# Atomicity and categorial polyvalence of *only*

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It has been probably not enough stressed that the "particle" *only* is categorially polyvalent: it can apply to expressions of various categories. More precisely it is a categorially polyvalent modifier: when it appplies to an expression, the resulting expression is of the same category as the category of argument expression. Thus, roughly speaking, *only* $NP$ is a $NP$, *only* $VP$ is a $VP$, *only* $Prep$ is a $Prep$, etc. Categorial polyvalency is not an ambiguity. Sometimes categorially polyvalent expressions are considered as syncategorematic (for instance this is the case with Boolean connectives). In particular they preserve some aspects of their meaning across all categories. This seems also to be the case with *only*. I have suggested (Zuber 2001) that the relative constancy of the meaning of *only* in all expressions belonging to various categories, in which *only* can occur, can be explained by considering that *only* always denotes the atomic functions (atoms) of the corresponding denotational algebras of modifiers (whose categories can vary). Given the definition of atoms of functional algebras this entails that the whole phrase with *Only* denotes also an atom in the algebra corresponding to the possible denotations of the argument of *only*. Thus *Only* in *Only Bill* denotes an atom in the denotational algebra of $NP$ modifiers and *Only Bill* denotes the atom in the denotational algebra of $NP$s. This atom is the generalized quantifier of type $< 1 >$ whose only member is the singleton containing the referent of *Bill* as the unique element.
The proposal seems to give satisfactory results for most major categories. It gives even an interesting result for the "non-major" category of propositional quantifiers that one finds in the conditionals of the type *only if*. One important exception is the category of $VP$. Indeed, in this case it follows from the proposal that the sentence (1), for instance:

(1) Leo (only danced)

has to be assigned a somewhat absurd meaning that "dancing" is the unique (atomic) property that Leo has. Notice that many other proposals encounter similar difficulty. Furthermore, the exact "non-contextual meaning" of (1) is not clear. Having this in mind I suggest a solution to the mentioned difficulty, compatible with my general proposal. I will consider that $NP$s in constructions like (1) denote in the restricted Boolean algebras. These are algebras where the unit is a distinguished element (different from the "ordinary" Boolean 1) and where the complements are correspondingly relativised to this element. In that way all the $NP$s are implicitly modified by the content corresponding to the distinguished element. In this case *Leo* in (1) has many other presupposed properties (like *being at the party, in the garden*, etc). Since such algebras are also atomic (if their orginal non-restricted algebras are atomic) my proposal can be extended to the case of $VP$s modified by *only* as well.

## References

[1] Zuber, R. (2001) Atomicity of some categorially polyvalent modifiers, *in* de Groote *et al.* (eds.) *Logical aspects of computational linguistics*, Lecture Notes in Artificial Intelligence, vol. 2099, Springer Verlag, pp. 296-310