

# Manner vs. Result Complementarity in Verbal Alternations: A View from the Clear-Alternation<sup>1</sup>

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## 1. Introduction

In the recent literature, two ideas have been argued to be useful in understanding verbal object alternations (see Rappaport Hovav and Levin (RH&L) 1998; Levin & Rappaport Hovav (L&RH) 2010, Levin 2006; 2011 and related work):

- i) the idea that verbs lexicalize either manner or result, and
- ii) the idea that verbs alternate when they lexicalize manner and they don't alternate when they lexicalize result.

In this paper, we present evidence on the basis of the morphological composition of verbs of detachment in Greek in support of this proposal. We then offer a morphological decomposition that makes use of the tools of Distributed Morphology, according to which verbs consist of category-neutral, idiosyncratic roots which are merged with categorizing heads (Marantz 2001; Arad 2003) either as their complements or as modifiers (Embick 2004; Harley 2005).

## 2. Locative Alternations in English

In English, locative verbs of *placing* (spray, load) and *detaching* (clear) alternate between two frames (1), illustrated in (2), see Levin (1993):

- |     |    |  |                                 |
|-----|----|--|---------------------------------|
| (1) | a. | Frame A: DP <sub>Agent</sub> V DP <sub>Stuff</sub> PP <sub>Loc</sub> | <i>change of location (COL)</i> |
|     | b. | Frame B: DP <sub>Agent</sub> V DP <sub>Loc</sub> PP <sub>Stuff</sub> | <i>change of state (COS)</i>    |

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<sup>1</sup> This work would never have been possible without the undergraduate students at the University of Crete Konstantina Mavropoulou, Christina Moschou and Maria Tsikala. They collected and investigated in detail the alternating vs. non alternating behavior of Greek verbs of placement and detachment for a term paper in the seminar on Greek Morpho-syntax, Fall 2010-2011 (paper presented at the Annual Meeting at the Department of Linguistics, University of Thessaloniki, May 2011; cited here as MMTA 2011). Alexiadou's research was supported by a DFG grant to the project B6 *Underspecification in Voice systems and the syntax-morphology interface* part of the Collaborative Research Center 732, *Incremental Specification in Context*, at the Universität Stuttgart.

- (2) a. Lucy sprayed the paint **on** the wall  
 b. Lucy sprayed the wall **with** paint  
 c. Henry cleared dishes **from** the table  
 d. Henry cleared the table **of** dishes

Many locative verbs do not allow the alternation, and choose either only Frame A (COL), e.g., *remove* and *steal* verbs or Frame B (COS), e.g., *cheat* verbs (Levin 1993). Examples are offered in (3) and (4):

- (3) a. The thief stole the painting from the museum  
 b. \*The thief stole the museum of the painting
- (4) a. \*The doctor cured pneumonia from Pat  
 b. The doctor cured Pat of pneumonia

*Wipe* verbs fall into two subclasses: a) the means subclass: distill, erase, flush, polish, rinse, purge, rub, soak, squeeze, wipe, etc. and b) the instrument subclass: brush, comb, filter, iron, sponge, shovel, vacuum, etc. As pointed out by Levin (1993: 53), they could be considered as semantic inverses of the *spray-load* verbs and, as such, they are expected to show the locative alternation. However, in English they don't. They show the alternation in (5), i.e. they do not permit the *of*-phrase:

- (5) a. Helen wiped the fingerprints off the wall  
 b. Helen wiped the wall (\*of fingerprints)

Finally, the *clear* alternation is very limited in English. According to L & RH (1991); Levin (1993), only 4 verbs of detaching show the locative alternation, namely clear, clean, drain and empty:<sup>2</sup>

The question that arises is what makes alternating verbs compatible with both Frame A (COL) and Frame B (COS), and non-alternating ones compatible either with Frame A (COL) or with Frame B (COS)?

