ASPECT AND ARGUMENT STRUCTURE IN ADJECTIVAL PASSIVES [*]

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ABSTRACT. This paper investigates the patterns regarding the (un)availability of *by*-phrases and agent-oriented modification in adjectival passives in Spanish. Departing from the observation that adjectival participles derived from change-of-state verbs ban agent-oriented modification but those derived from stative causative verbs allow it, I put forth a novel theoretical account that derives the restrictions solely from the *Aktionsart* of the underlying verbal predicate, syntactically modelled and independently motivated. I extend my proposal to German and Hebrew, which display a similar behavior, and propose a parametric account for languages like Greek that freely allow *by*-phrases and agent-oriented modification in adjectival passives regardless of the *Aktionsart* of the underlying verbal predicate.

Keywords: Adjectival passives, agent-oriented modifiers, *Aktionsart*, *by*-phrases, external arguments.

RESUMEN: Este artículo investiga la asimetría que presentan las pasivas adjetivales en español respecto a la posibilidad de aparecer con sintagmas-*por* y modificadores agentivos. Partiendo de la observación de que las pasivas adjetivales derivadas de verbos de cambio de estado prohíben generalmente la modificación agentiva, mientras que las derivadas de verbos estativo-causativos la permiten, presento una propuesta teórica que deriva dichas restricciones a partir del modo de acción del verbo base, modelado sintácticamente e independientemente motivado. Asimismo, extiendo mi propuesta a lenguas como el alemán y el hebreo, cuyas pasivas adjetivales muestran un comportamiento similar al de las del español. Por último, ofrezco un análisis paramétrico para dar cuenta de lenguas como el griego, que permite sintagmas-*por* y modificadores agentivos en sus pasivas adjetivales independientemente del modo de acción del verbo base.

Palabras clave: argumentos externos, modificadores agentivos, modo de acción, pasivas adjetivales, sintagmas-*por*.

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1. Introduction to the problem

The object of study of this paper is to determine the argument structure of adjectival passives (henceforth APass) and its relationship to *Aktionsart* (also known as inner or lexical aspect). In Spanish, APass take the copula *estar* 'to be' followed by a participial adjective, as shown in (1).[1]

(1)   a. La ciudad está destruida.
           the city is destroyed
      'The city is destroyed.'
      b. La ciudad está protegida.
           the city   is protected
        'The city is protected.'

The first pieces of work on adjectival passives in the theoretical literature held the view that adjectival participles are built by lexical operations prior to entering the syntax (Wasow 1977; Levin & Rappaport 1986, a.o.). However, current approaches to derivational morphology contend that participles are not built in the lexicon, but in the syntax (Anagnostopoulou 2003; Embick 2004; McIntyre 2013; Bruening 2014, a.o.). Although the theoretical frameworks as well as the proposals differ, the consensus among syntax-oriented approaches to adjectival passives is that they have minimally the structure in (2), where we have a VP selected for by a head A that creates a participial adjective out of the VP.

(2)   [$_{AP}$ A [$_{VP}$ V]]

As it is standardly assumed in the literature, the VP, or its extended projections (Voice/*v*…), are also responsible for articulating argument structure. Hence, if adjectival passives are built from VPs, and not from just atomic verbal roots, they should also contain argument structure. However, it turns out that the external argument cannot generally be expressed by means of a *by*-phrase, and other modifiers such as instrumentals and agent-oriented adverbials are also ungrammatical (e.g. (3)). This is unlike verbal passives (e.g. (4)), which suggests that adjectival passives are somehow more defective than verbal passives in terms of argument structure.

(3)   La ciudad está destruida *{por el ejército/ con bombas/ vilmente}.
      the city   is destroyed by the army   with bombs foully
      Intended: 'The city is destroyed {by the army/ with bombs/ foully}.'
(4)   La ciudad fue destruida   {por el ejército/ con bombas/ vilmente}.
      the city   was destroyed   by the army   with bombs foully
      'The city was destroyed {by the army/ with bombs/ foully}.'

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[1] Not all work on the <*estar* + past participle> construction assumes that it is a passive construction, as Mendikoetxea (1999) notes. Criado del Val (1975) and Marcos Marín (1980), for instance, explicitly reject it, on the grounds that the <*estar* + past participle> construction does not denote an action, but a result state. Under an aspect-neutral definition of the term 'passive', however, it follows that the <*estar* + past participle> construction is also passive, since it involves demotion of the agent and raising of the theme to subject position. Such position is taken by RAE (1973) and it will be adopted here as well.

These facts are not exclusive of Spanish, but have also been reported for other languages.[2] These were accounted for by lexicalist approaches by stipulating that the rules of adjectival passive formation suppressed the role of agent for the external argument in the lexical representation of the verb. In syntactic approaches to adjectival passives, profiting from the advances in the decomposition of the VP, it has been proposed that this construction lacks the syntactic projection that introduces external arguments, VoiceP (Kratzer 2002).[3] Either way, the problem with agent-oriented modification is circumvented.

And yet, there are many instances in which adjectival passives do accept agent-oriented modifiers such as *by*-phrases, instrumentals and agentive adverbs, which poses a problem for the accounts discussed above. I illustrate it in (5).

(5)   La ciudad está protegida {por los ciudadanos/ con barricadas/
        the city   is   protected by the citizens   with barricades
        valerosamente}.
        courageously
        'The city is protected {by the citizens/ with barricades/ courageously}.'

Facts like those in (5) for other languages have led researchers to propose recently that APass do contain an external argument at some level (namely VoiceP, in syntactic approaches, e.g. McIntyre 2013; Bruening 2014; Alexiadou et al. 2014, a.o.). The problem, of course, is that APass not always seem to have an external argument (e.g. (3)). What needs to be determined, then, are the contexts in which adjectival passives can or cannot have an implicit external argument, and what is behind such asymmetry.

