

Extraction from adjuncts: the role of Small Clauses

Activities and gerunds: English gerunds can express temporal overlap between two events. Since they are adjuncts, their distribution should be relatively free. Surprisingly, a gerund modifying 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 are completely grammatical (1c-d).

- (1) a. ?? John ran [whistling *Let It Be*]. c. John ran [while whistling *Let It Be*].
 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 *Let It Be*]. b. Mary drove **around** [humming a tune].

This impacts extraction: the adjuncts in (1) are always opaque (3-4), while the ones in (2) transparent (5-6).

- (3) *What did John run [whistling __]? (4) *What did Mary drive [humming __]?

- (5) What did John run **to the store** [whistling __]? (6) What did Mary drive **around** [humming __]?

The same is true in Italian: extraction from a bare activity is degraded (7a), but grammatical when modified by a PP (7b).

- (7) a. ?? *Cosa ha corso [fischiando __]?* b. *Cosa è corso a casa [fischiando __]?*
 ‘What did he run [whistling __]?’ ‘What did he run (to) home [whistling __]?’

In this talk we will explain contrast between (1a-b)-(2), and we will provide an account for extraction from gerunds (5-7). We propose that a gerund is transparent and integrated in the matrix clause when it is adjoined to a small clause (SC) which "causativized verbs" (Folli&Harley 2006), as in (5-7), and in general change of state verbs, take as their internal argument. The proposal accounts for i) the novel extraction data from gerunds (5-7); and ii) the data discussed in previous theories (Borgonovo 1994, Truswell 2011, Fábregas & Jiménez-Fernández 2016) 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 (8) between the temporal (8b) and the causal (8a) gerund.

- (8) 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 (9a) can merge a gerund as an argument of their extended VP projection. This does not happen with accomplishments (9b).

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

However, the grammaticality of extraction from an accomplishment matrix predicated (8a) is unexpected on F&J's account. At the same time, the grammaticality of the non-causal (9a) falsifies Truswell's proposal. Crucially, our new data set in (5-7) challenges both proposals: these are activities and accomplishments, with no causal relation between the gerund and the matrix event, only temporal overlap between them.

Causativization and SCs: Matrix activities like (2a) give rise to the inference that John is at the store, and as such have long received a SC analysis (Borer 1984, a.m.o.). *Again* diagnostics confirm the SC status of the DP + motion PP: *again* can modify the SC to the exclusion of the VP (10a) (Kratzer 2005).

- (10) John_i [_{VP} ran [_{SC} t_i to the store]] *again*. = (5)
 a. SC: John ran to the store in the morning, and then Mary drove him there **again** later on.
 b. VP: John ran to the store in the morning, and then he ran there **again** later on.

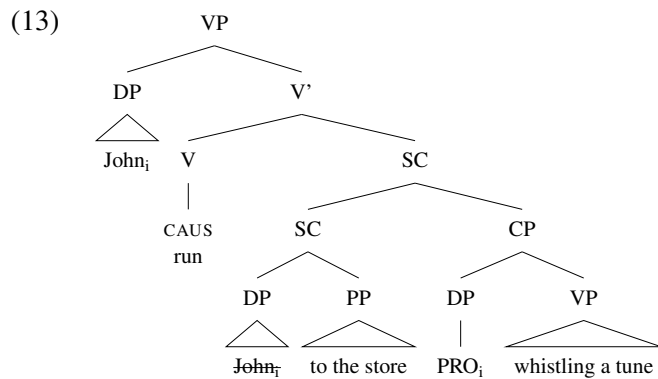
Hoekstra&Mulder (1989) showed that the presence of a goal PP causativizes the verb, which then takes a SC as its internal argument. Folli&Harley (2006) showed that the availability of an argument PP, whether telic or atelic, makes causatives of motion verbs possible. For example, an activity verb like *waltz* can be causative if a PP like ‘*around and around*’ is added:

- (11) a. *John waltzed Matilda.
 b. John waltzed [_{SC} Matilda around and around]. (cf. Folli&Harley 2006)

This shows that atelic PPs introduce a predicative SC. Italian auxiliary selection confirms the raising to subject analysis. *Correre* (run) (cf. (7)) is unergative (aux *have*) on its own (12a), but unaccusative (aux *be*) when there is a SC (12b), confirming raising of the subject in the latter.

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

Analysis: In (2a) the gerund adjoins to the SC (13). In the absence of a SC, the gerund must merge to a higher position. In this position, the gerund is not integrated, which accounts for i) the need for a prosodic break (1a-b); and ii) the impossibility of extraction (3-4). When the gerund is adjoined to a VP argument, DP extraction is grammatical. This analysis extends to (8) as well. Truswell’s (8a) has the same structure as proposed by Folli&Harley (2016): since it is causativized, it takes a SC as its internal argument. On the other hand, the non causativized (8b) takes a DP as its argument, and thus the adjunct cannot be merged in the right place for extraction. F&J’s achievement (9a) follow the same logic: extraction from the adjunct is possible when the adjunct is merged with a SC.



Following Weir (2022), we assume that achievements are special because they have inherent directionality. This means that they merge with a SC that predicates of the final location of the subject (14a). Thus, achievements always merge with a SC. The matrix predicate in (9b) has no SC, and its internal argument is a DP (14b). This derives the contrast in (9).

- (14) a. John_i [_{VP} arrived [_{SC} t_i home [whistling a tune]]]. → Extraction ✓(9a)
 b. John_i [_{VP} pushed [_{DP} a cart] [whistling a tune]]. → Extraction ✗(9b)

Finally, the SC analysis sharpens Borgonovo’s results. On Borgonovo’s account, extraction is possible when there is an internal argument, as this lexically selects the adjunct. But, as we showed, what matters is the presence of a SC, not of any internal arguments. The contrast in (9) is not predicted by Borgonovo, but follows from our proposal: both clauses have an internal argument, but only (14a) has a SC.

Lastly, transparent adjuncts are not arguments, but they are weak islands (à la Cinque 1990). They adjoin to an argument (13). Extraction of non-DPs is not allowed (15a-b). When only the DP moves, stranding the preposition, extraction is grammatical (15c).

- (15) a. *How loudly did John run around [whistling *Let It Be* __]?
 b. *To whom did John run around [whistling *Let It Be* __]?
 c. Who did John run around [whistling *Let It Be* to __]?

Conclusion: We showed that when a gerund is adjoined to a SC it behaves like a weak island. A SC can merge as the internal argument of a verb in two cases: i) if the matrix verb is causativized; ii) if it is an achievement. When either of these conditions does not subsist, extraction is ruled out because the adjunct is not VP-internal. On the other hand, a low, argument-internal gerund is integrated with the matrix clause, thus turning a strong island into a weak one. This 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.