An answer that has been given for verbal alternations in general is that object alternations are found with **manner** and not **result** verbs (manner and result, respectively, are entailed by the verbs in all contexts RH&L 1998; Levin 2006; Levin 2011). Result verbs allow no unspecified and non-subcategorized objects, while manner verbs do (8-9):

- (6) \*Kelly broke/dimmed/filled/covered/obtained/inserted
- (7) a. \*My kids broke me into the poorhouse  
 b. \*The puppy broke his way out of the china shop
- (8) Shelly swept/scratched/hit/carved/sewed/knit
- (9) a. Cinderella swept and scrubbed her way to a new ball gown  
 b. Cinderella swept and scrubbed herself into catatonia

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<sup>2</sup> But this is not generally agreed upon. Levin (1993: 53) acknowledges that "...*certain wipe verbs can sometimes show this alternation...*".

According to RH&L 1998; Levin 2006, manner verbs have a simple event structure (10), while result verbs have a complex event structure (13).<sup>3</sup>

- (10) means/manner → [x ACT <sub><MANNER></sub>]  
(e.g. jog, run, creak, wistle.....)
- (11) thing/stuff → [x CAUSE [BECOME [y WITH <sub><THING/ STUFF></sub>]]]  
(e.g. butter, oil, paper, tile, wax,.....)
- (12) place → [x CAUSE [ BECOME [y <sub><PLACE></sub>]]]  
(e.g. bag, box, cage, crate, garage, pocket,.....)
- (13) result (i.e. externally caused) state →  
[ [x ACT] CAUSE [BECOME [ y <sub><RES-STATE></sub> ] ]]  
(e.g. break, dry, melt, open, split,.....)

Importantly, “template augmentation” allows a verb with a simple event structure to be found with a complex event structure (Levin 2006: 25). As a result, manner verbs can enter verbal alternations:

- (14) Kelly wiped the table  
[x ACT <sub><WIPE></sub> y]
- (15) Kelly wiped the crumbs off the table  
[ [x ACT <sub><WIPE></sub> y] CAUSE [BECOME [z NOT AT <sub><PLACE></sub>]]]

L&RH 2006, 2010; RH & L 2008 thus formulated the hypothesis in (16), which follows from the proposal that a verb root can only be associated with a single position in an event schema (17):

- (16) *Manner/ Result Complementarity*  
Manner and result meaning components are in complementary distribution: a verb lexicalizes only one.<sup>4</sup>
- (17) *The lexicalization constraint*  
A root can only be associated with one primitive predicate in an event schema, as either an argument or a modifier (RH & Levin 2008: 5)

### 3. Locative Alternations in Greek

MMTA (2011) study the behavior of verbs of placing and detaching in Greek (basing themselves on Levin 1993 for English).

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<sup>3</sup>Event structure templates capture the verb’s basic type. The “root” “represents the components of meaning lexicalized by a particular verb in all contexts it is used in.” Lexicalized components of meaning means, entailed in all uses of a single verb (Rappaport Hovav & Levin 2008: 2; Levin & Rappaport Hovav 2010: 1). The root of a verb determines the basic event structure template for that verb on the basis of its ontological type.

<sup>4</sup>This idea is debated. See e.g. Koontz Garboden & Beavers (2011) for a different view.

### 3.1. The Spray–Load Alternation

Greek has the **spray – load** alternation, as shown in (18):

- |      |    |                                   |               |                |                 |
|------|----|-----------------------------------|---------------|----------------|-----------------|
| (18) | a. | Fortosa                           | ta vivlia     | s-to amaksi    | <i>Frame A</i>  |
|      |    | Loaded-Isg                        | the books-ACC | to-the car     |                 |
|      |    | 'I loaded the books on the car'   |               |                |                 |
|      | b. | Fortosa                           | to amaksi     | me ta vivlia   | <i>Frame B</i>  |
|      |    | Loaded-I                          | the car-ACC   | with the books |                 |
|      |    | 'I loaded the car with the books' |               |                |                 |
|      | c. | Fortosa                           | to amaksi     | vivlia         | <i>Frame B'</i> |
|      |    | Loaded-I                          | the car-ACC   | books          |                 |
|      |    | 'I loaded the car with the books' |               |                |                 |

