

An ergative analysis of French valency alternation

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Abstract

The French anticausative is attested in two separate constructions, one which focuses on the result (Res-AC), e.g. *Le rameau s'est flétri*, and another which focuses on the process (Proc-AC) – *Le rameau a flétri*, both translated to English as ‘The branch withered’. The paper proposes to explain the differences between the two constructions as follows. Res-AC results from the merge of *se* under non-active Voice, coupled with the absence of a vP projection, whereas Proc-AC results from the use of active Voice with a v projection lacking a specifier. Anticausative derivations from typologically distinct languages, Hebrew and Neo-Aramaic (an ergative language) provide support for the analysis. In these languages, the merge of v is overtly detectable, whether or not v has a specifier. In Hebrew this is indicated by a dative reflexive clitic, and in Neo-Aramaic, by ergative agreement. The analysis proposed for French extends naturally to these languages, providing support for it.

1 The Problem

French constructs anticausative derivations in two different ways. The middle-voice derivation (1a) uses valency reducing morphology (the morpheme *se* which characterizes middle constructions, e.g. reflexive, unaccusative, dispositional, cf. Kemmer 1993, 1994). The active derivation (1b), without morphological marking, is similar to the English anticausative derivation (*The branch withered*).

- (1) a. *Le rameau s' est flétri.*
 The branch SE AUX withered
- b. *Le rameau a flétri.*
 The branch AUX withered
 “The branch withered.”

The existence of these competing derivations raises two fundamental questions: *How can one account for the two derivations? When is one construction preferred or required?* With respect to the second question, it has been observed that the two constructions have different conditions of use which have been argued to follow from the following meaning differences (e.g. Dobrovie-Sorin 2006; Kayne 2009; Labelle 1992; Lagae 1990; Zribi-Hertz 1987):

- the middle anticausative derivation focuses on the result state of the process;
- the active anticausative derivation focuses on the process, presenting it as autonomous.

The contrast is exemplified in the following pair. (2a) describes a sensation of swelling which is a state resulting from happiness, whereas (2b) describes an internally-driven process of swelling, gradually pressing the lungs as the process progresses.

- (2) a. *Son cœur s' est gonflé de bonheur* (Res-AC)
 his heart SE AUX swelled of happiness
 “His heart has swelled from happiness.”
 (www.franceloisirs.com/catalogue/produit.jsp?docId=813569, February 1st, 2011)

- b. *Son coeur a gonflé et presse les poumons* (Proc-AC)

his heart AUX swelled and presses the lungs

“His heart has swelled and presses his lungs.”

(michel.mahler.free.fr/Chansons/Anges_Noirs_B.htm, February 1st, 2011)

Contrasts between result-focusing anticausative constructions (Res-AC) and process-focusing anticausative constructions (Proc-AC) have been reported in other languages, where they are not necessarily associated with the contrast between middle and active voice. Borer (1994) reports two anticausative constructions in Hebrew, where the contrast is associated neither with voice morphology nor with other verb morphology. The two constructions, illustrated in (3), are distinguished by the nature of the dative adjunct they allow. Res-AC (3a) features a possessive dative adjunct (interpreted as the possessor of a VP-internal noun-phrase, hence indicating unaccusativity). In Proc-AC (3b), on the other hand, the verb appears with a reflexive dative adjunct, giving the verb a volitional, process interpretation.

- (3) a. *ha-praxim navlu li* (Res-AC)

the-flowers wilted to-me

“My flowers wilted.”

- b. *ha-praxim_i navlu lahem_i* (Proc-AC)

the-flowers wilted to-them

“The flowers wilted (of their own accord).”

Example (3a) focuses on the result state of the flowers having completely wilted; (3b) focuses on the process of wilting, and according to Borer, implies volition or at least a self induced change. A contrast parallel to the French (2) can be seen in (4):

(4) a. *ha-lev hitraxev li mi-simxa* (Res-AC)

the-heart swelled to-me from-happiness

“My heart swelled from happiness.”

b. *ha-lev_i hitraxev lo_i ve-laxac al ha-re'ot* (Proc-AC)

the-heart swelled to-it and-pressed on the-lungs

“The heart swelled (of its own accord) and pressed the lungs.”

