# Specificational WH-questions and Concealed Questions

This paper is about a contrast in meaning between CQ-sentences (1a) and their embedded question paraphrases (1b). Greenberg (1977) and Heim (1979) observe that while (1a) can only be used to convey that John solved the question *who murdered Smith?,* (1b) has an additional reading, compatible with John not knowing about the murder, according to which John found out some essential fact about the person referred to as the murderer.

**1a.** John found out the murderer of Smith. *CQ*

**1b.** John found out who the murderer of Smith is. *Embedded-Question*

I claim that the ambiguity of (1b) is due to the fact that embedded identity questions have both a specificational and a predicational reading (Higgins 1973), and that only the predicational variant allows for a transparent reading of the definite description. On the other hand, building on Romero (2006), I argue that CQs are inherently specificational. Therefore, they lack the ambiguity of (1b).

Several authors (Partee (1987), Mikkelsen (2004), among others) have argued that both predicational and specificational clauses involve predication over an individual, but that they differ in how the predicative and referential DPs are aligned with respect to the copula at surface structure. Mikkelsen (2004) argued that in contrast to (2a), which has a referential subject, the obligatory use of the neuter pronoun *it* in (2b) indicates a property interpretation for the definite description. This carries over to (2c), suggesting a property interpretation of the DP-CQ (Frana (2006)):

**2a.** The winner of the contest is Iranian. Isn't **she**/*it? (*PREDICATIONAL*)

**2b.**The winner of the contest is Shirin Abadi. Isn't **it**/*she? (*SPECIFICATIONAL*)

**2c.** I know the winner of the contest. **It**/*she is Shirin Abadi. *CQ*

To see that the ambiguity of embedded identity questions is of the specificational vs. predicational kind, consider (3) below in the following scenarios.

**3.** Mary finally found out who her mother is.

*Scenario 1 (Specificational):* Mary is an adopted child who starts looking for her biological mother. After many years, she finally discovers the identity of her mother.

**3a.** Mary finally found out who her mother is. (**It** is a certain Ms Sally Brown.)

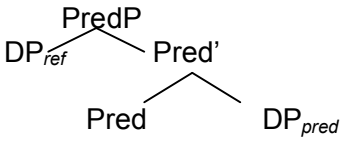
*Scenario 2 (Predicational)*: Mary has always believed her mother to be a kind person. Unbeknownst to Mary, her mother is actually very mean. One day, Mary discovers some of the bad things her mother did to other people, and changes her mind.

**3b.** Mary finally found out who her mother is. (**She** is a nasty person.)

The predicational reading is compatible with a transparent interpretation of the definite description. *Scenario 3 (Predicational Transparent)*: Mary believes to be an orphan. Unbeknownst to Mary, her boss Ms Brown is her real mother who hired Mary to help her financially. Brown is often mean to her employees, but tends to be nice towards her daughter. After hearing some stories from the other employees, Mary discovers that Ms Brown is a very nasty person. An utterance of (3) in this scenario requires a transparent interpretation of the DP *her mother*.

To account for this multiplicity of readings, I argue that embedded identity questions can have two LFs, a specificational and a predicational one. CQ-sentences, on the other hand, have only one structure (specificational). Following Mikkelsen (2005), I assume that a predication relation projects a structure like (4) and that in a predicational structure the surface subject is generated as $DP_{ref}$ (referential), while in a specificational structure, it is generated as $DP_{pred}$ (predicative).

**4.**




Furthermore, following standard assumptions, I take attitude verbs like *find out* to introduce a lambda abstractor over world variables and DPs to contain world variables. From this, we obtain the following two LFs for (1b), only relevant parts included:

**4a.** [$_{VP}$ found out ...**λ*w*$_1$** ... [$_{CP}$...who$_i$... [$_{PredP}$ [$_{DP}$*ref* x$_i$ *w*$_{0/1}$]...[ $_{DP}$*pred* the murderer ***w*$_1$**]] *SPEC*

**4b.** [$_{VP}$ found out ...**λ*w*$_1$** ... [$_{CP}$...who$_i$... [$_{PredP}$ [$_{DP}$*ref* the murderer *w*$_{0/1}$]...[ $_{DP}$*pred* P$_i$ ***w*$_1$**]] *PRED*

In (4a), *the murderer* is the underlying predicate, while *who* originates as $DP_{ref}$ and later moves leaving a trace of type *e* (individual). This gives us the specificational reading, according to which John found out that *x* is the murderer. In (4b), on the other hand, *the murderer* starts in $DP_{ref}$, while *who* originates as $DP_{pred}$ and then moves leaving a trace of type <e,t> (property). This gives us the predicational reading according to which John found out that the murderer (individual) has a certain property. The transparency facts follow from Percus's Generalization X: the world variable introduced by the predicate must be bound by the closest λ (Percus 2000). Since *the murderer* is the underlying predicate in (4a), we correctly predict that the definite description in this structure cannot have a transparent reading. Analogously, if DP-CQs are also property-denoting, as (2c) suggests, then their structure would be like (5) below, where the world variable inside the lexical head of the DP-CQ is bound by the λ introduced by the attitude verb, generating only (specificational) opaque interpretations for the definite description (under this account a DP-modifier could in principle get a transparent reading).

**5.** [$_{VP}$ found out ...**λ*w*$_1$** ... [...[ $_{DP}$*pred* the murderer ***w*$_1$**]] *CQ*

To conclude, I explain the contrast between CQs and their embedded question paraphrases by saying that embedded identity question can be either specificational or predicational, while CQs are inherently specificational. I also show that only predicational structures allow for transparent readings of simple definite descriptions under the scope of an attitude verb.

**References: Frana, 2006:** 'The de re analysis of concealed questions. A unified approach to definite and indefinite CQs', *Proceeding of SALT XVI*, **Greenberg, 1977:** 'A semantic account of Relative Clauses with Embedded Question Interpretations' ms., UCLA, **Heim, 1979:** 'Concealed Questions', in R. Bäuerle et al. (eds.), *Semantics from different point of views*, **Higgins, 1973:** *The Pseudocleft Construction in English*. PhD dissertation, MIT, **Mikkelsen, 2004:** 'Specificational subjects. A formal characterization and some consequences', *Acta Linguistica Hafniensia* 36, **Mikkelsen, 2005:** 'Subject choice in copular clauses', ms, **Partee, 1987: '**Noun phrase interpretation and type-shifting principles'. In *Formal Semantics-The Essential Readings*, Blackwell. **Percus, O**. (**2000**): 'Constraints on some other variables in Syntax', *NLS* 8, 173-229.