

0. Issues, Background, Introduction

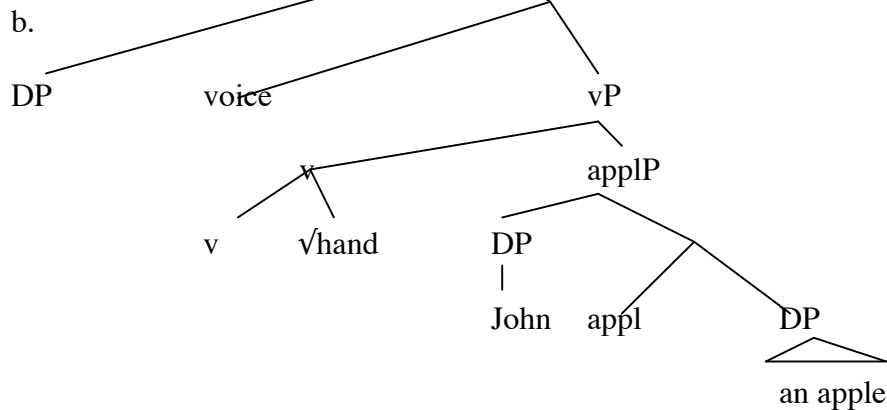
- (1) a. What's the connection among lexical items, syntactic structure and semantic interpretation within the VP (or vP or S)?
b. What's the syntactic and semantic contribution of the root/stem of a verb?
c. What accounts both for the apparent flexibility in verbal argument structure (the possibility for a single verbal root to appear in a variety of syntactic frames, with predictable meanings) and for apparent limitations in this flexibility?
- (2) Activity verbs appear in a wide range of syntactic "frames"
 - a. After the party, John had to sweep for hours.
 - b. While Mary cleaned the counters, Bill swept (at) the floor.
 - c. Broom flashing, Bill swept his way out the door.
 - d. Bill swept the room clean.
 - e. ??To provide a clean space for John to sleep, Bill swept him a room.
- (3) Limitations in flexibility I: Inchoative/transitive alternators don't show full paradigm of activity verbs
 - a. I cleaned the table.
 - b. I cleared the screen.
 - c. *The table cleaned quickly.
 - d. The screen quickly cleared.
 - e. They cleaned their way across the room
 - f. They cleaned their hearts out trying to win the custodial job.
 - c. *clear their way across the room
 - d. *cleared their hearts out [on activity reading parallel to 3f]
- (4) Limitations in flexibility II: Obligatorily transitive verbs don't show full paradigm of activity verbs (Kratzer's generalization, more or less)
 - a. John awaited the final decision.
 - b. *John awaited patiently.
 - c. *John awaited himself silly.
 - d. *John awaited his heart out.
- (5) General Approach: Distributed Morphology with Minimalist Program Syntax
 - a. All composition is syntactic (i.e., not "Lexical"), so word roots appear as independent syntactic nodes, along with the syntactic/morphological feature bundle of each affix/functional head (see also Borer 2005)
 - b. The phonological form of functional heads is inserted in the phonology, as part of the PF interface.

c. The syntax is the single generative engine: Semantic and Phonological interpretation interpret the heads and (“merged”) combinations from the syntax, cyclically, “phase” by “phase”; any additional structure added at either the PF or LF interfaces must be of the sort that is never syntactically represented.

(6) Over the last thirty years we’ve progress from:

a. “hand” (agent, theme, goal) (see, e.g., Williams 1981)

to (see Pytkänen (2002) for the low applicative structure):



(7) Kratzer and others have successfully severed the external argument from the verb, delegating the projection and interpretation of external arguments to functional heads in the syntax (e.g., to a voice head).

(8) With the external argument removed as a possible argument of the verbal root or stem, this leaves at most the object and perhaps one additional internal argument as candidates for “projection” via a verb’s argument structure. Here I will attempt to sever also the internal argument from the “verb,” i.e., from the verbal root.

I. Goals

(9) General project is that of Hale and Keyser – account for the relation among vP syntactic, morphological and semantic structure in a way that explains:

a. the flexibility in the relation between verbal stems and the variety of vP structures

b. the strict limitations in the structure of the vP and in its semantic interpretation

(10) Real aim: Get you to think of what look like plain direct objects as the most exotic entities within the verb phrase.

