

Title: The Manner/Result Complementarity Revisited: A Syntactic Approach

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Structured abstract

Purpose

To show that the manner/result complementarity (Rappaport Hovav & Levin, 2010), that is, the fact that a verb cannot simultaneously lexicalize manner and result, need not be stipulated, but is derivable from general principles of syntactic computation and properties of the syntax-morphophonology interface. In particular, it derives from the formal (i.e., non-semantic) fact that a single root cannot simultaneously undergo Conflation and Incorporation in the lexicalization of a verb (Haugen, 2009).

Methodology/approach

The approach to argument structure is syntactic: argument structure is built up through syntax (Hale & Keyser, 2002; Marantz, 1997; i.a.). A sharp distinction between syntactically non-transparent conceptual content and syntactically transparent semantic construal is assumed (Mateu, 2002; Ramchand, 2008; i.a.).

Findings

The manner/result complementarity derives from general syntactic principles and need not and, hence, must not be stipulated as a constraint on the structuring of events. These general principles are also responsible for other complementarities found in the lexicalization of verbs. If our proposal is correct, one should not pretend to explain the relevant constraint in mere event structure terms.

Originality/value of paper

The syntactic approach to argument structure (Hale & Keyser, 1993f.; Marantz, 1997f.) assumed in this paper sheds light on recalcitrant cases like those ones involving manner/result complementarity.

Keywords

conflation, incorporation, argument structure, manner/result complementarity, syntax

Categorisation

Research paper

The Manner/Result Complementarity

Rappaport Hovav & Levin (2010) make the interesting strong claim that no verb encodes or *lexicalizes* both manner and result (see also Levin & Rappaport Hovav, 1991, 2008).¹ The result is unspecified for MANNER verbs, i.e., those verbs that specify a manner of carrying out an action (see some examples in (1a)). Similarly, the manner in which something acquires a state is unspecified for RESULT verbs (see some examples in (1b)).

(1) a. MANNER verbs (i.e., verbs that specify a manner of carrying out an action):

e.g., *wipe, scrub, walk, swim*, etc.

b. RESULT verbs (i.e., verbs that specify the result of an event): e.g., *fill, clean,*

arrive, come, etc.

Rappaport Hovav & Levin claim that the origins of the so-called “manner/result complementarity” in (2) can be found in the lexicalization constraint in (3):

(2) *Manner/result complementarity*: Manner and result meaning components are in complementary distribution: a verb may lexicalize only ONE.

Levin & Rappaport Hovav (2008, p. 1, ex. (6))

(3) *The lexicalization constraint*: A root can only be associated with one primitive predicate in an event schema, as either an argument or a modifier.

Rappaport Hovav & Levin (2010, p. 25, ex. (12))

¹ According to Levin & Rappaport Hovav (2008, p. 1), *lexicalized meaning* refers to “those meaning components *entailed* in all uses of a verb, regardless of context [...]. In the unmarked case what is lexicalized in a verb is kept constant in all uses.” (Our emphasis: XX.)

In their lexicalist model, these authors claim that the root can be associated as a modifier in the event structure pattern of manner verbs (see (4a)) or as an argument in the pattern of causative change of state predicates (see (4b)). Given the lexicalization constraint in (3), it is predicted that the root in a single verb cannot be associated to both modifier and argument positions (see (4c)):²

- (4) a. [x ACT<ROOT>]
 b. [x CAUSE [y BECOME <ROOT>]]
 c. *[[x ACT<ROOT>] CAUSE [y BECOME <ROOT>]] (* in a single verb)

Our present syntactic proposal is that the constraint in (3) and its associated descriptive claim in (2) follow from how primitive elements of argument structure are composed in the syntax (Hale & Keyser, 2002; Harley, 2005; Marantz, 2005; Mateu, 2002; i.a.). We want to emphasize that the constraint in (3) must not be regarded as an inescapable stipulation (as in Rappaport Hovav & Levin's (2010) non-syntactic approach), but can be shown to be derived from the very nature of Conflation and Incorporation processes (Haugen, 2009). If our proposal is correct, one should not pretend to explain the relevant constraint in mere event structure terms (cf. (3)).

A Syntactic Approach to the Manner/Result Complementarity

To advance our main point, we will show how the descriptive observation in (2) can be accounted for in a syntactic model where notions like Manner and Result become grammatically relevant since they can be claimed to be relationally encoded in the relevant

² Cf. Rappaport Hovav & Levin (2010, p. 26):

[...] assuming that manner roots modify the predicate ACT and result roots are arguments of BECOME, a root can modify ACT or be an argument of BECOME in a given event schema. A root cannot modify both these predicates at once without violating the lexicalization constraint.

syntactic argument structures: in particular, we claim that Manner can be read off the adjunction relation to v (cf. Den Dikken, 2008; Embick, 2004; Harley, 2005; Mateu, 2002f.; McIntyre, 2004; Zubizarreta & Oh, 2007), whereas Result can be read off a SCR(*Small Clause Result*)-like predicate (cf. Hoekstra, 1988; i.a.). For example, the same root \sqrt{BREAK} is structurally interpreted as Manner in (5a) and as Result in (5b):

- (5) a. [_{VP} [_v \sqrt{BREAK} v] [_{SC} [_{DP} he] [into the room]]] (*He broke into the room*)
 b. [_{VP} v [_{SC} [_{DP} the glass] [\sqrt{BREAK}]]] (*The glass broke*)

