

## Chain formation and parasitic gaps

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**GOAL:** To propose an analysis of parasitic gap constructions such as (1) that does not have to appeal to any idiosyncratic apparatus.

(1) Which paper did you file [without reading *pg*]?

**MAIN PROBLEMS OF THE PREVIOUS LITERATURE ON PGs.** PGs have an unclear status, between traces and pronouns (Culicover (2001) for an overview). As a reflection of this dual nature, the analyses put forth in the literature often end up being unsatisfactory conceptually, specially from a minimalist perspective. For instance, Cinque (1990) postulates a *pro* object in English, Frampton (1990) allows traces to be base-generated without movement, and Lasnik & Stowell (1991) appeal to a specific type of empty category, the *null epithet*.

Avoiding these problems, Nunes (2004) puts forth an minimalist analysis where PGs are simple traces. He develops an analysis based on the copy theory of movement, where the PG in (1) derives from (a) *sideward movement* of a copy of the wh-phrase from the adjunct to the internal argument position of the matrix clause (and then another copy + merge to SpecCP), and (b) formation of two chains, one with the higher copy and the copy in the adjunct (the parasitic chain) and the other with the higher copy and the copy in the matrix clause, followed by the deletion of the lower copy in each chain. Although Nunes' analysis has many virtues, its empirical drawback is that it loses the connection with the (pro)nominal properties of PGs. He accounts for some of them on independent grounds; for instance, the impossibility for constituents other than DPs to be PGs (2) (Aoun & Clark 1985) is explained by sideward movement being motivated by theta-requirements (Last Resort).

(2) \*How did Deborah cook the pork [after cooking the chicken *pg*]?

However, certain facts suggest that PGs cannot have the complex internal structure of a copy and have the properties of pronouns: they do not reconstruct (3) nor do mismatched phi-features create a clash with e.g. the anaphor in (4) (cf. Kearney 1983), and they do not allow pair-list readings (5) (Hornstein 1995):

(3) a. Which book of Mary<sub>i</sub>'s did John file [after she<sub>i</sub> read *pg*/it]?

b. \*Which books about herself<sub>i</sub> did John file [after Mary<sub>i</sub> read *pg*]?

(4) [Which books about himself]<sub>i</sub> did John file [before Mary read *pg*/it]?

(5) Which paper did every student read [without filing *pg*/it]?

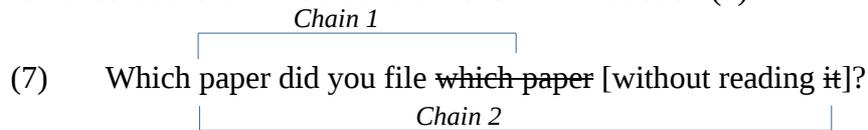
Building on insights from Cinque (1990) and others, and adopting Nunes' (2004) copy theory of movement (in terms of Copy + Merge + Form Chain + Chain Reduction), I propose an alternative analysis that does not have to appeal to sideward movement (or movement to theta-positions) and that reintegrates the idea that PGs are pronouns.

**ANALYSIS.** PGs enter the derivation as **mere pronouns**, and participate in the computation of the adjunct clause as such (operations in charge of theta- and Case-assignment). The adjunct then merges with the matrix clause, in which wh-movement (copy+merge) of the object takes place. Unlike in Nunes (2004), thus, PGs are not copies of the wh-phrase in the matrix clause, they are separate lexical items. Given the Conditions on Chain Formation in (6), the wh-phrase in the matrix clause and its lower copy satisfy the requirements on chain formation, and therefore the operation Form Chain forms a non-trivial chain with them.