(11) A few specific goals for this talk:

a. explain the possibility of benefactive double object constructions with verbs like “open,” “wash,” and “fill,” in contrast to the difficulty of such constructions with certain obligatorily transitive verbs like “construct.”

b. explain “Kratzer’s Generalization” that resultative constructions are generally incompatible with obligatorily transitive verbs (or, rather, expand Kratzer’s explanation of her generalization to a general account of vP syntax)

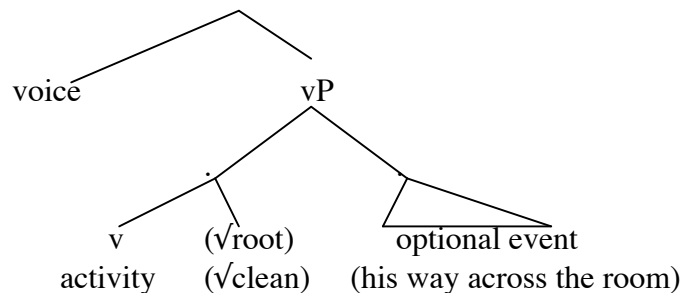
c. raise – and explicate – the possibility that (internal argument) DP direct objects are never directly interpreted as part of the same sub-event as a verbal root that merges directly with little v (in an intuitive sense, then, a DP direct object is never directly interpreted as any kind of “argument” of an activity verb)

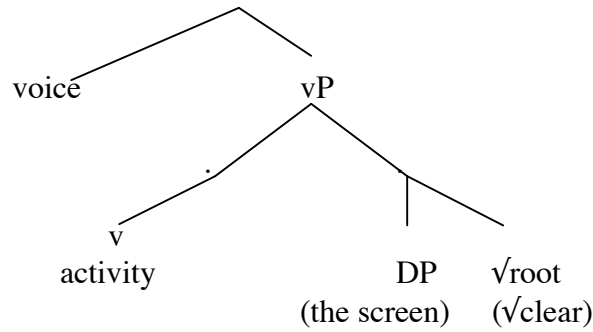
(12) For this talk, I’ll restrict my focus mainly to activity verbs and ignore sentential/clausal complements. I don’t think the picture complicates very much when we include verbs of motion, stative verbs, and clausal complements, but many details remain to be worked out.

(13) For activity predicates, the little v introduces an activity event. The verbal root may merge with this little v, in which case it is interpreted as an event modifier. Or, it may serve as the head of the complement to little v, in which case it is interpreted as a state or event, as part of a “small-clause.” [The root may also serve as an event modifier of the lower sub-event in the vP, as will be explained later.]

(14) The vP itself, then consists of the v (with or without the root merged to it) and, optionally, the complement to v, which is interpreted as an event. So the activity vP is either mono or bi-eventive.

(15) The structure of the activity vP:





(16) Flexibility restrictions, e.g., that “clean” can’t appear in inchoative (*The table cleaned) and can appear with resultatives (I cleaned my way across the room), seems less connected to argument structure of “clean” than to its identification as an activity predicate – little v – modifier.

So, “clean” is an event modifier and “clear” is the head of the embedded event [or an event modifier for this sub-event] – they belong to different sub-events in (15), and this is of course not obvious from the simple transitive use of the verbs or any simple intuition about what they mean.

II. Activity vP structures

(17) Embedded as a complement under an activity v

- a. a stative eventuality will be interpreted as a change of state
- b. an event complement to the activity little v will be interpreted as caused by the activity (more broadly, a little v eventuality will be interpreted in a causal relation with an eventuality in its complement)

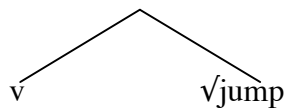
(18) So, no “cause,” “become” or “be” heads in the syntax (see also Ramchand 2003). Under the strong constraints of the theoretical framework [whatever meanings are represented via syntactic heads and relations must be so constructed and represented], these meanings should always arise structurally (e.g., “cause” is an interpretation arising from a sister relation between events), not via a syntactic head (so, for example, overt morphemes in some languages labeled “cause,” must not actually carry causative meaning directly; likely “cause” morphemes spell out activity little v’s).