We want to emphasize that our approach sharply contrasts with Levin and Rappaport Hovav's in that Manner and Result are not meaning components of the root, but interpretations derived from the position the root occupies in the structure. From now on, we use capital letters to refer to Manner and Result in this sense. It follows that, from this neo-constructionist perspective, expressions such as "Manner root" or "Result root" are oxymoronic; if any, we could refer to "Manner constructions" and "Result constructions", that is, constructions where the root is adjoined to v and constructions where the root occupies the SCR-predicate position, respectively. By contrast, we use "manner" and "result", in lowercase letters, to refer to the conceptual content of the root. In this sense, we stick to Grimshaw's (2005, p. 85) strong claim that there are no constraints on how complex the conceptual content of a root can be, unlike Rappaport Hovav & Levin (2010, p. 25), who claim that "[m]anner/result complementarity, however, involves the root". As we will see, a root may certainly involve *manner* and *result* simultaneously; crucially, however, it may not be interpreted as *Manner* and *Result* simultaneously.

In our present theory, the constraint in (3) boils down to the *syntactic* fact that a single root cannot act both as a SCR-like predicate and as a *v* modifier at the same time (we'll exemplify it in more detail with the case study of the verb *climb* below). Importantly, the particular constraint in (3) should not be regarded as an inescapable stipulation (as in Rappaport Hovav & Levin, 2010), but can be shown to be derived from the formal fact that a root cannot be *incorporated* and *conflated* at the same time (that is, in a single verb). In particular, we follow Haugen's (2009) revisionist claim in (6):

- (6) *Incorporation* is conceived of as head-movement (as in Baker, 1988; Hale & Keyser, 1993), and is instantiated through the syntactic operation of Copy, whereas *Conflation* is instantiated directly through Merge (compounding).

Haugen (2009, p. 260)

According to Haugen (2009), there are two ways of forming denominal verbs: i.e., via Incorporation or via Conflation. Basically, in Incorporation cases, the denominal verb (e.g., see (7a)) is formed via copying the full matrix of the nominal complement into the null verb (see Hale & Keyser, 1993). In Conflation cases, the denominal verb (e.g., see (8a)) is formed via compounding a root with the null verb.

- (7) a. The boy danced.

b. [_{VP} [_{DP} The boy] [_v [_v √*DANCE*] [~~√*DANCE*]]]]~~

- (8) a. The factory horns sired midday (ex. from Clark & Clark, 1979, *apud* Borer
2005, p. 69)

b. [_{VP} [_{DP} The factory horns] [_v [_v √*SIREN* v] [_{DP} midday]]]]

The reason why a root cannot be incorporated and conflated at the same time is morphophonological: a single null head, in this case v , may be specified with only one phonological matrix. Since both Incorporation and Conflation are aimed at filling up this null head v , they cannot apply simultaneously.

It is important to emphasize the fact that a syntactic approach to the Manner/Result complementarity, like ours, is not equivalent to a purely semantic one. Thus, we disagree with Rappaport Hovav & Levin's claim in (9):

- (9) For the purposes of investigating manner/result complementarity, the specific type of predicate decomposition representation does not matter. The representations could be recast along neo-Davidsonian lines [...] or as minimalist syntactic structures.

Rappaport Hovav & Levin (2010, p. 24, fn. 3)

Rappaport Hovav & Levin's (2010) contention in (9) cannot be correct, since the predictions of the semantic and syntactic approaches can be shown to be quite different in an important way. For example, a brief comparison of Koontz-Garboden & Beavers's (2010) semantic approach with our syntactic one will be illustrative. As pointed out by these two semanticists, the manner/result complementarity in (2) cannot be said to hold as such when framed in truly semantic terms, *contra* Rappaport Hovav & Levin (2008, 2010). For example, Koontz-Garboden & Beavers point out that, conceived truth-conditionally, the prediction is that there should be verbs encoding both manner and result, and manner of death verbs can be claimed to fill in this gap, since they appear to lexicalize both the manner in which an action is carried out (e.g., for *electrocute*, electrocution) and the resultant state of an entity (e.g., for

electrocute, the state of being dead by electrocution), and neither meaning component can be dropped out. Thus, by using manner of death verbs like *electrocute*, *drown* or *guillotine*, Koontz-Garboden & Beavers (2010) claim that Rappaport Hovav & Levin's (2008, 2010) generalization with respect to the manner/result complementarity does not hold as such in semantic theory: the former point out that its scope is narrower than the latter assume. However, to our view, what Koontz Garboden & Beavers (2010) show is not that the complementarity in (2) is too strong; if any, what they show is that (2) cannot be formulated as such in purely semantic terms (*contra* Rappaport Hovav & Levin, 2010). Thus, Koontz-Garboden & Beavers (2010) conclude in (10):

- (10) We must admit the third and final logically possible class of eventive roots, namely manner+result roots, *contra* Rappaport Hovav & Levin's assumption that such roots should not exist.