An additional language where two separate anticausative constructions have been reported is Neo-Aramaic, an ergative Semitic language spoken by Jewish and Christian communities from Kurdistan (Khan 2007). In the Jewish Neo-Aramaic dialect of Urmi (Khan 2008b), a morphological contrast is found among anticausative verbs between a form of the verb which focuses on the result, and a form which focuses on the process. This morphological contrast is not a contrast in voice (lacking in Neo-Aramaic altogether), but in subject agreement. In Res-AC the subject-agreement suffix of the verb is absolutive, whereas in Proc-AC it is ergative:

(5) a. *warde wiš-i* (Res-AC)

flowers dry_{PERF}-ABS.3PL

“The flowers have dried.”

b. *warde wəš-lu* (Proc-AC)

flowers dry_{PERF}-ERG.3PL

“The flowers dried.”

- (6) a. *id-i* *nəby-a* (Res-AC)
hand.F-my swell_{PERF}-ABS.3FS
“My hand has swollen.”
- b. *id-i* *nbé-la* (Proc-AC)
hand.F-my swell_{PERF}-ERG.3FS
“My hand swelled.”

The examples in (a), where the subject-agreement suffix of the verb is absolutive, focus on the result state, whereas the examples in (b), with an ergative subject-agreement suffix, focus on the process.

The goal of the present paper is to propose an analysis of the alternation between Res-AC and Proc-AC which aims at a universal characterization of the distinction, therefore accounting not only for French or other Romance languages, but also for the ergative and non-ergative Semitic languages discussed above.

2 *The Proposal*

It is proposed that the two distinct anticausative derivations in each of (1)–(6) result from the different distribution of the functional head *v* in the two derivations, where *v* is the higher head of a layered verb phrase *vP*-*VP* (Larson 1988; Hale and Keyser 2002).

The hypothesis that *v* is crucially responsible for valency alternations is not new. However, since Kratzer (1996), *v* has also been associated with Voice. Here, we follow suggestions for dissociating the two functional heads, *v* and Voice (Doron 2003; Alexiadou et al. 2006; Labelle 2008), each one having a specific role in the derivation. While *v* introduces an activity subevent and assigns the Agent role to its specifier, Voice determines

the realization of the external argument. To account for Proc-AC, we assume that some verbal roots allow the merge of *v* in the active Voice without an external argument. Res-AC, on the other hand, may involve Voice but it does not involve *v*. In French, Res-AC is characterized by non-active Voice, spelled-out as *se*. Non-active Voice blocks the merge of an external argument.

We assume that, in the layered *vP-VP* structure, *VP* expresses a change of state subevent while *v* introduces an activity subevent. In addition, we adopt the distributed morphology framework in which roots combine with syntactic features to derive words (Halle and Marantz 1993, 1994; Marantz 2005, among others). Embick (2009) proposes that verbal roots may in principle merge with *v* or with *V*. He argues that this is what allows the verb to focus either on the process or on the result. Adopting this perspective, we propose that, in the Res-AC derivation, the verbal root merges with *V*, specifying the final state. This gives rise to an interpretation focusing on the attainment of a final state by the verb's argument. In the Proc-AC derivation, the root merges with *v*; it modifies the dynamic/activity subevent. As a consequence, the construction focuses on the process rather than on the result state.

This proposal captures the meaning difference between the two constructions, while maintaining the hypothesis that the verb's argument is an underlying object in both cases. It contrasts with the position of Labelle (1992), where the verb's argument is projected in object position in (1a) and in subject position in (1b).

The basic clause structure we assume is explained in more detail in section 3. Section 4 presents our analysis of the two anticausative derivations. Section 5 shows how the present proposal accounts for peculiarities of the two derivations. Sections 6 and 7 extend the analysis to Hebrew and to Neo-Aramaic.

