

Revisiting Connectivity in Copular Sentences

This paper presents a new empirical challenge for theories of Connectivity in copular sentences – connectivity effects in predicational copular sentences – and offers a semantic account.

Connectivity: “old” facts. The fact that (1a) has only a predicational reading and (1b) only a specificational reading illustrates the received wisdom (e.g., Higgins 1973), namely, that specificational sentences show Connectivity effects whereas predicational sentences do not.

- (1) a. What John is is a parody of itself. *SPEC; $\sqrt{\text{PRED}}$
 b. What John is is a parody of himself. $\sqrt{\text{SPEC}}$; *PRED

Connectivity in predicational copular sentences. We observe that predicational sentences do sometimes exhibit Connectivity. For example, (2b), the “inverse” counterpart of the “functional” (2a), has a predicational reading (in addition to its specificational reading). Both (2a,b) exhibit Binding Connectivity, as *him* is interpreted as a variable bound by *no male actor* in both cases.

- (2) a. The only person no male actor_i talked to was not the fan who had stabbed him_i.
 b. The fan who had stabbed him_i was not the only person no male actor_i talked to.

How do we know that (2b) has a predicational reading? As shown by (3) some (though crucially not all) definite descriptions may lose their uniqueness presupposition in post-copular position (Fodor 1970, a.o.). When that presupposition is lost, a predicational reading arises.

- (3) a. (i) Sally is not the only woman John is dating; Mary is. $\sqrt{\text{SPEC}}$
 (ii) Sally is not the only woman John is dating; he is also dating Mary. $\sqrt{\text{PRED}}$
 b. (i) Sally is not the woman John is dating; Mary is. $\sqrt{\text{SPEC}}$
 (ii) Sally is not the woman John is dating; #he is also dating Mary. #PRED

It seems that definite expressions of the form ‘*the P*’, where *P* may apply to exactly one relevant entity (e.g., ‘*only woman that ...*’ or ‘*meanest woman that ...*’), belong to the class of definite expressions that may lose their uniqueness presupposition in post-copular position. In subject position, that presupposition is always retained, as shown by the contrasts in (4) and (5).

- (4) a. Is Mary really the only woman John is dating? \sqrt{I} thought he was dating several women.
 b. Is the only woman John is dating really Mary? #I thought he was dating several women.
 (5) a. Is Mary really the meanest woman John is dating? \sqrt{I} thought Sally was just as mean.
 b. Is the meanest woman John is dating really Mary? #I thought Sally was just as mean.

These contrasts show that when a definite expression functions as a predicate/property, it may do so only in post-copular position. Indeed, the contrast between (6) and (7) (which contain continuations of (2a) and (2b) respectively) shows that (2a) and (2b) are semantically distinct: of the two definite expressions – *the only person no male actor talked to* and *the fan who stabbed him* – only *the only person no male actor talked to* may function as a predicate, and only in (2b).

- (6) ... #every male actor also didn’t talk to his agent/#every male actor had been stabbed by two fans/ $\sqrt{\text{it was the fan who kissed him two days before.}}$ (2a) - #PRED; $\sqrt{\text{SPEC}}$
 (7) ... $\sqrt{\text{every male actor also didn’t talk to his agent/#every male actor had been stabbed by two fans/}}$ $\sqrt{\text{the fan who kissed him two days before was.}}$ (2b) - $\sqrt{\text{PRED}}$; $\sqrt{\text{SPEC}}$

The “predicatehood” of ‘*the only...*’ in post-copular position (and its “non-predicatehood” in subject position) is further corroborated by the contrast between (8) and (9).

- (8) Was the only person no male actor talked to really the fan who had stabbed him? #I thought that every male actor also ignored his agent.
 (9) Was the fan who stabbed him really the only person no male actor talked to? I thought that every male actor also ignored his agent.

The proposal (inspired by Partee 1986). Connectivity is a consequence of the cross-categoriality of *the/what*, and of *be*, in both its predicational mode (i.e., $[\lambda Y^{<\sigma, t>}. \lambda X^\sigma: X \in \text{Dom}(Y). Y(X)]$, σ is any type), and specificational mode (i.e., $[\lambda Y^\sigma. \lambda X^\sigma: \text{if } X \text{ is a function, } \text{Dom}(Y) = \text{Dom}(X). Y = X]$;

though see Romero 2005). Consider (1). *Itself* and *himself* are reflexivizers (Bach and Partee 1980, a.o.) and contribute a (non)personhood presupposition. In the specificational versions of (1), “Connectivity” is manifested in that (10) is not defined when John is a person, but (11) may be.

(10) $[\lambda w^s. \text{THE}([\lambda P^{<s, <e, t>>}. P_w(\text{John})])] = [\lambda v^s. \lambda x^e: x \text{ is a nonperson}_v. x \text{ is a parody}_v \text{ of } x]$ (1a)

(11) $[\lambda w^s. \text{THE}([\lambda P^{<s, <e, t>>}. P_w(\text{John})])] = [\lambda v^s. \lambda x^e: x \text{ is a person}_v. x \text{ is a parody}_v \text{ of } x]$ (1b)

The contrast between the predicational versions of (1) is captured by (12) (for (1a)) and (13) (for (1b)) (ⁱ maps a property onto its corresponding ‘e’-type entity; Chierchia 1984).

