

Extraction from adjuncts: the role of Small Clauses

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•**Activities and gerunds:** An English gerund adjoined to a matrix activity is degraded if it is not separated by a prosodic break (1a-b). This is something unique to gerunds, as the *while*-clauses with the same meaning (temporal overlap) are grammatical (1c-d).

- (1) a. ??John ran [whistling a song]. c. John ran [while whistling a song].
b. ??Mary drove [humming a tune]. d. Mary drove [while humming a tune].

(1a-b) become grammatical if modified by a motion PP, which can be telic (2a) or atelic (2b).

- (2) a. John ran to the store [whistling a tune]. b. Mary drove around [humming a tune].

This impacts extraction: the adjuncts in (1) are opaque (3), while the ones in (2) transparent (4).

- (3) a. *What did John run [whistling __]? b. *What did Mary drive [humming __]?

- (4) a. What did John run **to the store** [whistling __]?
b. What did Mary drive **around** [humming __]?

In this talk we account for the grammaticality of (4) and, more generally, for all cases of extraction from English gerunds. We propose that a gerund is transparent if it is adjoined to a small clause (SC). The proposal accounts for i) grammatical extraction from *-ing* adjuncts; and ii) the data discussed in previous theories in a unified manner, using solely syntactic means. •**Previous accounts:** Previous studies of extraction from adjuncts focused only on a subset of the empirical picture, using different theoretical tools. First, Truswell (2011) claims that extraction is possible iff the adjunct expresses the cause of the event in the matrix clause. This derives the contrast in (5) between the temporal (5b) and the causal (5a) gerund.

- (5) a. What did John drive Mary crazy [whistling __]?
b. *What did John draw a circle [whistling __]? (Truswell 2011:30)

Secondly, Borgonovo (1994) claims that transparent adjuncts are arguments when they are lexically selected by the matrix verb. More particularly, Fábregas & Jiménez-Fernández (F&J) (2016) claim that only matrix achievements (6a) can merge a gerund as an argument of their extended VP projection. This does not happen with accomplishments (6b).

- (6) a. What did John arrive [whistling __]? b. *What did J. push a cart [whistling __]?

However, the grammaticality of extraction from an accomplishment matrix predicated (5a) is unexpected on F&J's account. At the same time, the grammaticality of the non-causal (6a) falsifies Truswell's proposal. The grammaticality of (4) challenges both proposals: they are activities and accomplishments, and there is no causal relation between gerund and matrix events. •**Causativization and SCs:** An activity verb modified by a telic or by an atelic PP becomes causativized (Folli&Harley 2006, Hoekstra 1984). If the verb is not causativized, a DP cannot be merged (7b). (7c) has a causative meaning: John's waltzing caused Matilda to be around and around.

- (7) a. John waltzed. c. John waltzed [_{SC} Matilda around and around].
b. *John waltzed Matilda.

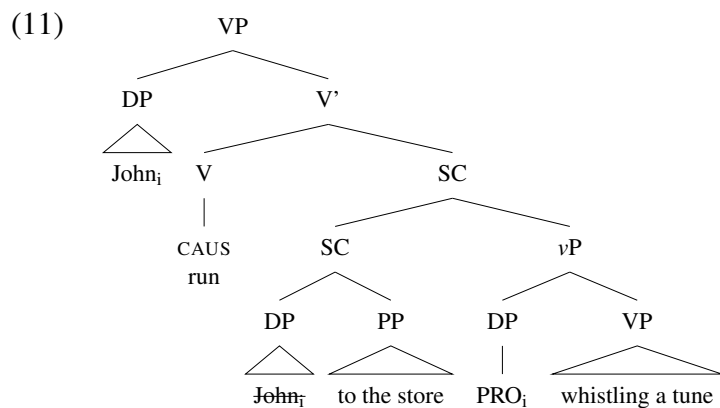
Causativized verbs take a SC as their internal argument. The DP is the subject of the SC, and the PP is the theme (Hoekstra 1984). The gerund is merged to the SC. *Again* diagnostics confirm the presence of a SC: modified activities have repetitive and restitutive readings (von Stechow 1995).

- (8) John_i [_{VP} ran [_{SC} t_i to the store]] again. = (2a)
 a. Repetitive: John ran to the store, and that had happened before.
 b. Restitutive: John ran to the store, and he had already been to the store.

The PPs (*to the store, around*) predicate of the subject (i.e. *John*), which starts as the subject of the SC, before raising to the VP (11). Italian auxiliary selection confirms the raising to subject analysis. *Correre* (run) is unergative (aux *have*) on its own (9), but unaccusative (aux *be*) when there is a SC (10), confirming raising of the subject in the latter.

- (9) *Maria {ha/*è} corso.* (10) *M. {*ha/è} corsa {al negozio/in giro}.*
 ‘Mary {has/*is} ran.’ ‘M. {*has/is} ran {to the store/around}.’

• **Analysis:** The gerund adjoins to the SC (11), which is the internal argument of the verb. If there is no SC, the gerund must merge to a higher position. This accounts for the contrast between (3) and (4): only the latter has a SC, licensed by the causativized motion verbs. This analysis extends to (5)



as well. Truswell’s *drive Mary crazy* (5a) takes a SC as its internal argument. On the other hand, the non causativized (5b) takes a DP as its argument, and thus the adjunct cannot be merged in the right place for extraction. F&J’s claims on achievements (6) follow the same logic: extraction from the adjunct is possible because the adjunct is merged with a SC. Following Weir (2022), we assume that achievements (*leave, arrive, etc.*) have inherent directionality, and as such they merge with a SC that predicates of

the final location of the subject. A SC is present even when the final location is not overtly realised (as in (6a)). Since achievements, and not activities and accomplishments, always merge with a SC, the extraction data are predicted on our account. Lastly, transparent adjuncts are not arguments (as suggested by F&J and Borgonovo), but they are weak islands (à la Cinque 1990). They adjoin to an argument (11). Extraction of non-DPs is not allowed (12a-b). Stranding the preposition and only extracting the DP is grammatical (12c).

- (12) a. *How loudly did John run around [whistling a tune __]?
 b. *To whom did John run around [whistling a tune __]?
 c. Who did John run around [whistling a tune to __]?

• **Extension:** SCs can be in other syntactic environments, and the presence of a SC allows extraction from gerunds. First, the objects of dextranatives are inside a SC, both in the double object and in the DP+PP construction (Beck&Johnson 2004). As expected, extraction is grammatical:

- (13) a. What did John mail Mary a letter [singing __]?
 b. What did John mail a letter to Mary [singing __]?

Particle verbs merge with a SC as well (Aarts 1989, Hoekstra 1988). The presence/absence of a SC derives the contrast in (14):

- (14) a. What did John pick [_{SC} the book up [whistling _]]?
b. *What did John pick [_{DP} the book] [whistling _]?

The contrast in (14) is not predicted by Borgonovo, but follows from our proposal. Both clauses have an internal argument, but only (14a) has a SC. • **Conclusion:** The presence of a SC predicts the grammaticality of DP extraction from gerunds. We showed that with causativized verb of motion, with ditransitive, and with particle verbs. The SC is essential because it creates a low, argument-internal adjunction site for the gerund, turning it into a weak island. Without a SC, the gerund is forced to merge to a higher and prosodically unintegrated position. This proposal accounts for the novel dataset we presented, and it captures previous data without postulating anything special about i) the meaning of the adjunct; ii) the extended VP structure; iii) the hidden argument-hood of optional adjuncts.