MMTA (2011) observe the following on English-Greek translation equivalents: i) many translations of English alternating verbs are non-alternating in Greek. Mostly they qualify as Frame A (COL) verbs, i.e. they behave like “put”, e.g. *xono* ‘cram’, *strimoxno* ‘crowd, jam’, *sfinono* ‘jam’, *piezo* ‘jam’ (and many others expressing placement with pressure/ force), *kremao* ‘hang’ and others. ii) Greek *put* verbs and verbs of putting in a spatial configuration generally behave like English: they only appear in Frame A. iii) Many translation equivalents of *fill* verbs (in English Frame B/COS) are alternating in Greek. One systematic subclass seems to consist of Greek ‘decorating’-verbs, e.g. *stolizo* ‘decorate/ garnish/adorn’, *kosmo* ‘decorate/ garnish/adorn’, *diakosmo* ‘decorate/ garnish/adorn’, *kentao* ‘embroider’, *garniro* ‘garnish’. iv) Some *funnel* verbs (expressing manner/ instrument) verbs (and some verbs of putting in a specified direction expressing ‘continuous imparting of force’ Pinker 1989; Pesetsky 1995) are incompatible with frame A/COL (and frame B/COS). In English, they are listed as frame A/COL only. This is illustrated in (19) to (21):

- |      |   |          |          |                 |              |
|------|---|----------|----------|-----------------|--------------|
| (19) | *O Jannis   | ftiarise | to xioni | ston dromo      |              |
|      | The Jannis  | shoveled | the snow | to-the street   |              |
|      | 'John shoveled the snow into the street'                      |          |          |                 |              |
| (20) | *H Maria  | sikose   | to kuti  | stin platforma  |              |
|      | The Maria   | lifted   | the box  | to-the platform |              |
|      | 'Mary lifted the box on the platform/ onto the platform'      |          |          |                 |              |
| (21) | *I Maria  | xamilose | apala    | tin sela        | sto alogo    |
|      | The Maria   | lowered  | gently   | the saddle      | to the horse |
|      | 'Mary gently lowered the saddle on the horse/ onto the horse' |          |          |                 |              |

The reason for this is that the preposition “se” is not directional (see also Anagnostopoulou 2003; 2005:).

### 3.2. The Clear-Alternation

Greek has the **clear**-alternation with verbs of detachment:

- |      |    |   |           |             |                       |
|------|----|---|-----------|-------------|-----------------------|
| (22) | a. | O Petros                                  | katharise | ta psixoula | <b>apo</b> to trapezi |
|      |    | The Peter                                 | cleaned   | the crumbs  | from the table        |
|      |    | 'Peter cleared the crumbs from the table' |           |             |                       |

- b. O Petros katharise to trapezi **apo** ta psixula  
 The Peter cleaned the table from the crumbs  
 ‘Peter cleared the table of crumbs’

In both Frame A/COL and Frame B/COS the same preposition *apo* is used, corresponding to *from* in Frame A/COL (*apo-Loc*) and to *of* in Frame B/COS (*apo-Stuff*). Greek patterns with Hebrew in this respect (Segal & Landau 2009):

- (23) a. Dan nika perurim **me**-ha-šulxan  
 Dan cleaned crumbs from-the-table  
 ‘Dan cleaned crumbs from the table’  
 b. Dan nika et ha-šulxan **me**-perurim  
 Dan cleaned ACC the table from crumbs  
 ‘Dan cleaned the table of crumbs’

Some initial observations to be made are:<sup>5</sup> First, in Greek, the *clear*-alternation is more productive than the *spray-load* alternation. Second, *wipe-verbs* show the alternation (like Hebrew). Finally, some *steal/cheat-verbs* show the alternation as well (unlike English and Hebrew). At least in part, this is due to the preposition ‘*apo*’ which is unambiguously directional when used as a locative preposition, unlike ‘*se*’ which is unspecified. This enables ‘*apo*’ to combine with verbs expressing manner (means/instrument), yielding Frame A/COL more easily than ‘*se*’:

