

# Parasitic Scope

Chris Barker, *UCSD*

The availability of an internal reading for *same* (likewise *different*) can depend on the presence of a scope-taking element elsewhere in the clause.

(1) John read the same book.

(2) Everyone read the same book.

(1) has only a deictic reading, on which there must be some pragmatically salient book.

(2) has in addition a (sentence-)INTERNAL reading on which the book each person read is compared only to the book read by each of the other people.

Keenan (1992, *L&P*) proves that the internal reading cannot be expressed as the compositional interaction of any set of generalized quantifiers. A popular alternative strategy (Stump 1982 ms.; Moltmann 1992 *L&P*; van Eijck 2004 submitted) is to allow noun phrases to form discontinuous (i.e., non-compositional) higher-order (“n-ary”) quantifiers.

However, it is not clear how to extend such accounts to cases in which the NP containing *same* is inside another NP:

(3) [Two men with the same name] walked into the room.

Although never noted in the literature (as far as I know), the bracketed noun phrase also has an internal reading, on which a use of (3) will be true just in case any two men who walked into the room have the same name as each other. The challenge for the approaches just mentioned is that the dependent noun phrase *the same name* is contained within the noun phrase with which it would need to combine to form an n-ary quantifier.

I will propose a compositional analysis of NP-internal cases like (3), then show how the proposal generalizes to handle examples such as (1) and (2).

Familiar quantifiers such as *everyone* function syntactically as noun phrases, take scope over a clause, and return a clause as a result, and therefore have semantic type  $\langle\langle e, t \rangle, t\rangle$ . Analogously, I propose that *same* functions syntactically as an adjective (i.e., a nominal modifier), takes scope over a nominal, and returns a nominal: type  $\langle\langle Adj, N \rangle, N\rangle$ , or in somewhat more detail,  $\langle\langle\langle e, t \rangle, \langle e, t \rangle\rangle, \langle e, t \rangle\rangle, \langle e, t \rangle$ .

In fact, this is a fairly natural semantic type for an adjective to have: just as a LIFT type-shifting operation (Partee and Rooth, Steedman, Jacobson, etc.) characterizes the semantic relationship between a non-quantificational noun phrase such as *John* and its quantificational equivalent (namely, the generalized quantifier  $\lambda P.Pj$ ), I show how LIFT also characterizes the relationship between a non-quantificational adjective such as *tall* and the quantificational type proposed for *same*.

