

When and why can 1st and 2nd person pronouns be bound variables?

The problem with 1st and 2nd person pronouns.

In some contexts (call them *context A*), English 1st and 2nd person pronouns can be used as bound variables (Heim 1991, Kratzer 1998) as in (1).

(1) *Context A: 1st person* (data based on Rullmann 2004)

- a. Only I got a question that I understood.
 - = (i) λx [x got a question that x understood]
 - = (ii) λx [x got a question that I understood]
- b. Every guy that I've ever dated has wanted us to get married.
 - = (i) $\forall x, \text{guy}(x) \ \& \ \text{dated}(I, x)$ [x wants x & I to get married]
 - = (ii) $\forall x, \text{guy}(x) \ \& \ \text{dated}(I, x)$ [x wants us to get married]

Rullmann (2004) argues that such data are problematic for Déchaine & Wiltschko's (2002) analysis (henceforth DW), where it is claimed that English 1st/2nd person pronouns are DPs. According to the DW analysis, 1st/2nd person pronouns have the status of definite DPs (i.e., definite descriptions) and consequently are predicted not to be construable as bound variables. DW support their claim with the observation that in some contexts of VP-ellipsis (call them *context B*), 1st/2nd person pronouns cannot be used as bound variables, as in (2).

(2) *Context B: 1st person* (data based on Déchaine & Wiltschko 2002)

I know that John saw me, and Mary does too.

- ≠ (i) 'I know that John saw me, and Mary knows that John saw her.
 λx [x knows that John saw x] & λy [y knows that John saw y]
- = (ii) 'I know that John saw me, and Mary knows that John saw me.'
 λx [x knows that John saw me] & λy [y knows that John saw me]

As we will show, the (im)possibility of a bound variable reading with 1st and 2nd person is conditioned by a number of factors. This behavior contrasts with 3rd person pronouns, which may be construed as bound variables in both Context A and B as illustrated in (3) and (4).

(3) *Context A: 3rd person*

- a. Only he got a question that he understood.
 - = (i) λx [x got a question that x understood]
 - = (ii) λx [x got a question that y understood]
- b. Every guy that she ever dated wanted them to get married.
 - = (i) $\forall x, \text{guy}(x) \ \& \ \text{dated}(y, x)$ [x wants y & x to get married]
 - = (ii) $\forall x, \text{guy}(x) \ \& \ \text{dated}(y, x)$ [x wants them to get married]

(4) *Context B: 3rd person*

He knows that John saw him, and Bill does too.

- = (i) λx [x knows that John saw x] & λy [y knows that John saw y]
- = (ii) λx [x knows that John saw x] & λy [y knows that John saw x]

The above data raise the following puzzle. In context A, 1st and 2nd person pronouns can be bound variables but in context B, 1st and 2nd person pronouns cannot be bound variables. In contrast, 3rd person pronouns can always be construed as bound variables.

	1 st person	2 nd person	3 rd person
Context A	Bound variable	bound variable	bound variable
Context B	* bound variable	*bound variable	bound variable

A syntactic account: Pronoun coercion. In this paper, we develop a syntactic analysis, consistent with the DW analysis, where the possibility of the bound variable reading is directly tied to the categorial identity of the pro-form. In particular, if a pronoun is construed as a bound variable it is necessarily of the category φ . We further claim that, in English, the basic categorial type of 1st/2nd person pronouns differs from that of 3rd person pronouns. On the one hand, 3rd person pro-forms are always φ . On the other hand, 1st and 2nd person pronouns are usually contained in a DP-shell. We argue that if a context forces bound variable anaphora (context A), then English 1st and 2nd person pronouns are inserted into a pro- φ P structure. We refer to this shift from DP to φ P as *pronoun coercion* as in (6).

- (5) a. $[\varphi P \text{ me} \quad [NP \] \]]$ *pro- φ P*
 b. $[_{DP} \text{ me} \quad [\varphi P \quad [NP \] \]]$ *pro-DP*

Evidence that we are indeed dealing with a coercion of syntactic category comes from contexts in which pronoun coercion is independently ruled out. This is the case with expressions such as *us linguists*, discussed by Postal 1966. In the DW analysis such expressions are unambiguously pro-DPs with the structure in (6).

(6) [_{DP} *us* [_{φP} -s [_{NP} *linguist*]]]

Here pronoun coercion is not possible because φ is already occupied by the plural marker *-s* of *linguists*. Consequently, the pronoun *us* cannot be inserted as a pro- φ P, i.e. it cannot be coerced.

The unavailability of coercion with *us linguists* accounts for why such expressions cannot have a bound variable reading, even in contexts that otherwise facilitate such a construal (i.e., Context A) as in (7) and (8).

(7) Only we got a question that us linguists understood.

≠ (i) λx [x got a question that x understood]

= (ii) λx [x got a question that us linguists understood]

(8) Every guy that I've ever dated has wanted us lovers to get married.

≠ (i) $\forall x$, *guy*(x) & *dated*(I, x) [x wants I & x to get married]

= (ii) $\forall x$, *guy*(x) & *dated*(I, x) [x wants us to get married]

We show that the factors that facilitate pronoun coercion (context A) divide into two subcases: coercion induced by focus operators and coercion induced by distributivity operators.

We also show that there are some cases of apparent bound variable readings which are due to either dependent reference (in the sense of Williams 1997) or donkey anaphora. For such cases we argue that they do not involve pronoun coercion: other definite DP-structures can participate in the same construals.

Discussion. The core claim of the DW analysis is that there is a regular and transparent correspondence between syntactic category and semantic type: DPs are to definite descriptions what φ Ps are to variables. Under this approach the notion *person* has no privileged mapping to a particular syntactic category or a particular semantic type. As discussed at length in DW, this approach captures cross-linguistic differences in how person features are mapped onto morpho-syntactic objects. An example of this is the variation discussed above concerning the default values of 1st and 2nd person in French versus English: in French they are φ Ps while in English they are DPs. This means that one and the same feature complex can be mapped onto two distinct syntactic categories with predictable consequences for the semantics.

In this paper, we extend this approach to account for the dual semantic behavior of English 1st and 2nd person pronouns in terms of pronoun coercion. Namely, English 1st and 2nd person pronouns generally correspond to DPs and as such predictably behave like definite descriptions. However, in contexts that force bound variable anaphora, English 1st and 2nd person pronouns are syntactically coerced into φ Ps (a possibility which is in principle allowed by UG) and as such predictably behave as bound variables.

At a conceptual level, our approach sheds light on current debates concerning the semantics of 1st and 2nd person. On one view, 1st and 2nd person pronouns are indexicals (Kaplan 1977, 1989) whose interpretation is fixed only by the context. On another view, 1st and 2nd person pronouns are variables whose interpretation is fixed by some operator in conjunction with rules of feature percolation. Proponents of each view assume that a uniform analysis of the semantics of 1st and 2nd person pronouns is both necessary and desirable. However, the range of variation attested in pronoun inventories suggest that pronoun meanings are constructed, and constructed in more than one way. Crucially, cross-linguistic and language-internal evidence shows that “person” as a semantic category does not map onto a uniform morpho-syntactic category. Nevertheless, there remains a regularity in the mapping, such that certain morpho-syntactic properties have certain semantic properties as outlined in DW and the present paper. This contrasts with purely semantic treatments of pronouns which abstract away from morpho-syntactic variation.