

The Licensing Mechanism of Parasitic Gaps in English

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The aim of this study is to unveil a licensing condition on the parasitic gap (henceforth, PG) construction, as exemplified in (1).

- (1) Which article did John file *t* without reading *pg*?

The second gap in this sentence, denoted with *pg*, is a so-called “PG.” This stems from the fact that this gap cannot appear without the existence of the first gap, a trace created by the movement of the *wh*-phrase *which article*, which is generally referred to as a “real gap” (cf. Engdahl (1983)). In the literature, PGs have been exposed to questions of how they are licensed.

Engdahl (1983) proposes the anti-c-command condition (AC) in (2) and attempts to capture the contrast in grammaticality between the *wh*-subject constructions in (3a, b).

- (2) A parasitic gap may not be c-commanded by the real gap.
 (3) a. * a man who [*t* looks old [whenever I meet *pg*]]
 b. a man who [whenever I meet *pg* [*t* looks old]]

According to the AC, sentence (3a), where the real gap c-commands the PG in the adjunct clause, is excluded. Contrastively, in (3b), the PG is licensed because the adjunct clause containing the PG is in a higher position than that of the real gap.

As just seen above, the AC can correctly capture this contrast, but we easily find a counterexample to it. Consider the following examples discussed by Kiss (1985):

- (4) a. Which man did the police warn *t* that they would arrest *pg*?
 b. * The police warned him_i that they would arrest John_i.
 c. The police warned everybody_i that they would arrest him_i.

Sentence (4a), in which the PG inside the complement CP is c-commanded by the real gap in the matrix object position, is still grammatical. It is clear from (4b, c) that this sentence has such a c-command relation. Sentence (4b) cannot obtain the coreferential reading between the matrix object *him* and the object within the complement CP *John*. In (4c), *him* in the complement CP can be interpreted as a bound pronoun of the matrix object *everybody*. These confirm that in (4a), the

matrix object position c-commands that in the complement CP, but nonetheless, this sentence does not exhibit the effect that the AC predicts. It then follows that the AC does not qualify as a licensing condition on PGs.

Now, let us turn to the homogeneity condition (HC) presented by Kim and Lyle (K&L) (1996), which is based on the operator movement analysis in Chomsky (1986). This analysis states that the PG in (1) is derived and licensed along the line below:

- (5) Which article did you file t [without [Op [reading pg]]]?
- (6) a. $C = (which\ article_{CP}, t)$
 b. $C' = (Op_{CP}, pg)$
- (7) If $C = (\alpha_1, \dots, \alpha_n)$ is the chain of the real gap, and $C' = (\beta_1, \dots, \beta_n)$ is the chain of the parasitic gap, then the “composed chain” $(C, C') = (\alpha_1, \dots, \alpha_n, \beta_1, \dots, \beta_n)$ is the chain associated with the parasitic gap construction and yields its interpretation.
- (8) $(C, C') = (which\ article_{CP}, t, Op_{CP}, pg)$

The adjunct clause of (5), which is the LF representation of (1), illustrates that the null operator Op moves from the position of pg to the Spec of CP (see Chomsky (1986:55-56) for details). This means that representation (5) has the two chains in (6), which are formed in the main clause and in the adjunct clause, respectively. These independent chains are composed via chain composition in (7), thereby yielding the composed chain in (8). The formed chain has *which article* as its head and pg as its tail, whereby the PG sentence in (1) obtains its proper interpretation.

K&L propose that composed chains should satisfy the HC in (9), which they regard as a subcase of the chain uniformity condition (cf. Chomsky (1991) and Chomsky and Lasnik (1993)).

- (9) Composed chains can only consist of homogeneous operators.

This condition requires that operators in composed chains should be homogeneous with respect to their position. For example, the composed chain in (8) is judged well-formed by the HC, because the two operators, *which article* and Op , are homogeneous in that both of them are in the Spec of CP. The PG in (1) is thus licensed.

