

# Definite Descriptions in Dynamic Predicate Logic

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We are going to introduce a version of dynamic predicate logic (*DPL*, see Groenendijk&Stokhof [1991]) enriched with the iota operator (a.k.a. descriptor) as a framework to model the dynamics of definite descriptions. The dynamic behavior of descriptions was put forward by David Lewis (Lewis [1979]). It can be illustrated by the following discourse:

- (1) “A man walks in the park. He meets a woman. The man hugs her. A man watches from a distance. He walks a dog. The dog sniffs. The man is jealous.”

In this example, various occurrences of definite descriptions are used to refer to the most salient individual at a given point of the discourse, instead of the one and only individual that satisfies the condition set up in the description. The referent is identified via a special kind of discourse information that Lewis calls salience ranking. With a technical implementation of salience ranking into first-order semantics, our version of *DPL* is capable to model the dynamics of descriptions in a fully compositional way. It is a highly unusual feature of the system that not only formulas but also terms are evaluated in a dynamic fashion, and thus are capable of updating discourse information.

## References

- (1) Groenendijk, J. & Stokhof, M., *Dynamic predicate logic*. Linguistics and Philosophy 14 (1990)
- (2) Lewis, D., *Score-keeping in a language-game*, Journal of Philosophical Logic 8 (1979)