- (24) a. O Jannis skoup-is-e ta psmena fila apo to patoma  
 The Jannis swept the fallen leaves from the floor  
 b. ?\*O Jannis skupise ta psmena filia ston dromo  
 The Jannis swept the fallen leaves up to the street  
 (24b is out on the relevant directional reading)

#### 4. The Clear-Alternation and Semantic Decomposition

To explain the above facts, we can formulate the following hypothesis for verbs of detaching<sup>6</sup>

- (25) a. Alternating verbs lexicalize manner  
 (and hence do not entail COS, COL)

<sup>5</sup> A note on English-Greek translation equivalents is in order. It is often not clear how to classify a verb, i.e. whether to call it ‘remove verb’, ‘clear verb’, ‘wipe verb’, ‘steal verb’ or ‘cheat verb’. There is a need to search for independent criteria. We propose some in section 3, based on the manner-result complementarity idea.

<sup>6</sup> Cf. the proposal by Segal & Landau (2009). Based on Hebrew, where *wipe-verbs* productively enter the clear-alternation, Segal & Landau (2009) argue that verbs of detachment in Hebrew alternate or not, depending on whether they encode COS/COL in their meaning:

- (i) *Lexicalized meaning in verbs of detaching* (Segal & Landau 2009: 20)  
 a. Alternating verbs encode neither COS nor COL  
 b. Non-alternating verbs encode COL.

In clause (b) the possibility of a non-alternating verb encoding COS is missing because Segal & Landau have found almost no such verb in Hebrew (cheat-verbs are argued to qualify as Frame-A verbs in Hebrew). In Greek, however, such verbs exist, as we saw. MMTA (2011) argue that Segal & Landau’s (2009) generalization covers Greek as well. Note that (25) is stronger than (i). Steal/cheat-verbs deserve more discussion (they fall under (i) but not under (25)); we will come back to those.

- b. Non-alternating verbs lexicalize result: Frame A verbs COL and Frame B verbs COS

The semantic templates that underlie the two frames are given in (26):

- (26) a. COL: [X CAUSE [Y BECOME [AWAY FROM Z]]]  
 b. COS: [X CAUSE [Z BECOME [WITHOUT Y]]]

In (25) *lexicalize* is understood as “entailed in any use of the verb”. Absence of COS and COL entailments is tested on verbs allowing for a single complement and it is shown that COS and COL are not entailed with alternating verbs, while they are entailed with non-alternating ones (Segal & Landau 2009 for details).

*Alternating verb with V DP-Stuff (No COL entailed)*

- (27) a. Kseplina tin laspi (alla den efige apo tis skales)  
 Washed-I the mud-ACC (but not left-it from the stairs)  
 ‘I washed the mud (but it stayed on the stairs)’

*Alternating verb with V DP-Loc (No COS entailed)*

- b. Kseplina tis skales (alla pareminan vromikes apo laspi)  
 Washed-I the stairs (but remained-they dirty from mud)  
 ‘I washed the stairs (but they remained dirty with mud)’

*Frame A verbs with DP-Stuff (COL entailed)*

- (28) Diegrapsa tin protasi (#alla paremine sto kimeno)  
 Deleted-I the sentence (but remained-it in-the text)  
 ‘I deleted the sentence (but it remained in the text)’

*Frame B verbs with DP-Loc (COS entailed)*

- (29) Ekkenosan to ktirio (#alla pareminan kapii anthropi mesa)  
 Evacuated-they the building (#but remained some people inside)  
 ‘They evacuated the building (#but some people remained inside)’

Segal & Landau (2009: 20) point out that in Hebrew, *clear*-verbs do not entail COS (as one would expect due to their de-adjectival nature). They distinguish between (i) *clean*, which behaves exactly like all other alternating verbs and (ii) *clear/ empty* which entail their resultant state (when used with a Loc-DP object and in Frame B), but not when they are used in Frame A.

