. the complement to the verb *know* in *We know the answer)* and the subject positions of specificational copular constructions (e.g. *The price of milk* in *The price of milk is $1.80).* She first discusses similarities between the two contexts, arguing that both are intensional in nature. She then develops and compares two competing analyses: one on which the nominals in these positions denote individual concepts (i.e. intensional entities), and another on which, perhaps surprisingly, they denote propositions. Romero models propositions as sets of worlds; in this sense, her analysis represents yet another alternative in the inventory of possible semantic types for nominal expressions.

Finally, Ojeda's paper examines the semantics of so-called fractionary nouns (e.g. *half*, *third*), with the goal of accounting for the contrast between English and Spanish in acceptability of the definite article in phrases such as *one / *the half of the students* vs. *una / la mitad de los estudiantes*. The acceptability of the definite article

is surprising if one assumes that fractionary nouns denote portions of an entity or parts of a group, since the number of portions (halves, thirds, etc.) is not unique. Ojeda solves this puzzle by arguing that fractionary nouns in Spanish denote not portions but the fractioning operations that yield these portions. The operation denoted by any such noun will be unique, thus accounting for the acceptability of the article.

Summarizing, it should be evident that the study of the semantics of nominals continues to offer many interesting avenues to explore. There is still much work to be done to clarify what exactly incorporation consists in –to what extent it is syntactically and semantically homogeneous cross-linguistically, and what its status is within a model of grammar which pursues simplicity and economy (Van Valin 1999). Work on incorporation and related phenomena has forced rethinking about how semantic composition is achieved and how broad the semantic typology of nominals might be; it also has consequences for our understanding of argument structure. Another rich area involves the sortal domain of noun semantics –some of the papers in this volume present perhaps unexpected proposals for the sortal category of noun phrases, with interesting extensions in the empirical coverage of semantic theory. Yet a third area pointed to by the contributions to this volume involve the discourse-pragmatic aspects of meaning that are conventionalized in the interpretations of noun phrases –perhaps the area in greatest need of development.

We hope you will enjoy the reading of all the papers as much as we did.

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