Koontz-Garboden & Beavers (2010, p. 34)

We are happy with Koontz-Garboden & Beavers's conclusion in (10), since it is worded in terms of *roots*: as noted above, we have nothing to say with respect to how complex the conceptual semantics of a root element can be; in particular, a root can of course be claimed to encode “manner” and “result” simultaneously as part of its conceptual content, i.e., as part of the conceptual scene it invokes.³ Rather our proposal here is that when Manner and Result are understood in *syntactic* terms, there *is* a validity for the descriptive generalization in (2)

³ Cf. Grimshaw's (2005, p. 75f.) important distinction between *semantic structure* and *semantic content*. Following Hale & Keyser (1993f.), we assume that only (part of) the former can be syntactized and then constrained by syntactic well-known principles. In contrast, the complexity of conceptual content (i.e., Grimshaw's [2005] *semantic content*) is not constrained by syntax. See also Borer, 2005 for extensive discussion on the need to sharply distinguish the meaning conveyed by grammatical structures from the grammatically inert, conceptual content encapsulated in roots (in her terms, *listemes*).

and the constraint in (3). Consider, for example, the manner of death verb *guillotine* in (11a). Our claim is that the syntactic argument structure corresponding to its use as a causative predicate of change of state is the one depicted in (11b), where the root is *structurally* interpreted as Result: in (11b) the root is the complement of an abstract P element that expresses *Terminal Coincidence Relation* (in Hale & Keyser's [2002] sense: a TCR involves a coincidence between one edge or *terminus* of the theme's path and the place, while a central coincidence relation (CCR) involves a coincidence between the center of the theme and the center of the place). The phonological matrix of the root in (11b) is copied into the null P en route to the null verb via Incorporation.

(11) a. They guillotined Mary.

b. [_{VP} [_{DP} They]_i [_v $\sqrt{GUILLOTINE}$ [_{PP=SC} [_{DP} Mary] [_P P_{TCR} $\sqrt{GUILLOTINE}$]]]]]

That the predicate in (11a) is a change-of-state predicate and that it thus must receive an analysis along the lines of that in (11b) is born evidence to by the fact that it admits depictive secondary predication, as shown in (12). Following Rapoport's (1993, p. 179) proposal that only change of state verbs can have object-host depictives, Mateu (2002, pp. 16-18) claims that those telic verbs that coappear with these depictive predicates contain a TCR in their argument structure. In contrast, those atelic transitive verbs that involve a CCR cannot have object-host depictives (e.g., cf. **John pushed the horse_i tired_i*).⁴

(12) They guillotined the murderer_i barefooted_i.

⁴ See Hale & Keyser, 2002 and Mateu, 2002, for the claim that verbs like *push* involve a CCR. Cf. [_{VP} [_{DP} John]_i [_v \sqrt{PUSH} [_{PP} [_{DP} the horse] [_P P_{CCR} \sqrt{PUSH}]]]]] (cf. *John provided the horse **with** a push; John gave it a push*). But see Harley, 2005, for a different analysis of *push*-verbs.

We claim that the fact that the conceptual content of the root *guillotine* encodes manner/instrument is *not* structurally represented in (11b), although this fact could be said to have a linguistic effect: e.g., as is well-known (cf. Alexiadou 2010, Levin & Rappaport Hovav 1995, among many others), agentive change-of-state verbs do not enter into the causative alternation (see (13)). We claim that it is part of our world knowledge that one cannot become guillotined without the intervention of an agentive causer:

(13) #Mary guillotined. (# on the reading: “Mary became guillotined”.)

Similarly, in our neo-constructionist framework (see also Borer, 2005), the computational system allow us to generate the syntactic argument structures in (14a) and (14b), where the root is now structurally interpreted as Manner/Means since it is adjoined to v. As noted above, in these cases the root is argued to be compounded with the null verb via Conflation (see Haugen 2009; Mateu, 2005, 2008; McIntyre, 2004). Concerning (14b), our claim is that it is not syntactically but pragmatically ill-formed: its structural interpretation would be, roughly, “They created Mary guillotining/with a guillotine” (cf. example (8b) above and also (14c)):

- (14) a. . [_{VP} [_{DP} The guy][_{v'} [_v √*GUILLOTINE* v] [_{PP=SC} [_{DP} his way] [_{P'} P_{TCR} the list...]]]]⁵
 b. # [_{VP} [_{DP} They] [_{v'} [_v √*GUILLOTINE* v] [_{DP} Mary]]]
 (# on the reading: “They created Mary guillotining/with a guillotine”.)
 c. [_{VP} [_{DP} They] [_{v'} [_v √*SMILE* v] [_{DP} their thanks]]]

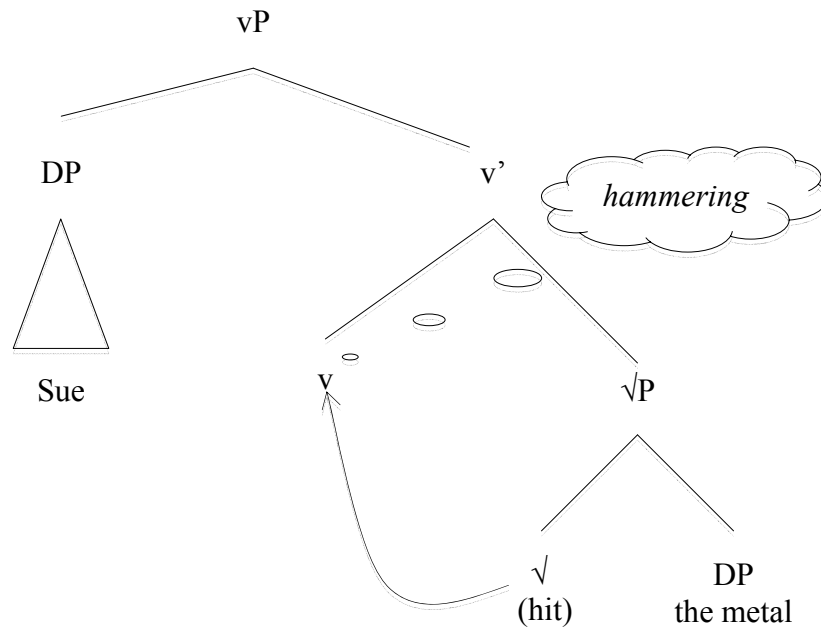
⁵ “It’s hard to believe that the same guy who drank, rocked, and *guillotined* his way onto the shit list of every right-thinking American parent 30 years ago [...]”. (<http://www.straight.com/article-162245/alice-cooper>).