Our intuition for Greek *clear*-verbs is that they uniformly do not entail COS when used with a single DP Loc object (they may differ in how strongly they implicate a resultant state):

- (30) O Petros katharise to spiti (alla afto paremine vromiko)  
 The Petros cleaned the house (but this remained dirty)  
 ‘Peter cleaned the house (but it remained dirty)’

Strikingly, transitive *clear*-verbs **sharply differ** from anticausative ones with respect to this:

- (31) To spiti katharise (#alla paremine vromiko) *compare to (30)*  
The house cleaned (but remained dirty)

Alternating *steal/ cheat* verbs present **complications**, but we will mostly leave them aside here because their behavior turns out to be extremely complex (see Segal & Landau 2009; their observations apply to Greek as well). We will come back to them for a few remarks at the end of this section.

Can we derive the absence of COS/ COL entailments from manner, as stated in (25)? *Prima facie* (25) seems tenable: *wipe*-verbs (typical **manner** verbs) alternate in Greek. The manner component is transparently expressed on these verbs, as their morphological built-up includes an instrument that combines with a verbalizer:

**Table 1**

<i>Root-verbalizer-1sg</i>		<i>Root-nominal inflection</i>	
<b>psalid</b> -iz-o	‘trim’	<b>psalid</b> -i	‘scissors’
<b>ravd</b> -iz-o	‘flog’	<b>ravd</b> -i	‘stick’
<b>sfug</b> -iz-o	‘sponge/ wipe’	<b>sfug</b> -ar-i	‘sponge’
<b>skoup</b> -iz-o	‘sweep’	<b>skup</b> -a	‘broom’

*Clear*-verbs present a case of **polysemy**: they are COS (as shown by the fact that they enter the causative alternation) or manner verbs (when showing the clear-alternation). The contrast in entailments between (30) and (31) seems to provide evidence for this. In the RH&L system, the root would be the complement of BECOME in the former case and the modifier of ACT in the latter:

- (32) a. [ [x ACT] CAUSE [BECOME [ y <CLEAN> ] ] ]  
**when they enter the Causative alternation**  
b. [x ACT <CLEAN>]  
**when they enter the Clear-alternation**

Note that *clear* verbs enter the causative alternation when occurring in Frame B/COS but not in Frame A/COL:

- (33) To pukamiso katharise apo tus lekedes  
The shirt cleaned from the stains
- (34) \*?I lekedes katharisan apo to pukamiso  
The stains cleaned from the shirt

This suggests that in addition to (32b), where *CLEAN* is a modifier, Frame B can also be derived via (32a), where *CLEAN* is a complement, with a PP subcategorized by the adjective “clean” (Levin & Rappaport Hovav 1991; Beavers 2008):

(35)	katharo	apo lekedes
	clean	from stains

*Remove*-verbs (typical **result** verbs often looking as if they are encoding overtly location in one or more prepositional prefixes, marked in bold below) do not alternate and occur in Frame A/COL frame. These are built on the basis of a root and various prefixes, to the function which we will turn below:

**Table 2: Frame A/COL Frame**

*Prefix-Root- 1sg*

<b>af</b> -air-o	‘substract/ remove/ abstract’
<b>ek</b> -leg-o	‘vote/choose’
<b>dia</b> -leg-o	‘cull/ choose’
<b>dia</b> -graf-o	‘delete’
<b>ek</b> -top-iz-o <b>ek</b> -diok-o	‘remove’

Frame B verbs seem rather heterogeneous and need to be investigated in more detail, but note that many of them are formed on the basis of an adjectival root and verbalizers, which would be consistent with a COS analysis:

**Table 3: Frame B/COS Frame**

*Root-verbalizer-1sg*

<b>erim</b> -on-o	‘depopulate’
<b>atho</b> -on-o	‘exonerate’
<b>li</b> -ain-o	‘smooth/flatten’

*Root-adject. inflection (nom.masc)*

<b>erim</b> -os	‘deserted’
<b>atho</b> -os	‘innocent’
<b>li</b> -os	‘smooth/flat’

A clear advantage of the Manner-Result Hypothesis (25) is that we are led to pay attention to the links between meaning/syntax and morphology (as we have already done). We can further test the manner/result hypothesis by applying the manner/ result tests proposed by Rappaport Hovav and Levin RH&L (1998, 2008); Levin & Rappaport Hovav L&RH (2010, 2005, 2006), Levin (2006; 2011); Koontz-Garboden & Beavers (2011) and related work to the alternating and non-alternating verbs).