(6) *Conditions on Form Chain* (Nunes 2004: 91):

Two constituents  $\alpha$  and  $\beta$  can form the nontrivial chain  $CH = (\alpha, \beta)$  if **(a)**  $\alpha$  is non-distinct from  $\beta$ ; **(b)**  $\alpha$  c-commands  $\beta$ ; **(c)** there is at least one feature  $F$  of  $\alpha$  such that  $F$  enters into a checking relation with a sublabel of the head of the projection with which  $\alpha$  merges and for any such feature  $F$  of  $\alpha$ , the corresponding feature  $F$  of  $\beta$  is accessible to the computational system; and **(d)** there is no constituent  $\gamma$  such that  $\gamma$  has a feature  $F'$  that is of the same type as the feature  $F$  of  $\alpha$ , and  $\gamma$  is closer to  $\alpha$  than  $\beta$  is.

Crucially, I would like to propose that the **pronoun in the adjunct clause is also formally indistinguishable from the wh-phrase in SpecCP, and thus a second chain is formed between them**. The whole derivation therefore involves two wh-chains, in each of which the lower constituent will be deleted via Chain Reduction (7).



This analysis is based on two important assumptions that I will substantiate as follows, on the basis of recent work on A and A'-dependencies.

**I. Chain-formation between non-copies.** The above analysis assumes that two constituents that are not copies of each other can constitute a chain. Rather than an ad hoc postulate, this hypothesis is independently motivated by works on A'-dependencies involving base-generated expressions in the left-periphery, which show that such strategies can coexist with movement strategies in a given language (cf. Gervain 2009, López 2009, Den Dikken (in press)).

(8) *María, no le enviaré ningún paquete. Spanish* (Hanging topic left dislocation)  
 María NEG Cl send.1sg.FUT no package [López 2009: 4]  
 'María, I won't send (her) a package.'

**II. Chain-formation between non-identical constituents.** Another important assumption is that a wh-phrase and a pronoun can count as non-distinct for chain-formation (cf. (2a)). But I will argue that it too has independent motivation. First, base-generated structures such as (8), involving non-isomorphic expressions (*María* and clitic *le*), are precisely construals of this type. Second, if Takahashi & Hulsey's (2009) (T&H) analysis is on the right track, then even movement does not always end up in identical copies. T&H account for the absence of reconstruction in A-movement in terms of Wholesale Late Merger, where the argument position of a DP only contains D, and the NP merges countercyclically with D in a higher position. In these derivations, the lower copy of A-movement is a D and the higher one a DP: this analysis thus implies that chain formation between non-identical constituents is possible. Third, work by Stanton (2014), building on T&H, implies that chains with non-identical constituents are not restricted to A-dependencies. On the basis of evidence from the (un)availability of preposition stranding, Stanton argues that there are different types of A'-movement (cf. also Postal 1998), and that those that cannot strand Ps requiring a Time or Place complement involve a chain with a higher wh-DP and a lower (deleted) copy consisting in a mere D (NP merges with D after D undergoes internal merge and before wh-movement).

**LOWER COPIES AND PGS AS D.** The analysis is strengthened by important points of convergence with T&H and Stanton (2014). Given the assumption that pronouns are Ds (Postal 1966), the PG construction involves the very same type of configuration as that postulated by these authors, with a chain formed by a DP and a D. That is, PGs can be accounted for without having to postulate a new type of chain.

**RESUMPTION.** I will conclude by briefly discussing the similarities and differences between PGs and resumptive pronouns (Cinque 1990, Ouhalla 2001), in the light of recent work that characterizes the latter as Ds with an elided NP as a restrictor (Guilliot 2006, Rouveret 2008).

**IN SUM,** I put forth an account of PGs that does not rely on sideward movement and that straightforwardly explains their pronominal properties. It is in a large part based on a novel approach to chain formation, which stems from various recent studies on the nature of movement. It shares many features with early analyses, but it does not appeal to idiosyncratic expressions or structure building operations. For instance, like in Cinque (1990) PGs are null pronouns, but they are deleted pronouns, not *pros*; like in Frampton (1990) chain formation takes place without a previous movement, but the lower element is a pronoun, not a trace.