Crossover ii[1]

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[1] 24.979: Topics in semantics
Getting high: Scope, projection, and evaluation order

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1 *Dynamic Semantics*

In dynamic semantics (Heim 1982, Groenendijk & Stokhof 1991) sentences denote *relations between assignments* (equivalently: functions from assignments, to sets of assignments).

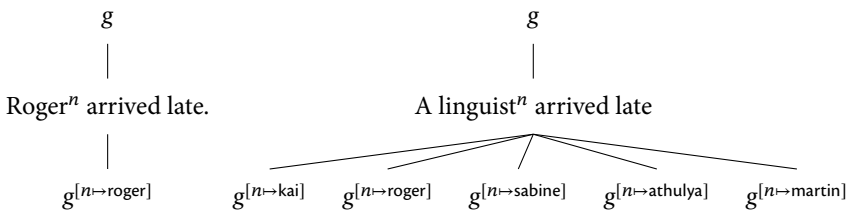

Figure 1: Relations between assignments

In dynamic semantics then, sentences are of type $(\mathsf{g}, \mathsf{g}') \rightarrow \mathsf{t}$

(1) $[\![\text{Roger}^n \text{ arrived late}]\!] = \lambda g \,.\, \{ g^{[n \mapsto r]} \mid \textsf{arrived-late r} \}$ $\quad \mathsf{g} \rightarrow \mathsf{G\ t}$

(2) $[\![\text{A linguist}^n \text{ arrived late}]\!] = \lambda x g g' \,.\, g[n \mapsto x] g' \wedge \textsf{arrived-late } x \wedge \textsf{linguist } x$ $\quad \mathsf{g} \rightarrow \mathsf{G\ t}$

Dynamic closure:

(3) $m^{\not z} \coloneqq \lambda g \,.\, \exists g' \ \in (m\ g)$

In dynamic semantics, the connectives manipulate dynamic values directly.

(4) Dynamic sequencing (def.)
$m; n \coloneqq n \circ m$

(5) Dynamic lift (def.)
$f^{\uparrow} \coloneqq \lambda x g \,.\, \{ g \mid f\ x \}$ $\quad (\mathsf{e} \rightarrow \mathsf{t}) \rightarrow \mathsf{e} \rightarrow \mathsf{T}$

(6) Discourse referent introduction (def.)
$f^{\Delta_n} \coloneqq \lambda x g \,.\, \{ g^{[n \mapsto x]} \mid f\ x \}$ $\quad (\mathsf{e} \rightarrow \mathsf{T}) \rightarrow \mathsf{e} \rightarrow \mathsf{T}$

(7) Pronouns (def.)
$\mathsf{pro}_n := \lambda g \,.\, g_n$

References

Groenendijk, Jeroen & Martin Stokhof. 1991. Dynamic predicate logic. *Linguistics and Philosophy* 14(1). 39–100.

Heim, Irene. 1982. *The semantics of definite and indefinite noun phrases*. 2011 edition - typesetting by Anders J. Schoubye and Ephraim Glick. University of Massachusetts - Amherst dissertation.