Of those we applied some tests related to unspecified objects which lead us to conclude that alternating verbs which qualify as manner verbs w.r.t. the unspecified object tests allow unspecified objects to different degrees (a fact perhaps suggesting that certain manner verbs have an object as part of their meaning (endo-skeletal) – which can be unrealized under certain conditions - while others lack an object (exo-skeletal)). Second, all alternating verbs are manner verbs. There are some alternating verbs that qualify as result verbs and yet they alternate.

Finally, in Greek, these are mostly not clear verbs (as one might expect) but rather steal/ cheat/cure verbs (suspicion: they show a Location – Possession alternation of the ‘dative shift’ type). Wipe verbs qualify as manner verbs, as do clear verbs.

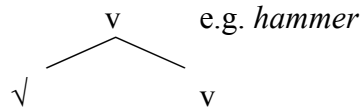
## 5. The Morho-syntax of the Clear- alternation

We adopt the view that verbs consist of category-neutral, idiosyncratic Roots

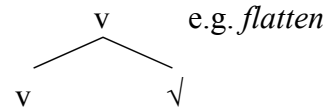


(morphological roots) which are merged with categorizing heads ((Marantz 2001, 2007; Arad 2003, 2005) either as their complements or as modifiers (see specifically Embick 2004; Harley 2005 on the latter), illustrated in (36):

(36) a. modifiers of v, *direct Merge*



b. complements of v



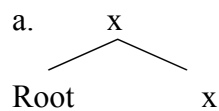
Greek productively employs verbalizing heads (Alexiadou 2001, 2009; Anagnostopoulou & Samioti 2009; Anagnostopoulou 2010), which can be seen as realizing a v head in (36):

(37) Root- verbalizing elements

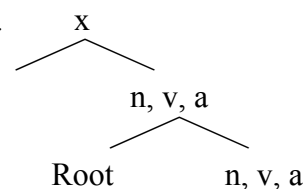
Greek: -iz, -on-, -en/an, -ev, -az, -a

We further assume that there is a split between **inner** and **outer** morphology, characterized as in (39):

(38) a.



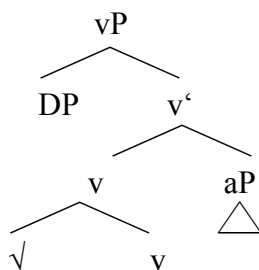
b.



(39) “*Inner morphology*” attaches to roots or complex constituents below the first little  $x$  ( $x=\{v,n,a\}$ ) node head (phase head) above the root. All morphology above the first  $x$  node is “*outer morphology*” including all “*category changing*” derivational morphology.” (Marantz 2007: 5; Marantz’s (3), (2))

Focussing on (36), Embick suggests that, direct merge has semantic consequences. It specifies the means component of the complex predicate. Implicitly, the type of merge is sensitive to the manner vs. result/state classification of roots. Manner roots merge as modifiers of v, state roots merge as complements of v. According to Embick, the structure in (36a) can feed secondary resultative predication. In that case the element that appears in the complement of v cannot be a bare root (40).

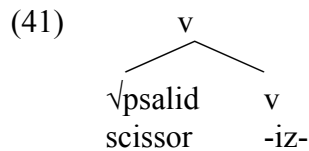
(40)