3 *Active transitive clauses*

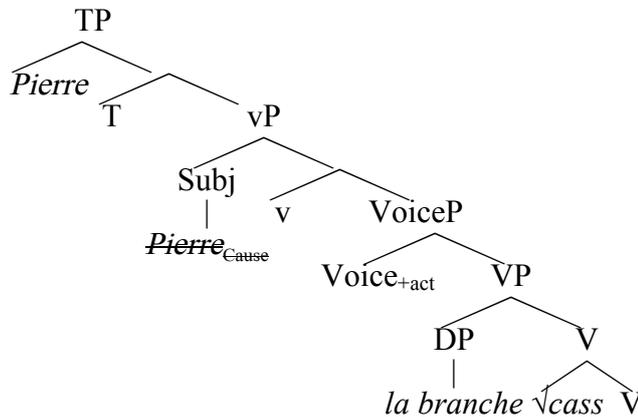
This section spells out our assumptions regarding the derivation of active transitive sentences. Following Larson (1988) and subsequent work, we assume that accomplishment verbs are built out of two separate categories V and v. Moreover, we assume an additional functional category Voice distinct from v (Doron 2003; Alexiadou et al. 2006; Labelle 2008). The two functional categories v and Voice span independent dimensions. The v head introduces a dynamic subevent and assigns its thematic role to the external argument. Voice, which can be active or non-active, determines whether or not v's argument is merged in the derivation; in active voice, it may be, in non-active voice, it is not. Non-active voice is further subdivided into middle voice and passive voice. Here we do not discuss passive voice, and thus we use *non-active* as synonymous to *middle*.

An active transitive sentence with a change of state verb is derived as in (7), with vP dominating VoiceP, which dominates VP. The lower VP expresses a (change of) state subevent, and the higher vP a process subevent. In (7), the root merges with V. Thus, it modifies the result state, and v's argument is a Cause. The final clause is derived by raising the verb to T passing through the intermediate heads.

(7) *Pierre cassa la branche.*

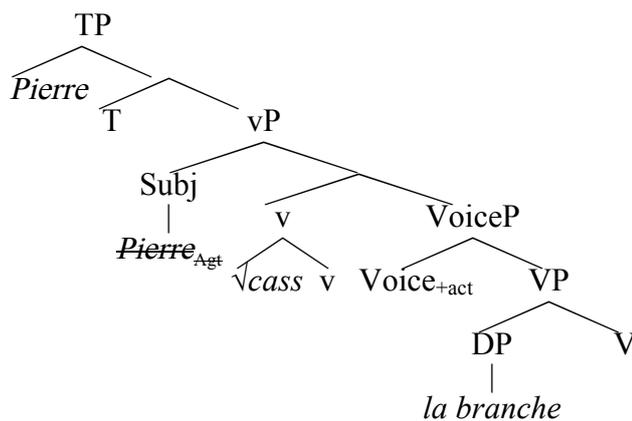
Pierre broke the branch

“Pierre broke the branch.”



We follow Embick (2009) in assuming that in a vP-VP structure, the root may merge with v instead of merging with V. In that case, it modifies the process, and v's argument is an Agent. Nevertheless, the object argument is the argument of a result state expressed by VP.

(8) *Pierre cassa la branche.* “Pierre broke the branch.”



With this framework in mind, let us proceed with the description of the two anticausative derivations that are the focus of this paper.

4 Anticausative derivations

In this section, we show how the framework adopted here derives the two anticausative derivations, Res-AC and Proc-AC. We will first present Res-AC and then turn to Proc-AC.

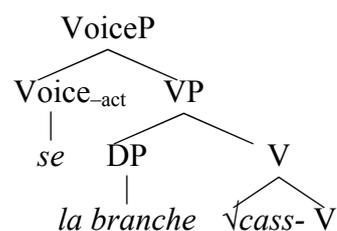
4.1 The result anticausative derivation (Res-AC)

In French, Res-AC, illustrated in (9), is characterized by middle voice, a type of [-Active] Voice realized by *se* in French.ⁱ A [-Active] Voice head blocks the merge of an external argument. In addition, *v* is not merged, and therefore no Agent role is assigned.ⁱⁱ

(9) *La branche se cassa.*

The branch SE broke

“The branch broke.”



In this construction, the root can only merge with V and modify the result state, since there is no *v* in the derivation. As a consequence, the sentence focuses on the attainment of a result state by the verb's argument.

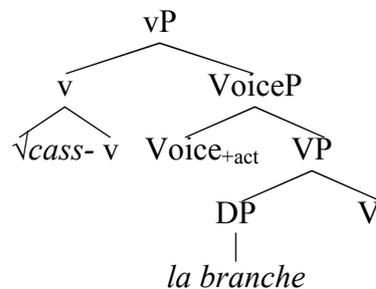
4.2 The process anticausative derivation (Proc-AC)

The process anticausative derivation is illustrated in (10). With a restricted number of verbs, *v* may merge without requiring an external argument in its specifier (see e.g. Doron 2003, Alexiadou et al. 2006). This is possible because *v* introduces a dynamic subevent. With many verbal roots, the dynamic subevent implies an Agent. But some roots allow a dynamic subevent without an additional participant. In that case, *v* does not assign the Agent role. Because there is a dynamic subevent but no external argument, the verb’s argument is interpreted as undergoing the process autonomously.

