

Kennedy's puzzle: What I'm named, or who I am?

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This paper explores the contrasts in (1) (a variant of facts discussed in Kennedy, 1994)

- (1) a. Lee kissed every girl that SANDY did (*kiss*).
b. *Lee kissed every girl (who likes a woman) who knows a boy that SANDY did (*kiss*).

I first turn to some past accounts which rely either on crucial use of variable names and/or the representational properties of traces, and argue that each is empirically inadequate. I then turn to recasting the basic insight embodied in Heim's (1997) account in a variable-free semantics (along the lines of Jacobson, 1999) and in more direct model-theoretic terms. The facts are accounted for if "open" expressions are seen not as containing variables whose names are crucial but rather as functions from individuals to something else.

Past Accounts: Heim (1997) argues that the contrast follows from Rooth's focus condition on ellipsis (Rooth 1992): an elided constituent must be contained within some constituent C-Ell such that there is some other constituent C-Ant whose regular semantic value (or something which follows from its meaning) is a member of the focus value for C-Ell. (1a) is possible because *Lee kiss x* is a member of the focus value of *SANDY kiss x*. Given other assumptions in Heim (1997) (and oversimplifying to save space), (1b) is impossible because C-Ell is *SANDY kiss y* and C-ant is *Lee kiss x* and hence C-ant is not a member of the focus value of C-Ell. Note, then, that the names of the variables are playing a crucial role in blocking the requisite match.

But there are problems with Heim's account. One is that it requires a stipulation barring re-use of variables ("no meaningless coindexation"). For example, such a stipulation is necessary to preclude the possibility of the fully expanded version of (1b) having as a representation for the lowest clause *SANDY kissed x* (where *x* is also the object of matrix *kiss*). Second, Jacobson (1998) notes that this provides no account of good cases like (2)

- (2) Every student that the teacher praised envied every student that the PRINCIPAL did.

Heim's account also requires treating quantifiers as relations among sets of assignment functions (not sets of individuals). To meet Rooth's condition, it needs to be the case that the subject DP is a member of the focus value of the object. In Heim's actual account, neither DP has a meaning, but if we modify the account in the obvious way, then the DPs are *every x, student (x) & the teacher praised x* and *every y, student (y) and the PRINCIPAL praised y*, and the first is not a member of the focus value of the second. (To convince oneself: note that *every x, man (x)* and *every y, man(y)* are not the same semantic object in this system.) Sauerland (1998, to appear) also points out that these can improve if the heads are the same:

- (3) a. *John visited a town that is next to the lake that BILL did.
b. ?John visited a town that's next to the town that BILL did.

Sauerland argues that what is at stake is an identity condition not a focus condition. Given a head raising analysis of relative clauses combined with the copy theory of movement, the elided VP in (3b) (and (1a)) is identical to the matrix VP but not in (3a) (or (1b)). Note, though, that lexical identity of the head is neither a necessary nor a sufficient condition for improvement; (4a) also improves, while (4b) remains questionable:

- (4) a. ?John helped every third grader who revealed which of those students BILL had.
b. ?*John visited a lake which was bigger than any lake that BILL did.

Time permitting, I will also consider an unpublished account in Kennedy (2003) which shares with Heim the crucial reliance on variable names. It too falters on (2) (at least given usual assumptions about QR which go along with the theory in which the account is embedded).

The proposal: The key ingredients. Purely for expository ease, I continue to speak of ellipsis as involving deletion, although this is not necessary. Modifying Rooth's focus condition somewhat (in the spirit of, although not identical to, the proposal in Merchant (1998)) assume

that an elided constituent must be contained within an expression C_{ELL} such that there is a C_{ANT} whose meaning is or makes salient a member of the focus value of C_{ELL} . The key ingredient concerns how to extend the Roothian (1984) computation of alternatives in a variable-free semantics. Consider the focus value of the underlined material in *Every man thinks that he RAN*. Although both *RAN* and *he RAN* have as their “regular” semantic value a function of type $\langle e, t \rangle$, I assume that their focus values are of different types. The focus value of *RAN* is simply a set of alternative properties, whereas for *he RAN* it is a function from individuals to a set of propositions: each individual x is mapped into a set $\{x \text{ walked, } x \text{ danced, } \dots\}$. The full paper will justify that this is a natural result in a variable-free semantics: the intuition is that the semantic effect of a pronoun which is unbound within some domain always has “wide scope” - including over the focus value. Third, I assume that the contribution of an extraction gap is similar to that of a pronoun. (Call an expression with an extraction gap or pronoun unbound within it “syntactically open”.) Thus a relative clause like *(who) MARY kissed* also has as its focus value a function from individuals to sets of alternative propositions (which vary on who kissed that individual). One further crucial assumption: the domain of the function here is not all individuals, but only those who Mary kissed. That this result comes out from the compositional computation of alternatives will be shown in the full paper. Note that ordinary DPs - although they are functions of type $\langle \langle e, t \rangle, t \rangle$ - are also syntactically “closed”. A DP like *every man who MARY saw* has as its focus value simply a set of alternatives of type $\langle \langle e, t \rangle, t \rangle$. Finally, the question arises as to how the modified version of Rooth’s focus condition plays out for “open” expressions like *who MARY kissed*. In such a case, the focus value of C_{ELL} is a (partial) function from individuals to propositions, and we assume that the obvious extension of the ellipsis condition in such cases requires that for each individual, one of the propositions in the set assigned to that individual must be the meaning of or made salient by another expression.

Accounting for the data. Consider first the bad case(s) in (1b). *kiss* can be elided here if there is some expression C_{ANT} such that for each individual that Sandy kissed, C_{ANT} makes salient a proposition about someone else kissing that individual. But this is not met here, at least not without additional contextual support. Although the sentence is about who Lee kissed, there is no relationship between those individuals and those that Sandy kissed. Contrast this with the good run-of-the-mill ACD case in (1a). The key here is that since quantifiers denote relations between sets, then for each individual in the Sandy- kissing set, whether or not Lee kissed that individual is relevant to the truth conditions. (This holds regardless of what quantifier heads the object DP.) Hence the reason why ordinary ACD cases (those not suffering from the Kennedy problem) need no particular contextual support. The account here is very much inspired by Heim’s analysis but reconstructs the intuition in more direct model-theoretic terms without use of variable names as an intermediary. As such, it requires no stipulation analogous to “no meaningless co-indexation”. More dramatically, the account here has no difficulty with (2). Since the DPs are not syntactically open, the focus value of the object in (2) is simply a set of alternative DPs; the meaning of the subject is in this set. The Sauerland effect: Note that a good case like (3b) easily lends itself to a context in which it is assumed that each man did visit some town. But then, C_{ELL} can actually be the full DP *the town that BILL did (visit)*. Since the entire sentence is about town(s) that John visited, it evokes a salient contrast with this DP. Similar remarks hold for (4a). But (4b) is not (easily) compatible with the relevant background context. The claim, then, is that what matters here is not linguistic identity of the head, but the extent to which the improved cases are compatible with a context in which the meaning of the entire sentence (or some other part) can set up an alternative to the object DP. The facts are actually rather “squishy”, as is to be expected given the role of contextual accommodation.