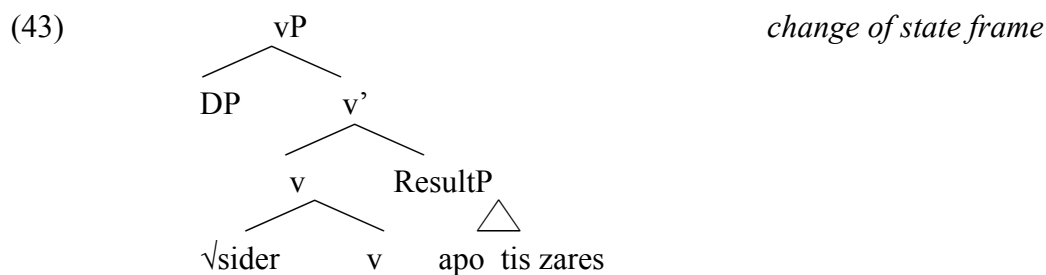
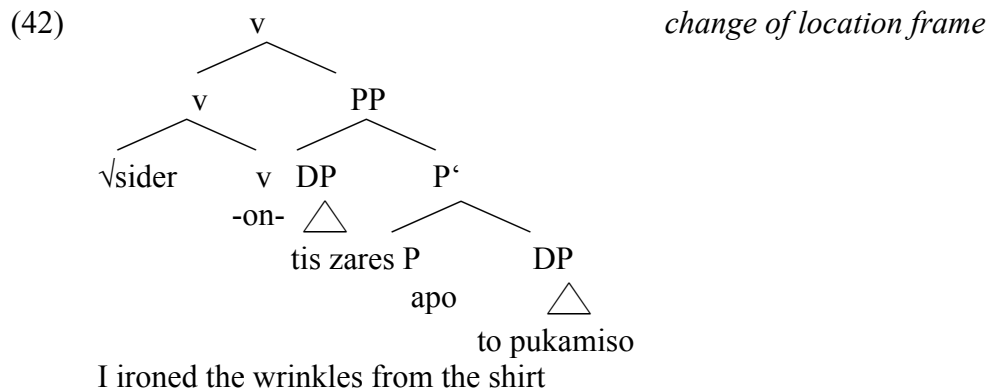
e.g. *hammer flat*

Embick argues that *v*'s complement cannot be a bare Root when *v* has a Root merged with it, as in (40), because the Root in the complement position would be *uncategorized*. That is, in (40) the complement of *v* is an aP. Direct merge applies to manner/instrument roots, and roots that can be so co-erced cf. Rossdeutscher 2011, Marantz 2009.

Recall now that *wipe*-verbs (typical **manner** verbs) alternate. These verbs morphologically encode an instrument. They also typically involve a verbalizing affix, see Table 1:



Since these roots merge as modifiers of *v*, they can be involved in structures that involve resultative secondary predication, which arguably the COL and COS frame encode. We assume a distinct syntax for the two frames: cf. Hale & Keyser (2002), Dobler (2008), Alexiadou & Schäfer 2010, Segal & Landau (2009):<sup>7</sup> **In COL:** A locative (source) PP is merged as the sister of *v* and the stuff DP as the specifier of P. In COS, a resultative phrase (ResP) is merged as the sister of *v*:



As for the Non-alternating verbs, we observe the following with respect to only Frame A/COL Frame, see table 2:

<sup>7</sup> See Hale & Keyser (2002: 242f.) for arguments why the two structures differ based on scopal properties. See also Dobler (2008) and Alexiadou & Schäfer (2010) for arguments based on the interaction between restitutive *again* and indefinites.

1. The Greek prefixes are drawn from the prepositional inventory. Most of them, however, belong to the prepositional inventory of Classical Greek and are no longer productive in Modern Greek:

(44)	Prefixes	Prepositions	
	apo/f-	apo	‘from’
	ek/eks/xē--	ek (archaic)	‘out of’
	para-	para	‘in spite of/nearby’

2. The prefixes cannot be separated from the verbal stem. The verbal stem can be bare or contain a verbalizer.

3. The prefixes have spatial meanings. Sometimes, however, the prefix deviates from the prepositional meaning. In other cases, the meaning contributed by the prefix is either negation or agentivity:

(45)	a. para-lipo		‘omit’	para
	intentionally-be-out			in spite of/nearby
	b. ek- <b>top-</b> iz-            o		‘remove’	ek
	away-from place-verbalizer-1sg			source ‘from’
	c. ek-leg-o	‘elect’		no obvious compositional meaning

4. In some cases, a verbal form does not exist independently of the prefix (e.g. af-air-o substract’).

It seems to us that these prefixes in combination with the morphological root give the meaning of what is contributed by what Levin & Rappaport Hovav label “root” in the lexical semantic sense.

