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.  
   b. What John is is a parody of himself.  

**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; talked to was not the fan who had stabbed him.  
   b. The fan who had stabbed him; was not the only person no male actor; 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.  
   b. Sally is not the only woman John is dating; he is also dating Mary.

   (i) Sally is not the only woman John is dating; Mary is.  
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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?  
   b. Is the only woman John is dating really Mary?  
   a. I thought he was dating several women.  
   b. I thought he was dating several women.  

(5) a. Is Mary really the meanest woman John is dating?  
   b. Is the meanest woman John is dating really Mary?  
   a. I thought Sally was just as mean.  
   b. 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/√it was the fan who kissed him two days before.  

(7) … √every male actor also didn’t talk to his agent/#every male actor had been stabbed by two fans/√the fan who kissed him two days before was.  

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., $[\lambda Y^{<!}\beta^{2}>. \lambda Y^{><2}>: X \in \text{Dom}(Y). Y(X)]$, $\alpha$ is any type), and specificational mode (i.e., $[\lambda Y^{>0}. \lambda X^{<0}>: \text{if } X \text{ is a function, } \text{Dom}(Y) = \text{Dom}(X). Y=X]$;
though see Romero 2005). Consider (1). *Its*elf and *himself* are reflexivizers (Bach and Partee 1980, a.o.) and contribute a (non)personhood presupposition. In the specificalional versions of (1), "Connectivity" is manifested in that (10) is not defined when John is a person, but (11) may be.

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

(11) \( \lambda w. \text{THE}(\lambda P^{<e,e>} : P_w(\text{John})) = [\lambda v. \lambda x^e : x \text{ is a person} \_ x \text{ is a parody} \_ v] \)

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

(12) \( \lambda w. \{ \lambda x^e : x \text{ is a nonperson}_w \_ x \text{ is a parody}_w \_ v \} \langle \text{THE}(\lambda P^{<e,e>} : P_w(\text{John})) \rangle \)

(13) \( \lambda w. \{ \lambda x^e : x \text{ is a person}_w \_ x \text{ is a parody}_w \_ \} \langle \text{THE}(\lambda P^{<e,e>} : P_w(\text{John})) \rangle \)

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

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

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 \( <e,e> \)-functions. This is empirically justified by the predicational reading of (2b), whose semantics, we contend, is (15) \( \langle \text{the} \rangle \) is "invisible" to the semantics whenever \( \langle \text{the} \rangle \) functions as a predicate:

(15) \( \lambda f^{<e,e>} : \{ f \subseteq \{ g^{<e,e>} \mid g \text{ is person-valued and no m.a. } 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 specificalional sentences show Opacity Connectivity.

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

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

c. Is the only thing John is looking for really a unicorn? \#i thought he was looking for a unicorn and a monster / \#i thought unicorns didn't exist.

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

b. \( \lambda w. \{ \lambda f^{<e,e>} : \{ f \subseteq \{ g^{<e,e>} \mid g \text{ is looking for } g \text{ in } w \} [\lambda v^e \_ \lambda z^e . z \text{ is a unicorn in } v] \} \}

c. Is a unicorn really the only thing John is looking for? \#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 specificalional (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. Specificalional LF of (1a/b): 
  
  [...] is [\text{John is a parody of } *itself* / \#i himself] 

b. Predicational LF of (1a/b): 
  
  [[what John \_ is]k [is [a parody of *itself* / *himself]]] 

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) [No male actor]; [the fan who stabbed him]; was not the only person \_ talked to].

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