(10) *La branche cassa.*

The branch broke

“The branch broke”



One difference between (9) and (10) is in the function of the root $\sqrt{\text{cassa}}(e)$. In (9), the root must modify **V** since there is no *v*. In (10), the requirement that each subevent be lexicalized in the structure (e.g. Rappaport Hovav and Levin, 2010) forces the root to modify *v*. The change-of-state subevent headed by **V** is lexicalized by the argument *la branche* ‘the branch’, whereas the dynamic sub-event is not lexicalized by an argument, and thus must be lexicalized by the root. The consequence of having the root modify *v* is that the verb focuses on the process subevent rather than on the result.

5 *Properties of the two derivations*

The two French anticausative derivations have distinct properties that find a natural account in the present framework.

Subject properties. The Res-AC derivation is attested when the entity in subject position is not the type of entity that could undergo an internally-driven change (Bernard 1971; Burston 1979; Rothemberg 1974; Forest 1988, Labelle 1992):

(11) a. *Il vit le mouchoir se rougir soudain.*

He saw the handkerchief SE redden suddenly

b. **Il vit le mouchoir rougir soudain.*

He saw the handkerchief redden suddenly

“He saw the handkerchief become suddenly red.”

By contrast, the Proc-AC derivation is observed when the subject undergoes an internally-driven action:

(12) a. *Jeanne rougit.*

Jeanne reddens

b. **Jeanne se rougit.*

Jeanne SE reddens

“Jeanne blushes.”

The contrast is captured by our analysis. The Proc-AC derivation describes a dynamic process, because it contains a vP layer with the v head modified by the root. In contrast, the

Res-AC derivation expresses the result-state subevent and it does not imply a dynamic process. Thus it is compatible with entities that reach a final state without actively undergoing a process leading to the final state.

Compatibility with *mettre quelque chose à* ‘to put something on/up to’. The expression *mettre quelque chose à* describes the fact of creating the appropriate conditions for an autonomous process to take place (Zribi-Hertz 1987). Because it implies an internally-driven process, it is compatible with the Proc-AC construction, but not with the Res-AC one.

(13) a. *Le cuisinier a mis le sucre à caraméliser.*

The cook put-the-sugar-on-to caramelize

b. **Le cuisinier a mis le sucre à se caraméliser.*

The cook put-the-sugar-on-to SE caramelize

“The cook put the sugar on to caramelize.”

Perfective complements. Perfective complements may license a Res-AC derivation. A verb like *muer* ‘to moult’ describes a dynamic process. Without complement, it is used with the Proc-AC construction:

(14) a. *La chenille a mué.*

The caterpillar AUX moulted

b. **La chenille s’ est muée.*

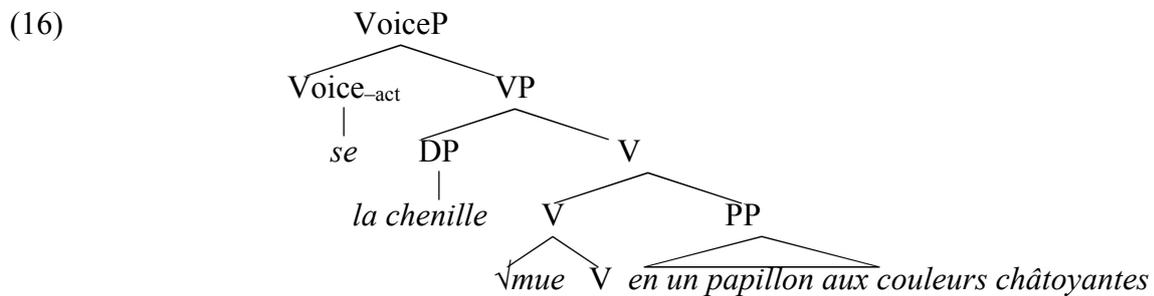
The caterpillar SE AUX moulted

“The caterpillar moulted.”