The important point for us here is that manner of death verbs like the one exemplified in (11a) do obey the constraint in (3), since the root is only Incorporated (see (11b)) but not Conflated (see (14)). Notice then that the present theory predicts that a root cannot be interpreted as Manner and Result simultaneously, given that it cannot incorporate and conflate at the same time.

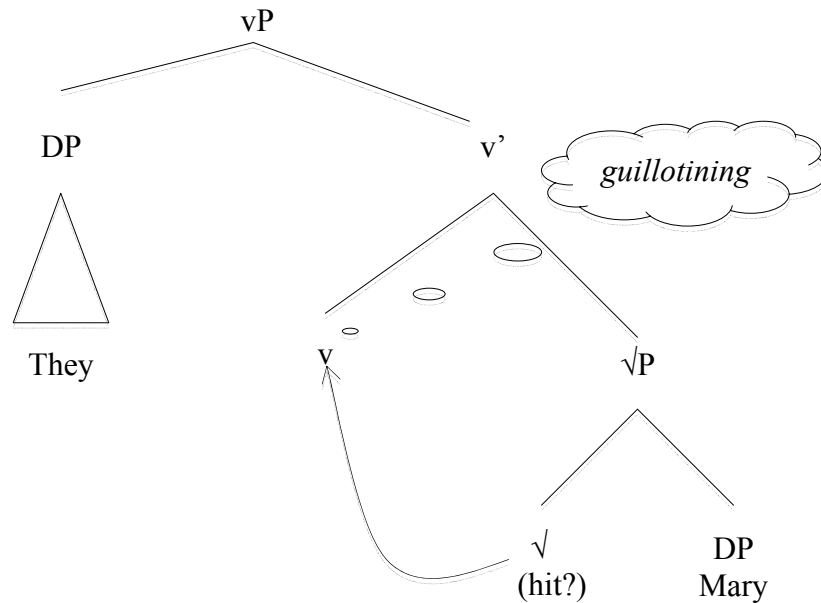
In the same vein, we do not follow Harley & Haugen's (2007) analysis of instrumental verbs, which, according to them, involve Conflation rather than Incorporation (in Haugen's [2009] terms). Thus, Harley & Haugen (2007, p. 10) claim that "English instrumental denominal verbs always involve roots conflating directly with *v*, indicating *manner* [...]". Haugen (2009, p. 254) also claims, for the same verbs, that "the nominals are directly merged (or conflated) as adverbials directly into *v*". The representation in (15), taken from Harley, 2005, p. 61, could be said to be applied to the instrument verb in (11a), as shown in (16):⁶

⁶ Harley's analysis in (15) raises a non-trivial theoretical problem: unlike Harley (2005) and Marantz (1997), Borer (2005) and Acedo-Matellán & Mateu (2010) argue that roots do *not* project (i.e., their non-relational nature prevents them from taking complements). Moreover, it is not clear to us which empirical evidence one could put forward in order to motivate a syntactic encoding of the root head '*hit*' besides the adjunct one encoded by \sqrt{HAMMER} in (15).

(15) Sue hammered the metal.



(16) They guillotined Mary.



As pointed out by Acedo-Matellán & Mateu (2010), there is no empirical evidence for the Conflation analysis of instrumental denominal verbs depicted in (16). In other words, much as the conceptual content of the root $\sqrt{GUILLOTINE}$ includes the instrument with which an action is carried out, and that, thus, it codifies a “manner”, this does not necessarily mean that

this root need be merged as adjunct to *v* through Conflation. On the contrary, as claimed by Acedo-Matellán & Mateu (2010), a predicate like that in (16) is perfectly amenable to an analysis where the root occupies the complement position of a small-clause-like projection and is thus interpreted as Result (see 11b). As for Conflation (i.e., Compounding of a root with a null light verb), there are compelling reasons to claim that it is only to be found in those constructions that involve Talmy's (1991, 2000) *Co-event pattern* (see below). Be this as it may, for the purposes of the present paper it is not relevant whether Harley & Haugen's (2007) analysis of instrument verbs as those in (15) and (16) (based on Conflation) is correct or it is ours (based on Incorporation). What is relevant here is that a root cannot incorporate *and* conflate at the same time, which explains the Manner/Result complementarity.