Table I: Possible activity vPs

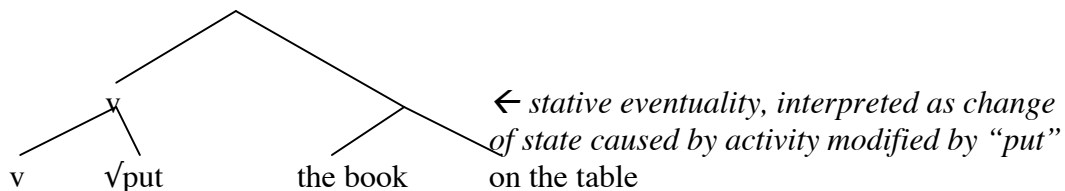
	first sub-event	embedded sub-event	
1. intransitive	activity little v	none	
2. “causative”	i. with merged root ii. except for 2b, when root is predicative head, or iii. 2a, 3, or 4 where root modifies lower sub-event)	a. small clause with predicative head as maximal projection (could be of any syntactic category)	b. small clause with root as predicative head
3. double object	root modifies lower sub-event)	relational structure (“low” applicative head)	
4. vPs of creation and objects as measures of the event		DP interpreted as a change of state event	

Example of the structures:

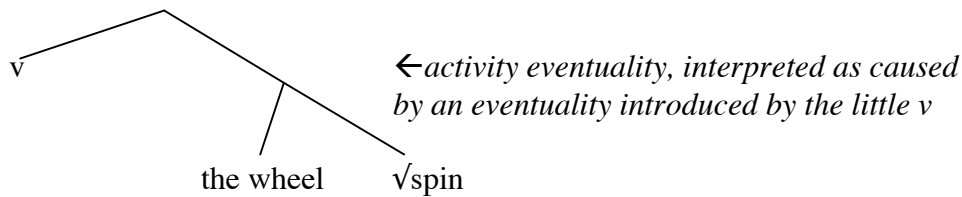
- 1 John hurried
 John jumped



2. a. send [the book to John]
 put [the book on the table]
 pound [the metal flat]
 shake [the machine to pieces]
 make [John the president of the association]

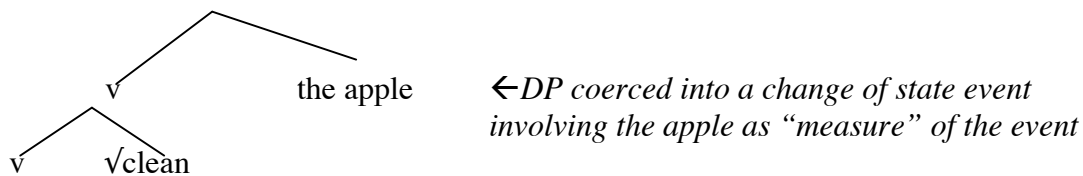


- b. spin the wheel (eventive root)
 flatten the pancake (-en realizes little v as activity head)
 clear the table
 open the door
 freeze the ice cream



3. send John the book
 hand Fred the sandwich
 deny him his rights
 load the wagon with hay
 fill the glass with water
 (see, e.g., Bruening on “with” constructions as double object constructions and Pylkkänen for the low applicative head)
 (for tree, see (6b) above)

4. bake a cake
 build a house
 clean the apple (cleaning causes change of state of apple consistent with cleaning event)



(19) Note: roots that don’t implicate agentive events can modify the lower sub-event in the vP. This allows for unaccusative vPs with the structure in 2a. or 3., i.e., when the root doesn’t name the lower predicate, as in 2.b

- a. close the door shut. [v [√close [the door shut]]]
- b. The door closed shut.
- c. fill the glass with water. [v [√fill [the glass [with water]]]]
- d. The glass filled with water.
- e. clear crumbs off the table.
- f. ???The crumbs cleared off the table.
- g. The haze cleared from my eyes. (Google)

(20) Note: the low applicative constructions with “with” in 3. will alternate with a simple direct object construction, with the goal as object, when the interpretation of the transfer of the theme is cumulative

- a. load the wagon with hay/load the wagon
- b. fill the glass with water/fill the glass
- c. present John with an award/*present John

(21) I avoid here the important question of the nature of the little *v* in unaccusative structures like (19b,d, g). As you all may be aware, some in the literature treat these structures as causatives, in which case the little *v* would introduce a (non-agentive) eventuality that would be interpreted as causing the change of state event constructed in the complement. Alternatively, the little *v* could announce an event that would be identified (via event identification) with the change of state event constructed in the complement. The interpretation of a syntactic “small clause” as a change of state event would be, in either case, triggered by the syntactic position of the small clause as complement to little *v*.