However, if a complement describing the final state is added, the Res-AC construction becomes possible (Labelle 1992: 399; Zribi-Hertz, 1986: 334):

- (15) a. **La chenille a mué en un papillon aux couleurs chatoyantes.*
 The caterpillar AUX moulted into a butterfly with colours shining
- b. *La chenille s' est muée en un papillon aux couleurs chatoyantes.*
 The caterpillar SE AUX moulted into a butterfly with colours shining
 “The caterpillar turned into a butterfly with shining colours.”

In (15b), non-active Voice prevents the merge of an external argument. The root modifies V, and the VP focuses on the attainment of a result state. The PP complement of V describes the result state.



In this perspective, the impossibility of (15a) with Proc-AC follows from the fact that in this structure the root modifies v, focusing on the process subevent. Hence the result-state subevent is de-emphasized (or inactive), and this is incompatible with modifying it with a PP describing the final state.

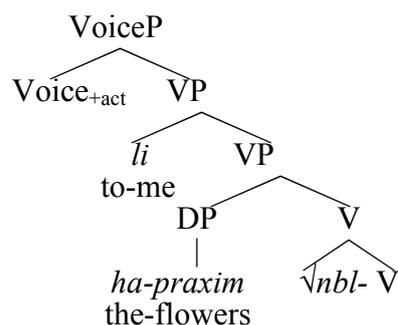
6 Extension to Hebrew

The present framework offers an account for Borer's data in (3), repeated below as (17):

- (17) a. *ha-praxim navlu li*
 the-flowers wilted-ACT to-me
 “My flowers wilted.”
- b. *ha-praxim_i navlu lahem_i*
 the-flowers wilted-ACT to-them
 “The flowers wilted (of their own accord).”

In both examples, the verb is in the active voice (ACT). According to the present approach, this means that the root *nbl* ‘wilt’ in the active voice allows two anticausative derivations, one with *v* and one without *v*. The anticausative derivation without *v* is shown in (18). Since the root modifies V, the verb focuses on the result state:

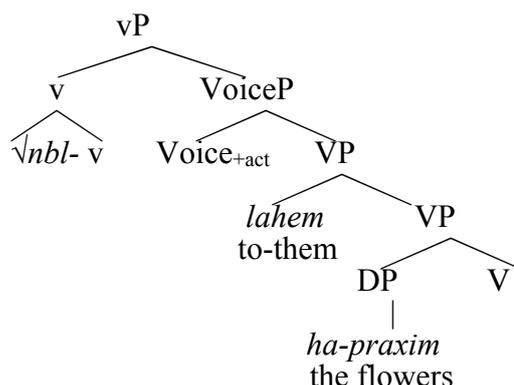
- (18) *ha-praxim navlu li* (=17a) (Res-AC)



The dative *li* 'to me' in (18) is adjoined to VP (Landau 1999), and is licensed by its interpretation as the possessor of a VP-internal argument (Borer and Grodzinsky 1986). Borer and Grodzinsky also discuss an alternative interpretation for a dative VP-adjunct, one where it

is a reflexive anaphor bound by the specifier of *v*. In the analysis presented here, this is only possible in the Proc-AC derivation, which is the derivation that contains *v*. Though the noun-phrase *the flowers* originates as an argument of *V*, it may raise to the specifier of *v* and bind the reflexive dative adjunct:

(19) *ha-praxim_i navlu lahem_i* (=17b) (Proc-AC)



The same contrast is manifested for verbs in the middle-voice, as in (4) repeated in (20):

(20) a. *ha-lev hitraxev li mi-simxa*
 the heart swelled-MID to-me from-happiness
 “My heart swelled from happiness.” (Res-AC)

b. *ha-lev_i hitraxev lo_i ve-laxac al ha-re'ot*
 the-heart swelled-MID to-it and-pressed on the-lungs
 “The heart swelled (of its own accord) and pressed the lungs.” (Proc-AC)

There exists in Hebrew a very small number of roots where the contrast between Proc-AC and Res-AC is accompanied by a contrast between active and middle voice. In such cases, just like in French, Proc-AC is in the active voice, whereas Res-AC is in the middle voice. For example, the root *'dm* ‘red’ derives both transitive and anticausative verbs in the active voice of the causative-template, as shown in (21a) and (21b) respectively. This root provides

independent evidence that the derivation of unaccusative verbs may include the merge of *v*, since the causative template is a template which realizes a particular type of *v* (*v*_{CAUS}, called γ in Doron 2003). The identity in template of (21a-b) means that both the transitive and anticausative derivations contain *v*. The anticausative derivation in (21b) is thus expected to be Proc-AC, as it includes *v*. Indeed, it allows a reflexive dative adjunct (*lahem_i*, coindexed with the subject):

- (21) a. *ha-šemeš he'edima et ha-tapuxim*
 the-sun reddened-CAUS ACC the-apples
 “The sun reddened the apples.”
- b. *ha-tapuxim_i he'edimu lahem_i b-a-šemeš*
 the-apples reddened-CAUS to-them in-the-sun
 “The apples reddened (of their own accord) in the sun.”