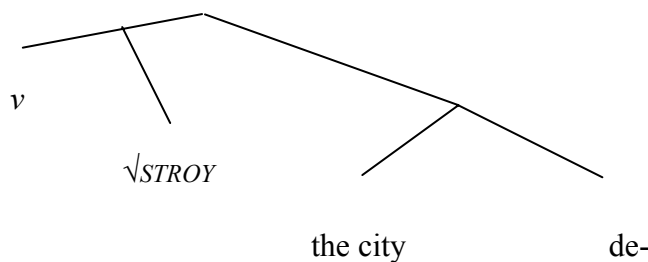
A final caveat is in order with respect to the Manner/Result complementarity. It is important to point out that such a complementarity only emerges in cases where a *monomorphemic* verb is involved: e.g., notice that (3) does not hold for resultative constructions like *John wiped the table clean*, where the verb only encodes Manner, the Result component being encoded by the adjective. Importantly, the word level is not relevant in establishing the complementarity (for a different view, see Rappaport Hovav & Levin, 2010, p. 26). For instance, in the *out-prefixation construction*, exemplified in (17), the prefix encodes Result and the verb expresses Manner (Talmy, 2000):

(17) John outswam/outdanced/outworked Mary.

Another relevant case could be the one discussed by Marantz (2001, p. 21, 2005, p. 12): according to him, the verb *destroy* and related Latinate verbs (e.g., *construct*, *instruct*, *restructure*, etc.) involve the bimorphemic analysis in (18): “√STROY is a manner root that

incorporates a particle, spelled out *de-*, that takes an ‘inner subject’ as the direct object of the syntactically derived verb *destroy*.” According to Marantz, the presence of the root in (18) would account for the ill-formedness of the anticausative variant of these verbs: e.g., #*The city destroyed* (see Alexiadou, 2010 for recent discussion):⁷

(18) John destroyed the city // *The city destroyed // *John destroyed.



(Ex. taken from Marantz, 2001, p. 21)

Here we will not review the advantages of Marantz’s (2001, 2003, 2005) syntactic analysis in (18) (see his works for more discussion). Rather we limit ourselves to pointing out that verbs like *destroy* and other similar examples (e.g., *instruct*, *construct*, etc.) should not be taken as counterexamples to the syntactic Manner/Result complementarity as we understand it here since, as noted above, the relevant constraint we are interested in is the one that prevents encoding Manner and Result in a single, monomorphemic verbal element.

Note, finally, that Marantz’s claim that \sqrt{STROY} encodes Manner in (18) is a very good example of what we pointed out above: i.e., “Manner”, in syntactically oriented works, does not necessarily correlate or coincide with the “manner” component found in more intuitive semanticocentric approaches.

⁷ Cf. Marantz, 2005, p. 14:

The obligatoriness of an agent is associated with roots that name agentive manners, i.e., are event modifiers of the activity little *v*. The obligatoriness of an object results from a predicative piece <e.g., *de-: XX*> that takes an inner subject of the lower event. So, verbs that take obligatory agents and also obligatory objects must have an agentive manner piece and a predicative piece.

We observe that Marantz’s analysis makes the following prediction: *John_{AG} guillotined* should be grammatical compared to **John_{AG} beheaded/decapitated*, which would necessarily involve a SC-complement headed by the prefix.

The verb *climb* and the Manner/Result Complementarity

In this section we use the verb *climb* (cf. Acedo-Matellán & Mateu, 2010; Fillmore, 1982; Jackendoff, 1985; Koontz-Garboden & Beavers, 2009, 2010; Levin & Rappaport Hovav, 2008; Mateu, 2002) to exemplify and elaborate on our syntactic account of the Manner/Result Complementarity. The verb *climb* has been said to be interesting in that it shows two different uses, a manner use and a result/directionality one: compare (19a) and (19b), respectively.

- (19) a. Joe climbed.
b. The prices climbed.

According to Levin & Rappaport Hovav (2008), when the basic manner meaning of *climb* is dropped out, e.g., when clambering is not involved, this verb can be said to lexicalize a directional or result sense. However, unlike them, we do not think that the polysemy shown in (19a) and (19b) must lead us to categorize the root of *climb* as involving a manner of motion sense in (19a) and a result/path one in (19b). Rather our claim is that the root \sqrt{CLIMB} can occupy the complement position of an unergative structure in (20a) or can occupy the SC-like predicate position of an unaccusative structure in (20b).

- (20) a. Unergative structure: $[_{VP} \text{ Joe } [_{V'} v \sqrt{CLIMB}]]$, \sqrt{CLIMB} as Incremental Theme
b. Unaccusative structure: $[_{VP} v [_{SC} [\text{the prices}] \sqrt{CLIMB}]]$, \sqrt{CLIMB} as Result

In addition, this root can appear as adjoined to *v*, as in in the unaccusative structure in (21b).

- (21) a. Joe climbed out of the tunnel.
 b. [_{VP} [_v √*CLIMB* v] [_{SC} Joe out of the tunnel]], √*CLIMB* as Manner

As emphasized above, it is then the syntactic argument structure that tells us how the root is structurally interpreted: so, for example, we claim that the root √*CLIMB* is interpreted as *Incremental Theme* in (20a), as *Result* in (20b), and as *Manner* in (21b). In our present syntactic approach, scrutinizing the grammatically relevant meaning of Manner of *climb* is not based on the conceptual presence of “clambering” in (19a) vs. its absence in (19b) but rather it is based on purely syntactic factors: we provide a structural definition of Manner as modifier of *v* (see 21b).