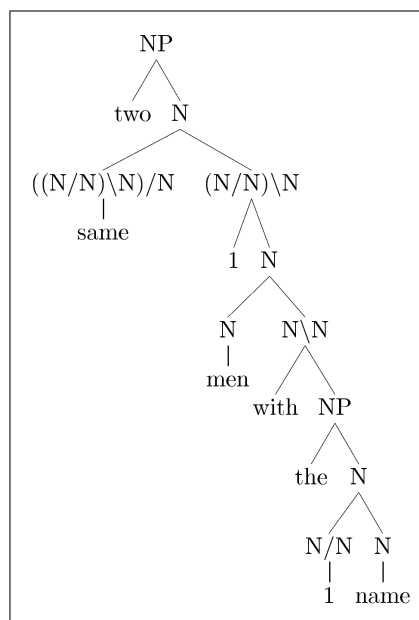
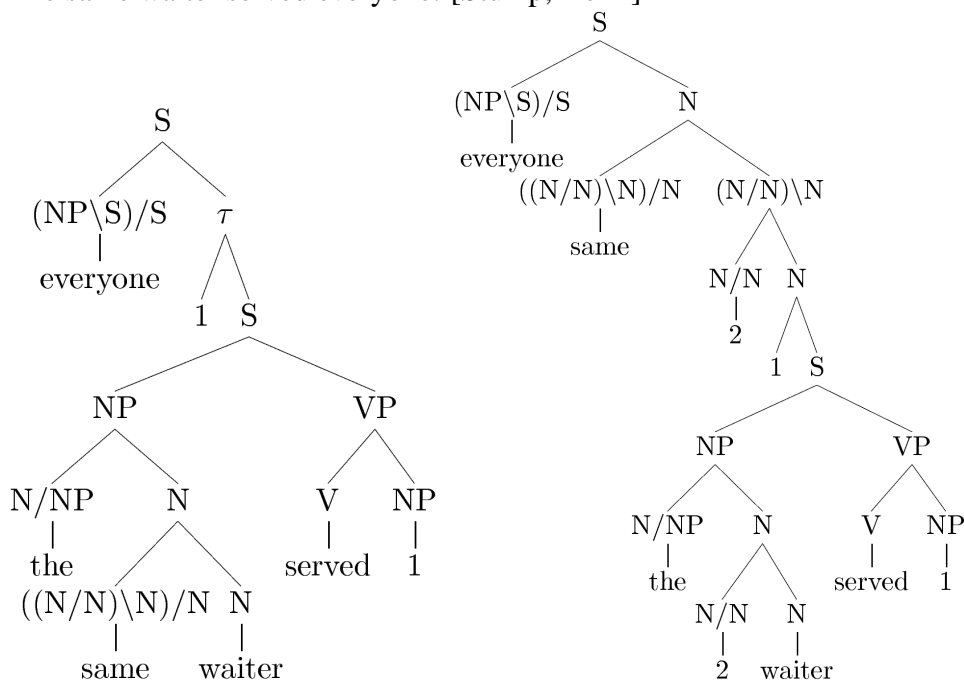


Figure 1: *two men with the same name*, after QR'ing *same*

- (4) a.  $\llbracket \textit{same} \rrbracket = \lambda F. \lambda X. \exists A \in \mathbf{choice} : \forall c \in \mathbf{Cov}(X) : F(A)(c)$   
 b.  $\llbracket \textit{men with the same name} \rrbracket = \lambda X. \exists A \forall c \in \mathbf{Cov}(X) : \mathbf{with}(\mathbf{the}(A(\mathbf{name}))) (c)$

Given (4a), *men with the same name* will denote the property that is true of a set of entities  $X$  just in case there is some choice function  $A$  (an adjective meaning mapping each nominal to a singleton set), and every member of the pragmatically-supplied cover  $\mathbf{Cov}(X)$  has the (unique) name picked out by  $A(\mathbf{name})$ . Distributing over the elements of a cover builds in the distributivity that Carlson (1985 *L&P*) argues is essential to *same*, but unlike Carlson's proposal, does not make direct reference to any set of events (which is a good thing, in view of NP-internal uses like (3)!).

The same syntactic and semantic analysis easily accounts for (5) (and similarly for (2)):  
 (5) The same waiter served everyone. [Stump, Heim]



We derive parasitic scope as follows. First step (the leftmost tree): quantifier-raise *everyone* Heim-and-Kratzer style (1998:186), i.e., with an unnamed node  $\tau$  dominating the QR index (in this case, '1'). Note that the semantic type of  $\tau$  is  $\langle e, t \rangle$ , the same semantic type as a nominal. Second step: allow *same* to take scope at  $\tau$  (or even simpler, choose  $\tau = N$ ), in which case *same* hijacks the nuclear scope of *everyone*. Because *same* doesn't even have a suitable place to take scope until after *everyone* has undergone QR, the scope of *same* is parasitic on that of *everyone*. Then using again (4a), the truth conditions require that (5) will be true only if there is a choice function  $A$  such that everyone was served by the waiter picked out by  $A(\mathbf{waiter})$ .

I will also present the analysis in a non-derivational, direct compositional, variable-free, continuation-based framework. That formulation allows a further simple generalization that accounts (for the first time) for examples in which the trigger is not a plural or quantificational NP, e.g., the internal reading of *John read the same book quickly and slowly*.