**Contextual Variables as Pronouns**

I argue that the behavior of the contextual variable (C) associated with quantificational expressions like *every, most or always* (cf. von Fintel 1994, 1995; Westerstähl 1985) reduces to the behavior of pronouns. The syntax and semantics of C thus makes use of independently needed tools, and the task of language acquisition is easier on the child.

The argument is made on the basis of the properties of bound C (for a study of free occurrences of C, see Martí 2002). In (1), the C of *no* is bound (Heim 1991; von Fintel 1994, 1995):

\[ \text{(1) [Only one class], was so bad that no(C, student passed the exam}} \]

(1) means that only one class x was so bad that no student in x passed the exam. Following von Fintel, I assume that C is decomposed into a function and an argument (*f(x)*), where the argument gets bound and the value for the function is provided contextually. This analysis raises the question of whether the semantics of C is really reducible to the semantics of pronouns. Recent work (Elbourne 2002), however, suggests that pronouns should be decomposed into a function-argument structure (where the argument variable gets bound in bound readings), so the reduction of C to pronouns is very much feasible, and hence desirable.

An argument that C (or, more appropriately, the argument of the function introduced by C), and not some other variable, is bound in (1) is needed: *student* is a relational noun and can have an implicit variable of its own (e.g., Barker 1991; Barker&Dowty 1992). Below, the variable of a relational noun cannot be what gets bound, since the argument of the noun is filled ((2)) or a non-relational noun ((3)) or adverb of quantification (i.e., no noun at all) ((4)) are used:

\[ \text{(2) The business professors met to discuss the companies with which the School of Business has contacts. Several professors have close contact with several company representatives. [Most professors], admire every(f(x)) representative of Kodak} \]

\[ \text{(3) [Most classes], were so bad that no(f(x)) men passed the exam} \]

\[ \text{(4) [Most weekends], were so sunny and warm that I always(f(x)) worked in the garden} \]

One argument that the behavior of C is like that of pronouns is that principles that constrain binding relations with pronouns in English, such as Weak Crossover (WCO) (e.g., Koopman &Sportiche 1983; Wasow 1972), constrain binding relations with C as well. Bound-variable readings are not possible when the trace of the binder does not c-command the bindee ((5)); binding of C is subject to the same constraint ((6)):

\[ \text{(5) a. Who, t, loves his, mother? \quad b. Who, does his, j, mother love t?} \]

\[ \text{(6) a. Many flights arrived late on Friday. The airlines whose planes landed late decided to provide additional compensation for the families flying with them. We are trying to find out [which airlines], t, ended up compensating every(f(x)) family} \]

\[ \text{b. [context as in (6a)] We are trying to find out [which airlines], every(f(x), j), family has already contacted t, for compensation} \]

Importantly, the same exceptions to WCO with pronouns are found with C. Some exceptions to WCO in English are that a pronoun in an adjunct clause can be bound even when the trace of the binder doesn’t c-command it ((7a)) and that a PRO controlled by the binder can do the binding ((7b)). The same exceptions arise with C ((8)):

\[ \text{(7) a. [Who, did [Jan say [she admired t,][in order to please him]]]]? (Lasnik&Stowell 1991)} \]

\[ \text{b. PRO, seeing his, father pleased [every boy], (Higginbotham 1980)} \]

\[ \text{(cf. Mary’s seeing his, j, father pleased [every boy],]} \]

\[ \text{(8) a. [context similar to (6)] [Which airline], did [Jan say [she admired t,][because of how they treat every(f(x), family)]]]?} \]
b. [context similar to (6)] PRO of contacting every(f(x_i)) family benefited [most airlines],
   (cf. Mary’s contacting every(f(x_i)) family benefited [most airlines])

Binding of pronouns is more constrained in Chinese than in English (Higginbotham 1980, Huang 1982). Another argument that the behavior of C reduces to that of pronouns is that binding of C is more constrained in Chinese too. Whose can bind his or C (another exception to WCO; (9)); however, shei ‘whose’ cannot bind tade ‘his’ ((10)) or C ((11)) (cf. ((12))):

(9) a. [Whose, picture] t_j incriminated his, mother? (from Safir 1996)
   b. Three airlines owned by three people, Jonathan Smith, Kelly Thornton, and Ruth Cole, have had problems with the families flying with them. The families claimed that the airline overcharged them. They lied and we are wondering [whose, airline] t_j sued every(f(x_i) family

(10) [Shei de muqin], t_j kanjian-le tadek, qizi?

   who DE mother see-Asp his wife ‘Whose mother saw his wife?’

(11) [The linguistics students met to discuss the courses they took in the spring. At the end of the meeting, the president asked…]

   [Shei de muqin], t_j mei-men(f(x_k/w_i)) kecheng dou xihuan?

   who DE mother every-CL course all like ‘Whose mother likes every course?’

(12) a. Shei t_i kanjian-le ta, muqin?

   who see-Asp he mother ‘Who saw his mother?’
   b. [context as in (11)] Shei t_i mei-men(f(x_i)) kecheng dou xihuan?

   ‘Who likes every course?’

In (11) and (12b) mei-men kecheng is displaced to the left of the verb. I assume, following Lin 1998, that such NPs move to the specifier of a dou-phrase overtly, a position still c-commanded by the trace of shei ((12b)) or shei de muqin ((11)) (simplifying slightly).

That binding of C has the same properties as binding of pronouns suggests that C is a syntactically-active object (at least, if WCO is a syntactic constraint and pronouns are syntactically active). However, Partee 1989 argues that the contextual variables of words like local or opposite are not syntactically active. Her claim is based on the contrast in (13), where what looks like the overt version of the variable of opposite differs from the covert version:

(13) a. Not everyone who thinks their parents did a bad job of bringing them up actually switches to the opposite child-rearing method
   b. *Not everyone who thinks their parents did a bad job of bringing them up actually switches to the child-rearing method opposite to it

This claim, however, is based on two assumptions that are not justified: a) contextual variables have overt realizations, and b) there is only one way to express difference between them. Thus, there is no reason for not assuming that the contextual variable of opposite is syntactically active. There seems to be no reason for not assuming the syntactic presence of C either.