Intuitively speaking (e.g., assuming Jackendoff’s [1985] claim that “manner” is involved if and only if clambering is involved), one could say that both (19a) and (21a) involve a use of the root √*CLIMB* as “manner”. However, in our syntactic approach the qualification is to be made that Manner is only involved in (21a). In (19a) the root is rather structurally interpreted as *Incremental Theme*, as corresponds to the complement position of unergative verbs (see Harley [2005] for this claim). A proof that (19a) and (21a) involve different structures and that the root √*CLIMB* occupies different positions within them is auxiliary selection in languages like Dutch. In particular, while unergative predicates like (19a) select the *HAVE* auxiliary (see (22)), unaccusative predicates like (21a) select the *BE* auxiliary (see (23), involving the presence of an argumental PP which codifies the Result):

- (22) De avonturier heeft/*is geklommen (gedurende vele uren).
 the adventurer has/is climbed during many hours

- (23) De avonturier is naar de top geklommen.
 the adventurer is to the top climbed

Mateu (2002, p. 284)

Furthermore, as pointed out by Acedo-Matellán & Mateu (2010), we want to emphasize that the existence of cases like (24a), which do not involve the “manner” sense of clambering, does not question the existence of the *syntactic* process of so-called “Manner conflation”: i.e., as far as their syntax is concerned, examples like (24a) also involve this process, while examples like (24c) do not. Accordingly, we argue that both examples in (21a) and (24a), i.e., the agentive and the non-agentive ones, involve the very same conflation process of the root with a null unaccusative light verb: see (21b) and (24b).⁸

- (24) a. The train climbed out of the valley. [Ex. from Jackendoff 1985, ex. (14c)]
 b. [_{VP} [_V √*CLIMB* v] [_{SC} the train out of the valley]], √*CLIMB* as Manner
 c. The train went out of the valley.

Additionally, we can put forward a typological argument in favor of the fact that Manner is only involved in (21a) but not in (19a). As predicted by Mateu’s (2002) syntactic

⁸ Interestingly, Geuder & Weisgerber (2008) argue that the conceptual “manner” feature of *climb* cannot be simply described as “clambering”. Instead they argue for a conceptual meaning of *climb* which involves “force exertion against gravity”. This highly abstract definition of the conceptual content of √*CLIMB* allows to explain why instances of *climb* can be found where both clambering and upward movement are absent:

(i) Afterwards the snake climbed down the crack [...].

Apud Geuder & Weisgerber (2008)

These cases are precisely the ones problematic for Jackendoff’s (1985) account, based on a prototypicality hierarchy where only one meaning component (either clambering or upward movement) might drop out, but not both, as is the case in (i).

Importantly, we want to emphasize that Geuder & Weisgerber’s (2008) description, which seems an accurate one, should be restricted to the conceptual content of the root √*CLIMB*. So we can agree that “force exertion against gravity” is probably what conceptually distinguishes (24a) from (24c), but we think that mixing the structural/syntactic meaning of Manner with (or reducing it to) this conceptual description is dangerous since notice that this conceptual description (i.e., “force exertion against gravity”) applies to both (19a) and (21a). So we stick to our syntactic/structural definition of Manner as “adjunct to v”, which is involved in (21a) but not in (19a). As noted, in (20a) the root √*CLIMB* is interpreted as Incremental Theme as a result of occupying the complement position of an unergative structure.

reformulation of Talmy’s (2000) well-known typology of motion events, Romance languages are expected to have a direct counterpart for (19a) (see (25a)), but not for (21a) (see (25c), which is only acceptable on a locative reading). Manner conflation is then involved in (21a) but not in (19a).

- (25) a. En Joe escalà. [Catalan]
 det Joe climbed
- b. En Joe sortí del túnel escalant.
 det Joe exited of-the tunnel climbing
- c. *En Joe escalà fora del túnel. [* On the directional reading.]
 det Joe climbed out of-the tunnel

Finally, let us analyze the transitive use of the verb *climb* in (26a). Intuitively speaking, (26a) could be said to have the same meaning involved in (26b):

- (26) a. Joe climbed the mountain.
 b. Joe climbed to the top of the mountain.

Jackendoff (1990) makes one such proposal, claiming that the lexical entry of *climb* is the one in (27), by virtue of which *climb* is always characterized as involving a directional GO predicate. According to Jackendoff’s notation in (27) and (28), the Path-constituent in (27) abbreviates the two possibilities in (28): (28a) accounts for (26a) and (26b), while (28b) accounts for examples like (21a), (24a) or (19a) –in this last case the Path is said to be unspecified. Those apparently problematic cases involving *climbing down* (e.g., *Joe climbed down the tree*) would also be accounted for by the possibility in (28b):

$$(27) \left[\begin{array}{l} \text{climb} \\ \text{V} \\ \text{---} \langle \text{XP}_j \rangle \\ [\text{Event GO} ([\text{Thing }]_i, [\text{Path} \{ \text{TO} ([\text{Place TOP-OF} ([\text{Thing }]_j)]) \}]_{\{j\}})] \end{array} \right]$$

Jackendoff (1990, p. 76)

- (28) a. $[\text{Path TO} ([\text{Place TOP-OF} ([\text{Thing }]_j)])]$
 b. $[\text{Path }]_j$

Jackendoff (1990, p. 76)