The HC-based account can also explain the incompatibility of PGs with the quantifier raising (QR) construction in (10a), in which A'-movement at LF has been assumed to be involved, unlike (1) (cf. May (1985)).

- (10) a. * John filed every article without reading *pg*.
 b. * $(C, C') = (\textit{every article}_{TP}, t, Op_{CP}, pg)$

In (10a), the object quantifier phrase *every article*, which is an operator of the real gap, adjoins to the TP via QR at LF; the operator of the PG moves to the Spec of CP, thereby producing the composed chain in (10b). The operators, *every article* and *Op*, are heterogeneous with respect to their position, hence the ungrammaticality of (10a).

K&L's analysis based on the HC seems to be plausible, but it fails to receive enough empirical support. Observe the following minimal pair:

- (11) a. * Who did Bill believe *t'* was visited *t* by John while him having refused to meet *pg*?
 b. ? Who did Bill believe *t* visited John while him having refused to meet *pg*?

In each of the sentences, both the operator of the real gap and the operator of the PG occupy the Spec of CP, so the HC predicts (11a, b) to be grammatical. However, we actually obtain the unexpected contrast described in (11). This demonstrates that the HC is not valid as a licensing condition on PGs.

It is important to notice here that sentence (11a) that includes the passivized *wh*-phrase is less acceptable than sentence (11b) that lacks it. It is only natural to consider that this affects grammaticality in some way. Based on this fact, I propose the condition in (12), which I refer to as the parallelism condition (PC).

- (12) Composed chains can only consist of parallel chains.

According to this condition, PGs are licensed if real gap chains and PG chains are parallel with respect to chain formation. In what follows, I show that the PC gives a principled explanation to the facts on PGs observed above.

Let us first consider the fact in (4a), an example against the AC, which has the composed chain in (13).

- (13) $(C, C') = (\textit{which man}_{CP}, t, Op_{CP}, pg)$

This composed chain satisfies the PC because both the operator of the real gap and the operator of the PG undergo chain formation to the Spec of CP. This yields the grammaticality of (4a).

Then, the PC is also responsible for the contrast in (11), which is a piece of evidence against the HC. Each sentence in (11) creates (14) as their composed chains.

- (14) a. * $(C, C') = (who_{CP}, t_{TP}, t, Op_{CP}, pg)$
 b. $(C, C') = (who_{CP}, t, Op_{CP}, pg)$

As depicted in (14a), this composed chain is ill-formed with the PC violated. This is because only the real gap chain contains t_{TP} as an intermediate trace. Hence, the ungrammaticality of (11a). In contrast, the composed chain in (14b) satisfies the PC since it does not have such an offending trace. Sentence (11b) is thus grammatical.

Moreover, the PC properly explains the contrast in (3), instead of the AC, adopting the vacuous movement hypothesis (VMH) (cf. Chomsky (1986)), which prevents *wh*-subjects from moving locally to the Spec of CP. Under the VMH, example (3a) actually involves no movement of the *wh*-subject to the Spec of CP, while in (3b), the *wh*-subject moves to such a position because of the intervention of the adjunct clause. This means that the examples in (3) form the composed chains in (15), respectively.

- (15) a. * $(C, C') = (who, Op_{CP}, pg)$
 b. $(C, C') = (who_{CP}, t, Op_{CP}, pg)$

In (15a), the real gap chain and the PG chain are not parallel with respect to chain formation, and thus, example (3a) cannot have the PG. On the other hand, the PG in (3b) is allowed to appear because the composed chain in (15b) satisfies the PC.

Finally, it goes without saying that the PC also accounts for the inconsistency of PGs with the QR construction shown in (10a). As is obvious from (10b), this composed chain violates the PC since the operator of the real gap undergoes chain formation to a different position from that of the PG. Sentence (10a) is thus ungrammatical.

In this study, I have shown that the AC and the HC are insufficient as a licensing condition on PGs and have proposed the PC, according to which PGs are licensed via parallelism in chain formation between real gap chains and PG chains. The proposed condition has enabled us to explain the facts that the AC and the HC can or cannot.