The morphological root is assigned meaning in the context of the prefix, like English Latinate prefix-root combinations (de-stry, in-fer etc; see Arad 2003; 2005 for discussion, i.e. the prefix counts as a phase head for meaning assignment).

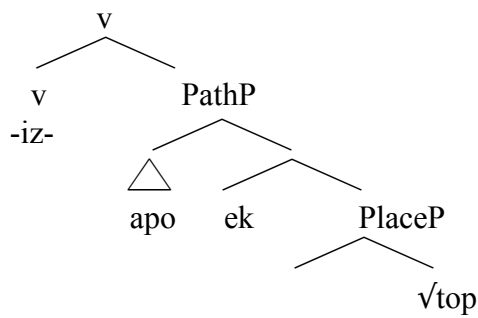
To account for this, we propose that these prefixes ‘lexicalize’ path and select a PlaceP complement, in the spirit of Svenonius (2008). The *apo* phrase is merged in the Specifier of Path, and there is a Spec-head Agreement relationship, in this case Source. Support for this comes from the fact that when Path = Goal, the prefix is ‘eis’ and the PP expressing Goal is realized via a se-‘to’ P.

In Greek, the root  $\sqrt{\text{top}}$  ‘lexicalizes’ place. The prefix and the root combine with the verbalizer, via incorporation, see Mateu (2009). Hence the complex v+prefix ‘lexicalizes’ location (away-from-place in the case of (46)).<sup>8</sup>

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<sup>8</sup> We choose this verb to illustrate because its meaning is very transparent. With many other verbs this is not the case, even though there are reasons to suspect that there are systematic generalizations to be made regarding the connections between the choice of particular prefixes and the meaning of the roots. Note that in many cases (not in the one discussed) an overt verbalizer is missing; this might be a significant fact.

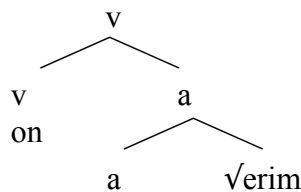
(46)



As such it can appear only in the change of location frame, cf. Rossdeutscher 2011 for German.

Finally, turning to only Frame B/COS verbs, see table 3, we note that the fact that these verbs appear only in Frame B/COS can be explained on the basis of their derivational history: the set of adjectives related to these verbs can each take a complement expressed by means of an *apo* phrase introducing the stuff argument (cf. L&RH 1991 for clear verbs in English):

(47)



- (48) a. adio apo nero  
empty from water  
b. athoos apo tis katigories  
innocent from the accusations

## 6. Conclusions

In this paper, we investigated the relationship between the meaning, the syntactic behavior and the morphological composition of verbs by focusing on the clear-alternation in Greek.

We presented evidence in support of the idea that verbs alternate when they lexicalize manner and they don't alternate when they lexicalize result, unless the result remains unspecified, in which case they can alternate (*steal* verbs). We provided a morphological decomposition of these verbs by making use of the tools of Distributed Morphology, according to which: i) direct merge applies to manner/instrument roots, which can then feed resultative secondary predication (PP/ResP), and thus enter the alternation. ii) non-alternating verbs of Frame A/COL Frame involve prefixes which assign meaning to the morphological root and attach to it prior to verbalization (lexicalization of location). iii) non-alternating verbs of Frame B/COS are built on the basis of an adjectival base and do not enter the alternation, as they 'inherit' the argument structure of their source adjective.

The above suggests that Greek allows resultatives as long as the result is expressed via a PP and not an adjective (49c), contra Giannakidou & Merchant (1999), Horrocks & Stavrou (2003).

- (49) a. siderosa tis zares apo to pukamiso Frame A (COL)  
 ironed-1sg the wrinkles from the shirt
- b. siderosa to pukamiso apo tis zares Frame B (COS)  
 ironed-1sg the shirt from the wrinkles
- c. \*siderosa to pukamiso epipedo  
 ironed-1sg the shirt flat

The question is what explains this aP vs. PP asymmetry. We leave this for further research.

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