III. Plain vanilla direct objects?

(22) What about “plain” direct objects? Are these ever arguments of the root?

- a. Patients
 - sweep the floor (At the moment Mary arrived, John was sweeping the floor)
 - kick the wall
 - touch the table
- b. Patients of change of state that “measure” the event
 - paint the house
 - clean the floor
- c. Objects of creation
 - bake a cake
 - build a house
 - carve a sculpture

(23) a. Syntactic question: do any heads mediate the relation between the object and the little *v* and root?

b. Semantic question: how does the meaning of the direct object get integrated into the meaning of the event?

(24) Levin on object positions:

- a. [*x* ACT_{<MANNER>}] activity
- b. [*x* <STATE>] state
- c. [BECOME [*x* <STATE>]] achievement (in Dowty’s sense)
- d. [[*x* ACT_{<MANNER>}] CAUSE [BECOME [*y* <STATE>]]] accomplishment

(25) Within these structures, there is no place for any objects except those that undergo a change of state (unaccusative objects in (24c), transitive objects in (24d)). That is, canonical direct objects are inner subjects of predication. “Patients” in the classic sense are excluded.

(26) Levin's representation of patient arguments

a. Leslie swept the floor.

b. [x ACT_{<SWEEP>} y]

There's no indication at all here how the object is interpreted with respect to event structure.

(27) (Reminder) Two methodological guidelines that derive directly from the theoretical framework:

a. Syntactic heads are phonologically realized, if not in one language than in some language (unless there's a universal principle preventing such realization, e.g., for PRO or traces, if that's the right story). That is, each head in a syntactic structure and each relation between constituents is interpreted both in the phonology and in the semantics.

b. A meaning that is not represented in the syntax for one construction in one language is never represented in the syntax for any construction in any language.

(28) So, if we decide for English to add, say, a null preposition before the object in "sweep the floor," we'd be doing it because the interpretation of "sweep the floor" involves the interpretation of an overt adposition in some language, and even in English the interpretation should parallel the interpretation of a prepositional structure.

(29) Proposal: The complement to an activity little v is always interpreted as an event. Therefore, there are two possibilities for a "plain" direct object of an activity verb:

a. The DP is interpreted as an event. Here the main cases involve (26b,c), involving either change of state or creation readings of the DP as lower event.

b. The DP is not in fact a complement to the little v but is related to the vP by a null relational head that makes it an external argument of the activity predicate; i.e., it is not a complement to the little v but an "adjunct" in the technical sense.

(30) Remember, for (29b):

a. The bed was slept in.

b. The toy was played with.

External arguments can be direct objects as evidenced, e.g., by passivization.

c. The TV audience was shown each new show on its day of creation.

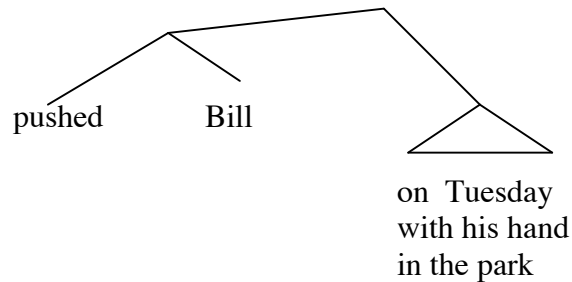
d. The TV audience was shown each new show by its creator.