(12) $[\lambda w^s. [\lambda x^e: x \text{ is a nonperson}_w. x \text{ is a parody}_w \text{ of } x](\text{THE}([\lambda P^{<s, <e, t>>}. P_w(\text{John})])])]$

sometimes defined

(13) $[\lambda w^s. [\lambda x^e: x \text{ is a person}_w. x \text{ is a parody}_w \text{ of } x](\text{THE}([\lambda P^{<s, <e, t>>}. P_w(\text{John})])])]$ never defined

It follows from the cross-categoriality of *be* (and *the/what*) that specification may result in “equation” of $\langle e, e \rangle$ -functions (Jacobson 1994), leading to “binding” of a pronoun by a quantifier without syntactic binding. The specificational semantics of (2a,b) is thus (14) (nouns, adjectival *only*, and “gaps” have functional interpretations; pronouns are freely abstracted over).

(14) $\text{THE}([\lambda f^{<e, e>}: f \in \{g^{<e, e>} \mid g \text{ is person-valued and no m.a. } x^e \text{ talked to } g(x)\}. \{f\} = \{g^{<e, e>} \mid g \text{ is person-valued and no m.a. } x^e \text{ talked to } g(x)\}] \neq [\lambda z^e. \text{THE}([\lambda y^e. y \text{ is a fan and } y \text{ stabbed } z])]$

It also follows from the cross-categoriality of *be* that a definite expression in post-copular position, when functioning as a predicate, may denote a property of $\langle e, e \rangle$ -functions. This is empirically justified by the predicational reading of (2b), whose semantics, we contend, is (15) (*the* is “invisible” to the semantics whenever ‘*the P*’ functions as a predicate):

(15) $[\lambda f^{<e, e>}: f \in \{g^{<e, e>} \mid g \text{ is person-valued and no m.a. } x^e \text{ talked to } g(x)\}. \{f\} \neq \{g^{<e, e>} \mid g \text{ is person-valued and no male actor } x^e \text{ talked to } g(x)\}([\lambda z^e. \text{THE}([\lambda y^e. y \text{ is a fan and } y \text{ stabbed } z])])]$

Further predictions. The predicational variant of (16a) has only a transparent reading: its post-copular phrase denotes a property of individuals (see (16b)). But the predicational variant of (17a) has only an opaque reading: its post-copular phrase, when functioning as a predicate, denotes a property of properties (see (17b)). This is confirmed by (16c)/(17c), and conflicts with the view according to which only specificational sentences show Opacity Connectivity.

(16)a. The only thing John is looking for is a unicorn.

b. $[\lambda w^s. [\lambda x^e. x \text{ is a unicorn in } w](\text{THE}([\lambda z^e. \text{John is looking for } [\lambda v^s. \lambda y^e. y=z] \text{ in } w])])]$.

c. Is the only thing John is looking for really a unicorn? #I thought he was looking for a unicorn and a monster / \sqrt{I} thought unicorns didn’t exist.

(17)a. A unicorn is the only thing John is looking for.

b. $[\lambda w^s. [\lambda f^{<s, <e, t>>}. \{f\} = \{g^{<s, <e, t>>} \mid \text{John is looking for } g \text{ in } w\}](\text{THE}([\lambda v^s. \lambda z^e. z \text{ is a unicorn in } v])])]$.

c. Is a unicorn really the only thing John is looking for? \sqrt{I} thought he was looking for a unicorn and a monster / #I thought unicorns didn’t exist.

Discarding alternatives. Some theories of Connectivity (beginning with Ross 1972) claim that specificational (but not predicational) sentences have an LF where pronouns in the post-copular phrase may be c-commanded by (copied and elided) material from the pre-copular phrase. Thus, *itself* violates Condition A in (18a) and satisfies it in (18b); *himself* – the other way around.

(18) a. Specificational LF of (1a/b): $[\dots \text{ is } [\text{John}_n \text{ is a parody of } *itself_k / \sqrt{himself}_n]]]$

b. Predicational LF of (1a/b): $[[\text{what John}_n \text{ is}]_k [\text{is } [\text{a parody of } \sqrt{itself}_k / *himself_n]]]$

Such theories may offer a similar LF, where *him* is syntactically bound by *no male actor*, as the LF of (2a). However, functional predicational sentences (e.g., (2b)) clearly pose a problem for this account, as their Connectivity cannot be attributed to such an LF. If, alternatively, we claimed that *no male actor* is QR-ed “long distance”, as in (19), binding the pronoun from outside, we would get the wrong truth conditions (see Jacobson 1994 for a similar argument).

(19) $[\text{No male actor}]_i [\text{the fan who stabbed him}_i \text{ was not the only person } __j \text{ talked to}]$

This LF wrongly implies that (2b) states that every male actor talked to the fan who stabbed him.