Before refuting Jackendoff's claim that both (26a) and (26b) have the same structural meaning, we want to point out some other non-trivial problems for Jackendoff's Path analysis of *climb* in (27). For example, notice that Jackendoff's conceptual decomposition of the verb in (27) does not predict the important contrast between those resultative-like constructions with \sqrt{CLIMB} shown in (29), which in our syntactic framework involve Conflation of \sqrt{CLIMB} with a causative light verb (e.g., $[\text{VP Joe } [\text{V } [\text{v } \sqrt{CLIMB} \text{ v}]] [\text{SC } \textit{the afternoon away}]]$), and those clearly ill-formed resultative constructions in (30) where the verb does encode a path:

- (29) a. Joe climbed the afternoon away.
 b. Joe climbed his way to the top.
 c. Joe climbed his feet sore.
 d. Joe climbed his head off.

- (30) a. *Joe {entered/came/arrived} the afternoon away.
b. *Joe {entered/came/arrived} his feet sore.
c. *Joe {entered/came/arrived} his head off.

The relevant descriptive generalization seems to be that directional verbs do not enter into so-called “unselected object constructions” (Mateu, 2002).⁹ So Jackendoff’s lexical decomposition in (27) cannot be correct.¹⁰

Turning back to the pair (26a) and (26b), we claim, unlike Jackendoff, that the compositional semantics of the transitive (26a) and the unaccusative (26b) is not the same: they represent two very different syntactic construals, since (26b) is to be analyzed as involving an unaccusative construction like (21a) or (24a), while the transitive use in (26a) can be claimed to be provided with the same syntactic argument structure that can be posited for *route verbs* in examples like those ones in (31), adapted from Tenny 1994. These verbs involve Conflation of the root with an agentive light verb (see the parallel structures in (32), both of which involve a syntactic Manner conflation process):

- (31) “Route verbs” (Tenny, 1994, p. 17, 1995a, b)
- a. The adventurer swam the channel.
 - b. The adventurer surfed the wave.
 - c. The adventurer walked the trail.
 - d. The adventurer canoed the stream.

⁹ See also Rappaport Hovav & Levin, 1998, 2010 for the generalization that result verbs (including both directional and change-of-state verbs) cannot appear in unselected object constructions.

¹⁰ See Mateu, 2002 for some devastating consequences that follow from Jackendoff’s (1990, 2002) compositional analysis of roots, a fatal choice which in part forces him to argue for a complex syntax-semantics interface.

- (32) a. [_{VP} Joe [_v [_v √*SWIM* v] the channel]] (cf. 31a)
 b. [_{VP} Joe [_v [_v √*CLIMB* v] the mountain]] (cf. 26a)

The parallelism between the transitive use of *climb* in (26a) and those route verbs in (31) is empirically motivated by examples like those in (33) and (34): these data show that route verbs cannot be regarded as involving change. That is, route verbs in (31) do not involve the SCResult-like structure that is often associated to change-of-state verbs like *break*, which do pass the tests in (34):

- (33) a. *What the adventurer did to the channel was swim it.
 b. ??These deep channels swim easily.
 c. *What the adventurer did to the wave was surf it.
 d. ??These big waves surf easily.
 e. *What the adventurer did to the trail was walk it.
 f. ??These short trails walk easily.
 g. *What the adventurer did to the stream was canoe it.
 h. ??These deep streams canoe easily.

Mateu (2002, p. 298, ex. 39)

- (34) a. *What he did to the mountain was climb it. [Cf. *What he did to the window was break it/open it/ clear it.*]
 b. ??These mountains climb easily [Cf. *These windows break/open/clear easily.*]

Mateu (2002, p. 296, ex. 35)

Given this, we concur with Levin & Rappaport Hovav's (2008) conclusion that Manner, but not Result/Path, is encoded by the verb *climb* in its transitive use in (26a) (*contra* Goldberg, 2010; Jackendoff, 1985, 1990; Koontz-Garboden & Beavers, 2009). However, for our present purposes, it is important to point out that we reach the same conclusion from different considerations: while Levin & Rappaport Hovav (2008) bring pragmatic arguments to their point, as shown in (35), we offer a purely syntactic argument: i.e., Manner (and not Result) is involved in (26a) since the root \sqrt{CLIMB} is adjoined to *v*.¹¹

- (35) The direction of motion in transitive uses <e.g., 26a> is determined contextually from the combination of the manner, the nature of the reference object, and the intention of the agent.

Levin & Rappaport Hovav (2008, p. 11)

As shown in (32b), no SC-like complement is involved in the syntactic argument structure of (26a): interestingly, the Romance counterparts of (31) in (36) express the same basic syntactic unergative structure [DO *X*] in a more transparent way:

- | | | | | | | | | |
|------|----|----------------|------|-----|-----|------------|------------|-----------|
| (36) | a. | L'aventurer | va | fer | el | canal | nedant. | [Catalan] |
| | | the adventurer | PAST | do | the | channel | swimming | |
| | b. | L'aventurer | va | fer | el | recorregut | caminant. | |
| | | the adventurer | PAST | do | the | trail | walking | |
| | c. | ?L'aventurer | va | fer | el | riu | amb canoa. | |

¹¹ Levin & Rappaport Hovav (2008, p. 13) offer an interesting example where a very similar verb (*scale*) shows a downward transitive use with cliff:

A woman escaped with minor injuries after her car plunged over cliffs in East Sussex and landed on a ledge... The vehicle landed almost vertically on the ledge about 100ft down from the top of the cliff with the woman inside. A coastguard team scaled the cliff to reach the woman who was then winched to safety and taken to hospital. (http://news.bbc.co.uk/1/hi/england/southern_counties/3691952.stm)

the adventurer PAST do the river with canoe

Conclusions

Following the Hale&Keyserian program, the so-called *Manner/Result Complementarity* in (37) and the lexicalization constraint in (38) can be claimed to follow from how primitive elements of argument structure are composed in the syntax:

(37) *Manner/Result Complementarity*: Manner and result meaning components are in complementary distribution: a verb may lexicalize only ONE.