Apparent adjuncts appear structurally low within the VP via cascade magic (Pesetsky 1995)

(31) Cascades and external arguments: So-called “adjunct” phrases relate DPs to the event constructed within the vP in a manner similar to that by which Kratzer’s voice head relates the external argument to the vP.

a. John [voice [[pushed Bill] on Tuesday]]

b.



c. Bill was [[pushed] by John]

(32) The behavior of agentive *by*-phrases and other “adjuncts” show the same behavior: “outer” PPs behave as if they were lower within the VP than anything to their left = Cascade magic for adjuncts (Pesetsky, Phillips)

a. The pictures were shown to the boys by each other’s mothers.

b. John covered each pot with its lid.

c. John met the boys on each other’s birthdays.

(33) Incremental object interpretations and creation interpretations involve interpreting the DP as an event as in cases previously understood as involving “coercion,” such as, “start the book”:

a. bake a cake, baking activity causes, perhaps, change from ingredients to cake (I believe some semanticists have suggested that the change of state is from non-being to existing)

b. paint the wall, painting activity causes the wall to go from unpainted to painted

(34) A small argument in favor of this approach: re- prefixation

re- targets (preferentially) the inner event:

a. re-open the door (first reading, the door closed/was closed, and I caused it to be open again, not I opened it before and opened it again) (agnostic about how the door got open the first time, before it got shut)

b. re-freeze the ice-cream (I got it from the store frozen, it melted, and I caused it to be frozen again) (agnostic about how the ice-cream got frozen first)

(35) Compare “again,” which seems to prefer a “high” reading, modifying the whole vP, although it allows the low reading:

a. I opened the door, then opened it again.

b. I froze the ice-cream again.

(36) a. “I used the carrot cake recipe which includes instant vanilla pudding. I have just realized that I used “Cook and Serve” vanilla pudding by mistake. This cake is for a groom’s cake this weekend. Do I need to rebake the cake or will it really make any difference?” (Although here the agent of the activity is the same in both the baking and the re-baking (“I”), the meaning of re-bake is compatible with different agents – the crucial sentence could be, “Do I need to ask someone to rebake the cake [i.e., cause “the cake” – another token of the same type – to come into existence via baking]...?”)

b. “I want to suggest, though, that one lens through which we can reasonably view Al Quie’s approach to education these past eighty years is that of a person trying to apply the doctrine of subsidiarity to that multi-tiered marble cake. Putting it differently, Al has patiently and assiduously tried to re-bake the cake with neater layers and less marbling.” (wants to cause the cake to come into existence again, only better)

d. re-build the 18th century cathedral

e. re-create the current situation

(37) The main argument: “benefactive” double object constructions

a. The interpretation of benefactive double object constructions (paraphrased with “for” – I baked John a cake/I baked a cake for John) differs from that of the “give” variety. In particular, the sub-event for the benefactive d-o construction associated with the lower object is independent of whether or not someone gets the result of the lower object (that is, there is a lower sub-event that’s not the actual or potential transfer of possession). In the “give” type double-object construction, the lower event is precisely the transfer of possession.

b. If John bakes Mary a cake, he bakes a cake.

c. The interpretation resembles that for “high applicatives” in many languages, which Pylkkänen (2002) argues to be entities related to events, rather than entities related to other entities.

d. So, how could what syntactically is a low applicative, i.e., a relation between DPs within the vP, be interpreted as a high applicative?

e. If the lower DP is interpreted as an event of the right sort, and the higher DP is interpreted on par with high applicatives in other languages.

(38) Prediction: benefactive double object constructions should be possible with all constructions in which the DP object is interpreted as an event (of creation, or incremental change of state), if the event can be interpreted as resulting in something for someone.

a. clean me an apple

b. open me a beer (*open me a door)

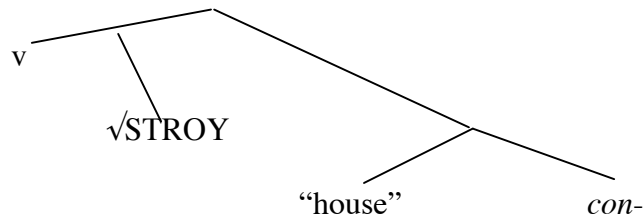
c. build me a house

(39) Prediction: But this isn’t just another way of saying that verbs of creation allow the benefactive double object constructions: verbs paraphraseable as verbs of creation won’t be able to appear in the benefactive double object construction if they don’t have a DP interpreted as an event, i.e., if they involve the structure in 2b. in Table I. So verbs that include a piece (could be the root or an affix) that names the state in the lower

eventuality for a description of creation won't allow the benefactive double object construction.