On the other hand, the middle-voice verb derived from the same root with the help of the middle template (called μ in Doron 2003), only allows a possessive dative typical of result anticausatives, and does not allow a reflexive dative pronoun (see the contrast between *li* in (22a) and *lahem* in (22b)):

- (22) a. *ha-tapuxim hit'admu li b-a-šemeš*
 the-apples reddened-MID to-me in-the-sun
 “My apples reddened in the sun.”
- b. ?? *ha-tapuxim_i hit'admu lahem_i b-a-šemeš*
 the-apples reddened-MID to-them in-the-sun
 “The apples reddened (of their own accord) in the sun.”

A similar contrast is found with the root *ybš* ‘dry’.ⁱⁱⁱ The active voice construction in (23) is Proc-AC. As predicted, it allows a dative reflexive pronoun (23a), but not a possessive dative (23b), which the middle voice Res-AC construction in (24) allows.

- (23) a. *ha-kvisa_i yavša la_i b-a-šemeš*
the-laundry dried-ACT to-it in-the-sun
“The laundry dried (of its own accord) in the sun.”
- b. ?? *ha-kvisa_i yavša li b-a-šemeš*
the-laundry dried-ACT to-me in-the-sun
“My laundry dried in the sun.”
- (24) *ha-kvisa_i hityabša li b-a-šemeš*
the-laundry dried-MID to-me in-the-sun
“My laundry dried in the sun.”

7 Extension to ergative languages

In this section, we show how our analysis can be extended to ergative languages displaying a contrast between an anticausative focusing on the event and one focusing on the result state, as illustrated in (5)-(6) above.

Ergative languages differ as to the case assigned to subjects of unaccusative verbs (Dixon 1979, 1994). In Split-S languages, only transitive and unergative verbs have ergative subjects; in Extended-Erg languages, all subjects are marked with ergative Case, even subjects of unaccusative verbs. To account for the difference, Doron & Khan (in press)

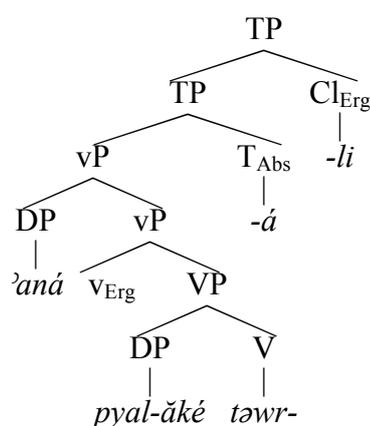
assume that ergative Case is assigned by *v*, in accordance with many analyses of ergativity (Mahajan 1989, Woolford 1997, Legate 2008, Aldridge 2008), and they propose that, in Split-S languages, *v* is not present in the derivation of unaccusative verbs; thus, unaccusative subjects are assigned absolutive Case by T. By contrast, in Extended-Erg languages, *v* is obligatorily merged, even when it does not introduce an external argument. The difference is illustrated below with dialects of Neo-Aramaic. In Neo-Aramaic, ergative alignment appears only in the perfective aspect, and it is expressed by an agreement suffix on the verb. Sentence-final suffixes, related to the presence of *v*, mark ergative subject agreement in the perfective and object agreement in the imperfective, while absolutive T-suffixes mark object agreement in the perfective and subject agreement in the imperfective:

(25) **Transitive derivation** (Sanandaj)

ʾaná pyal-ǎké tǎwr-á-li

I glass.F-the break_{PERF-ABS.3FS-ERG.1S}

“I broke the glass.”