Levin & Rappaport Hovav (2008, p. 1, ex. (6))

(38) *The Lexicalization Constraint*: A root can only be associated with one primitive predicate in an event schema, as either an argument or a modifier.

Rappaport Hovav & Levin (2010, p. 25, ex. (12))

In our syntactic framework, the Manner/Result complementarity has to do with the fact that a single root cannot act both as a *v* modifier and as a SCR-like predicate at the same time. The constraint in (38) should not be regarded as an inescapable stipulation (as in Rappaport Hovav & Levin's [2010] lexical-semantic approach) but can be shown to be derived from the general *formal* fact that a root cannot be incorporated and conflated at the same time (in a single verb) –see Haugen, 2009. Importantly, an approach such as ours predicts that we should find complementarities other than the Manner/Result one. A case in point seems to be what we could call the *Manner/Incremental Theme complementarity*, already illustrated by the examples (19a) and (21a), repeated here as (39a) and (39b):

- (39) a. Joe climbed. [_{VP} Joe [_v v \sqrt{CLIMB}]], \sqrt{CLIMB} as Incremental Theme
 b. Joe climbed out of the tunnel. [_{VP} [_v \sqrt{CLIMB} v] [_{SC} Joe out of the tunnel]], \sqrt{CLIMB} as Manner

Observe that while the verb encodes an Incremental Theme in the predicate of (39a), as the result of the fact that the root \sqrt{CLIMB} is merged as complement to *v* and *incorporated* into it, it encodes Manner in the unaccusative predicate of (39b), since its root is *conflated* with *v*; *climb* cannot express both meanings simultaneously.

As pointed out to by Levin & Rappaport Hovav (2010, pp. 25-26), the constraint in (38) runs parallel to Kiparsky's (1997) lexicalization constraint of (40):

- (40) *The lexicalization constraint*: A verb can inherently express at most one semantic role (theme, instrument, direction, manner, path). (Kiparsky, 1997, p. 30)

In our Hale&Keyserian approach, no “lexicalization constraint” has to be established as such, but follows from the interaction of general syntactic and morphophonological principles involved in Conflation and Incorporation processes.¹²

On the other hand, what on an intuitive level seems to be intrinsic conceptual properties of the root (e.g., cf. Geuder & Weisgerber's [2008] conceptual description of the “manner”

¹² Kiparsky (1997, p. 490) states that the lexicalization constraint of (40) is derivable from a still deeper constraint, namely that of (i):

(i) Only the lowest (most deeply embedded) Th-role can be “incorporated”, i.e. expressed by the noun of a denominal verb.

Kiparsky, 1997, p. 484, ex. (15)

Apparently, (i) is closer than (40) to the syntactic approach advocated here –interestingly, Kiparsky claims, within the same passage, that (i) is “comparable to H&K's syntactic constraints on incorporation, or to Baker's ECP”.

component of *climb* as “force exertion against gravity”) must be distinguished from those semantic features of the syntactic structure. We assume then Marantz’s (2001) distinction in (41) between *semantic properties* and *semantic features*:

(41) Word (really, root) meanings don’t decompose; the semantic <i.e., *conceptual*: XX> **properties** of words (=roots) are different from the compositional/decompositional semantic **features** expressed through syntactic combination.

Marantz (2001, p. 8)

Given the crucial distinction between syntactically non-transparent conceptual content and syntactically transparent semantic construal (cf. Marantz, 2001; Mateu, 2002; Ramchand, 2008; i.a.), we claim that it is the syntactic argument structure that tells us how the root is structurally interpreted: so, for example, although the conceptual root \sqrt{CLIMB} can be claimed to involve “force exertion against gravity” in all cases, we argue that the root \sqrt{CLIMB} can be structurally interpreted in different ways depending on the syntactic position it occupies: e.g., as Incremental Theme in (20a), as Result in (20b) or as Manner in (21b).

Finally, the relevance of the *conceptual* root ontologies at the lexicon-syntax interface is cast doubt upon: i.e., the ontological status of the conceptual root is not what *predetermines* the linguistic derivation, as depicted in (42a) (e.g., cf. Rappaport Hovav & Levin’s [1998, 2010] “canonical realization rules”, which involve an ontological categorization of roots and their deterministic integration into non-syntactic event schemas). Rather we want to emphasize that it is the position the root occupies in the syntax what determines its *structural* interpretation (as Manner, Result, etc.). The picture we argue for is the one depicted in (42b) (cf. Borer 2005).

- (42) a. Conceptual interpretation of the root → Event/Argument structure → Syntax
b. Syntax → Event/Argument structure → Structural interpretation of the root

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