- a. build John a house
- b. *construct John a house
- c. clean John an apple
- d. *clear John a screen

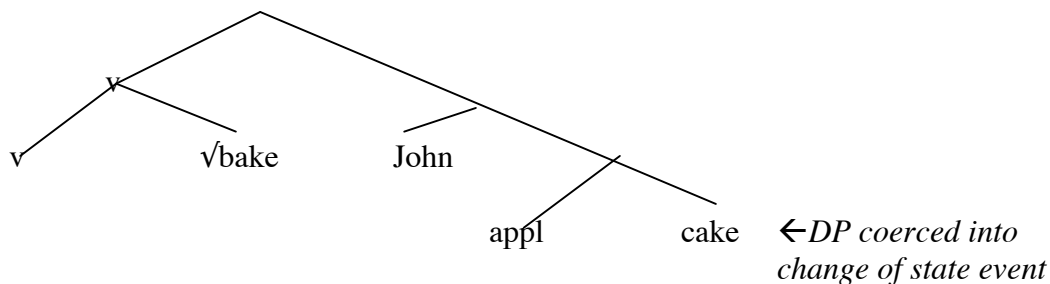
(40) $\sqrt{\text{STORY/STRUCT}}$ is a manner root that incorporates a particle, spelled out *con-*, that takes an “inner subject” as the direct object of the syntactically derived verb “construct.”



(41) So, other verbs containing the same root should be agentive/causative:

- a. construct John’s construction of the building
- b. instruct John’s instruction of the children
- c. obstruct John’s obstruction of justice
- d. restructure

(42) Note the restriction of benefactive double object constructions to bare direct objects interpreted as events is, apparently, a syntactic one. The lower event in (40) should be capable of hosting a “low-high” applicative **semantically**. Syntactically, the applicative head relates two DPs.

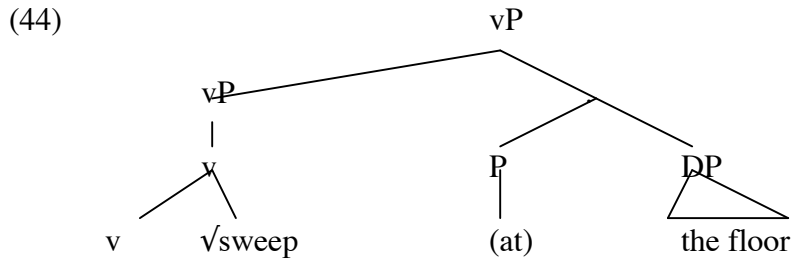


(43) Objects as external argument

a. If a null head related a DP to an activity event as an external argument, the vP would be mono-eventive

b. sweep (at) the floor = there is a sweeping event (the root “sweep” modifies the activity event head little v) and (here’s the semantics of the null P-like head) there is an event such that “the floor” is a patient of that event and that event is the same as the event that I, as a relational head (e.g., null P) is taking as my other syntactic argument

c. somewhat against the terminology here, external arguments are internal to the event with which they are associated, in the sense that they don't involve an extra event



(45) As suggested above, the presence of a prepositional head doesn't prevent the object from behaving like an object

- a. The wall was kicked at repeatedly.
- b. The floor was often spat on.

(46) Prediction:

Since these “external” direct objects stand outside the event constructed with the verbal root, they should not contribute to “special meanings” of the sort that argue for the distinction between agents as external arguments and some direct objects as internal arguments

- a. take a leak – “take” is aspectual (punctual), “leak” is eventive
- b. take a break
- c. kill the bottle – bottle is eventive (measures the event as the bottle empties)
- d. kill the lights

(47) Prediction:

re-prefixation will be odd with external direct objects, since re- looks for an internal event:

- a. ??re-kick the wall (cf. kick the wall again)
- b. re-sweep the floor (reading involves “floor” in an eventive interpretation, so re-sweep the floor means clean it again via sweeping rather than sweeping at it again)

(48) Prediction:

in root nominalizations, an external direct object won't necessarily be available as an “argument” of the nominal

- a. ??a sweep of the floor
- b. ???a sweep on the floor
- c. a sweep of the room = a sweep through the room, where “sweep” is a manner of motion

(49) I would not consider the evidence for the external argument approach to patient objects conclusive or persuasive; however, I can't think of any attractive alternatives, and this one is better than plausible.