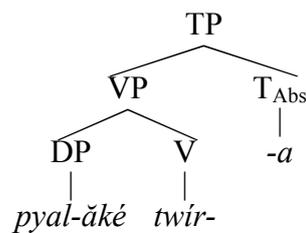
For Split-S dialects of Neo-Aramaic, such as Sulemaniyya (Khan 2004) and Sanandaj (Khan 2009), Doron & Khan (in press) propose that *v* is not merged unless it introduces an external argument. Accordingly, anticausative verbs have absolutive rather than ergative subject agreement morphology. Compare (26) with (25):

(26) **Anticausative derivation in Split-S dialect** (Sanandaj)

pyal-ǎké twír-a

glass.F-the break_{PERF-ABS.3FS}

“The glass broke.”



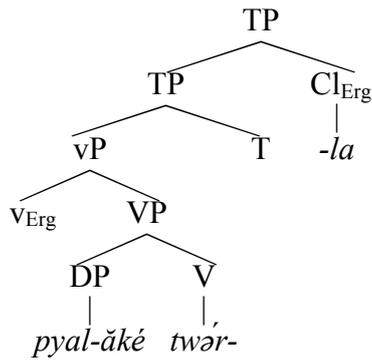
In Extended-Erg Neo-Aramaic dialects, such as Arbel (Khan 1999), Qaraqosh (Khan 2002), and Barwar (Khan 2008a), there is no derivation without *v*. Since *v* is always merged, unaccusative subjects are marked as ergative:

(27) **Anticausative derivation in an Extended-Erg dialect** (Arbel)

pyal-ǎké twǎr-ra

glass.F-the break_{PERF-ERG.3FS}

“The glass broke.”



A third type of ergative language — called Dynamic-Stative by Doron & Khan — combines properties of Split-S and Extended-Ergative dialects. Dynamic-Stative dialects, like the Jewish Neo-Aramaic dialect of Urmi (Khan 2008b) illustrated in (5-6) and below, allow the two types of anticausative derivations, with a difference in interpretation: as predicted, the v-less anticausative derivation focuses on the result state, whereas the anticausative derivation with v focuses on the process.

(28) **Transitive derivation (J Urmi)**

aná pyalá tǎwr-á-li

I glass.F break_{PERF-ABS.3FS-ERG.1S}

“I broke the glass.”

(29) **Two anticausative derivations in a Dynamic-Stative dialect (J Urmi)**

a. *pyalá twír-a* (Res-AC)

glass.F break_{PERF-ABS.3FS}

“The glass has broken.”

b. *pyalá twǎr-ra* (Proc-AC)

glass.F break_{PERF-ERG.3FS}

“The glass broke.”

We have thus closed the circle, and shown that the two types of anticausative derivations discussed for French surface in typologically distinct languages, and that in every case the difference between Proc-AC and Res-AC is linked to the presence of *v*.

8 Conclusion

French, Hebrew and some dialects of Neo Aramaic exhibit two anticausative constructions, one focusing on the result, and the other one on the process. We argued that in every case, the process interpretation is related to the presence of a *v* head without an external argument in its specifier, while the result interpretation obtains when there is no *v* in the derivation. We believe that strong support for the present approach to anticausatives comes from the fact that it extends beyond Romance languages to typologically very different languages.

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ⁱ The idea that *se* is a Voice head has been proposed in some form or another by a number of previous authors. For example, Juarros-Daussà (2000) generates Spanish *se* as the head of the functional projection introducing the external argument, Folli and Harley (2005) treat Italian *si* as the head of vP, and Labelle (2008) proposes that *se* is a Voice head in agentive reflexives, although the analysis in Labelle (2008) differs in some respects from the one presented here. Doron and Rappaport Hovav (2009) suggest a similar analysis for a subclass of reflexive verbs.

ⁱⁱ We do not consider here possible derivations within the lower VP such as the ones discussed in Hale and Kayser (2002). These authors propose, for example, that a verb like *rougir* 'redden' in (i) has a derivation where the root *roug(e)* starts up under an adjectival head complement of V and incorporates into (conflate with) the V head :

- (i) a. *Le mouchoir se rougit.*
 The handkerchief SE reddens
 'The handkerchief reddens' (becomes red)
- b. [VoiceP [Voice_{-act} *se*] [VP [DP *le mouchoir*] [V [V *roug-it*] [A ~~roug-~~]]]]

Since this part of the derivation does not influence the interplay between Voice and v, we do not consider it further. It should be clear that it is compatible with the present perspective.

ⁱⁱⁱ For this root, the active voice anticausative verb is not derived in the causative template but in the so-called simple template.