IV. Where restrictiveness clearly is the right option

(50) Note that following Kratzer and a long line of other linguists, we're treating resultative constructions in which the direct object looks like it might have gotten its semantic role from the verb on par with resultative constructions in which the direct object can't have gotten its semantic role from the verb. That is, all bi-eventive causatives integrate the object into the semantic interpretation of the sentence via the lower predication. Since no object ever gets its semantic role from a verbal stem, even in bare transitive constructions, this isn't so surprising within the general framework.

- a. paint the wall red, paint the wall
- b. drink the teapot dry, *drink the teapot
- c. put the book on the table, *put the book

(51) As Kratzer emphasizes, resultative constructions are built on essentially intransitive activity verbs (there's a glitch about unaccusative resultatives, "the river froze solid," that we'll leave aside here). Crucially, then, and counter-intuitively, if a verb actually requires an object in a plain transitive VP, it will NOT be able to appear in the resultative construction.

- a. Requiring an object means necessarily occurring in one of the bi-eventive constructions illustrated in Table I or selecting the null preposition for an external direct object
- b. If a verb requires a construction in Table I for the direct object, it fills the lower event position for a causative interpretation, leaving no room for a resultative construction
- c. If the verb requires the null preposition and an external direct object, this direct object couldn't participate in the resultative construction, which requires a direct object as subject of the small clause predication. So for these verbs, the question would NOT be why we don't get, "*I awaited myself tired," but rather, why we don't get, "*I awaited myself tired John."

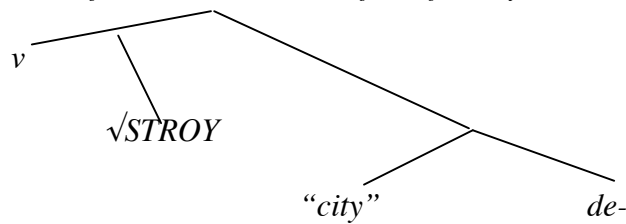
- (52)
- a. build the house tall.
 - b. *construct the house tall (see the tree in (40))
 - c. *John cleared for hours.
 - d. *John cleared the screen clean.
 - [e. John cleared the screen off. aspectual particles can modify the lower, caused, event within the vP]

(53) *Causative verbs with truly obligatory objects and obligatory agents must be bi-morphemic:*

- a. John destroyed the project.
- b. *The project destroyed.
- c. John's destruction of the project
- d. ??John's destruction (J. as agent)

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 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.

(54) $\sqrt{\text{STROY}}$ 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."



(55) *Other verbs with prefix *de-* should have lower change of state events with an inner subject = underlying object:*

- a. descend (unaccusative)
- b. demote
- c. decline (unaccusative)
- d. detain

*And the badness of (50b) follows from Kratzer's generalization, given the obligatoriness of the object associated with the *con-* prefix.*

(56) Kratzer: incompatibility of obligatory objects and resultative constructions

- a. Er hat gekocht.
He has cooked
- b. Er hat seine Familie magenkrank gekocht.
He has his family stomach sick cooked
'He cooked his family's stomach sick.'
- c. Er hat *(seine Familie) bekocht.
He has his family (acc) cooked-for
'He cooked for his family.'
- d. *Er hat seine Familie magenkrank bekocht.
He has his family stomach sick cooked-for

- e. Sie hat gequasselt.
She has babbled
'She was babbling away.'
- f. Sie hat uns tot gequasselt.
She has us dead babbled
'She babbled us dead.'
- g. Sie hat *(uns) bequasselt
She has us (acc.) babbled-at
'She was babbling at us.'
- h. *Sie hat uns tot bequasselt.
She has us dead babbled-at

(57) Note that the obligatory objects in (55c) and (55g) are associated with the prefix *be-* and most probably involve the type of external argument direct object we see in English in, e.g., "The tired parents have been babbled at all week by their infant twins."

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