In a nutshell, I argue that this difference has the aspectually-meaningful syntactic structure of the underlying verb as it source. Underlying change-of-state (henceforth CoS) predicates in APass (e.g. (3)) are built without an external argument, but a subset of stative verbs, namely stative causatives (henceforth StC) (e.g. (5)), are necessarily built with an external argument, which gives rise to the asymmetries in (3) and (5).

The paper is structured as follows. Section 2 discusses the two main approaches to this asymmetry in the traditional grammars of Spanish and evaluates them critically. Section 3 lays out my basic theoretical assumptions regarding verbal aspect and it then introduces my analysis. Section 4 proposes a pseudo-incorporation approach to some instances of external-argument oriented modifiers with underlying CoS predicates, and Section 5 discusses cross-linguistic extensions and compares my account to recent proposals for other languages. Section 6 concludes the paper

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[2] Some of such languages are German and Hebrew, which I discuss in Section 5.1 of this paper.

[3] Kratzer's (2002) key evidence for arguing against an external argument in APass was the lack of a disjoint-reference effect in the interpretation of the notional external argument, unlike what happens with verbal passives (Baker et al. 1989). Thus, in (i), an APass, the climbers may have secured themselves or they may have been secured by someone else. (ii), on the other hand, cannot have a reflexive interpretation: the climbers must have been secured by anyone other than themselves. This vagueness with respect to the external argument interpretation in APass is what led Kratzer to propose that these constructions indeed lack the external-argument introducing projection (VoiceP, in her account).

(i) The climbers are secured with a rope.

(ii) The climbers were secured with a rope.

2. Previous accounts

The asymmetry regarding external arguments in adjectival passives that I illustrate in (3) and (5) is by no means a novel observation: the traditional literature of Spanish was well-aware of this problem and endeavored to account for it, mostly focusing on *by*-phrases. Overall, two main approaches to this issue can be distinguished: I refer to them as the state-relevance account and the atelicity account, and discuss them below.

2.1. State relevance

The state-relevance account contends that *by*-phrases are only possible in APass if they somehow pertain to, are relevant for, or are detectable in the result state, or contribute to maintaining the result state (Bull 1965; Navas-Ruiz 1987; Hengeveld 1986; Bosque 1990, a.o.).

Under this view, the *by*-phrases in examples (6a) and (6b) (from Hengeveld 1986), are possible because they are detectable in the result state: the signature of the ambassador and the holes made by the moths are clearly detectable by looking at the document and at the coat, respectively. In example (6c), from Navas-Ruiz (1987), the *by*-phrase is licensed because the demonstrators contribute to maintaining the result state of the road being cut.

(6)   a. El documento está firmado por el embajador.
          the document is   signed   by the ambassador
          'The document is signed by the ambassador.'
      b. El abrigo está agujereado por las polillas.
          the coat is   perforated by the moths
          'The coat is eaten-up by moths.'
      c. El camino está cortado por los manifestantes.
          the road is cut   by the demonstrators
          'The road is cut by the demonstrators.'

However, it is not clear to me what exactly it means for an agent to be "detectable" or "relevant" for a result state, nor does this claim rely on any well-understood pragmatic notion. More problematically, this view is riddled with counterexamples, as shown in (7).

(7)   a. La cortina está arañada (??por el gato / ??con un cuchillo de sierra).
          the curtain is scratched ??by the cat / ??with a knife   of saw
          Intended: 'The curtain is scratched by the cat/ with a saw knife.'
      b. La arena está pisoteada (??por unos niños).
          the terrain is   stomped   ??by some kids
          Intended: 'The terrain is stomped on by some kids.'
      c. El maletero del   coche está abierto (??por un oso).
          the trunk   of.the car   is   opened ??by   a bear
          Intended: 'The trunk of the car is opened by a bear.'

In all the examples in (7), the agent should be "detectable" in the result state. In (7a), the scratch marks on the curtain could indicate that they were made by a cat, or that a saw knife was used as an instrument. In (7b), we could see infant footprints on the terrain that would clearly show that it was kids who did those, and in (7c) we could see bear paw marks indicating that the trunk was indeed forced open by such animal. And yet, even under those scenarios,

all the sentences in (7) are at best very degraded. The state-relevance hypothesis, then, does not seem to work.

2.2. *Atelicity*

The second main view regarding the (un-)acceptability of *by*-phrases in APass is based on *Aktionsart*. The claim is that it is only participles derived from atelic verbs that allow *by*-phrases (Fernández-Ramírez 1951; Gómez-Torrego 1988; Conti-Jiménez 2004, a.o.). I illustrate this in the examples in (8) ((8a) from Mendikoetxea (1999) and (8b) from Gómez-Torrego (1988)).

(8)   a. La finca está cercada por una valla.
          the ranch is   enclosed by a   fence
          'The ranch is enclosed by a fence.'
        b. El garaje está vigilado   por el   guarda.
          the garage is surveilled by the guard
          'The garage is surveilled by the guard.'

Unlike the state-relevance approach, the atelicity account does rely on independently well-studied grammatical properties and it conforms to the empirical facts. However, what these accounts do not provide is a deeper reason as to why this is, nor why it is the case that atelic verbs are generally bad inputs for APass formation, namely most activities and states (e.g. (9)). Such a task will be undertaken in the following section.

(9)   a. *La carreta está empujada.
          the cart is   pushed
           Intended: 'The cart is pushed.'
        b. *Pedro está amado.
          Pedro is   loved
           Intended: 'Pedro is loved.'

3. The analysis
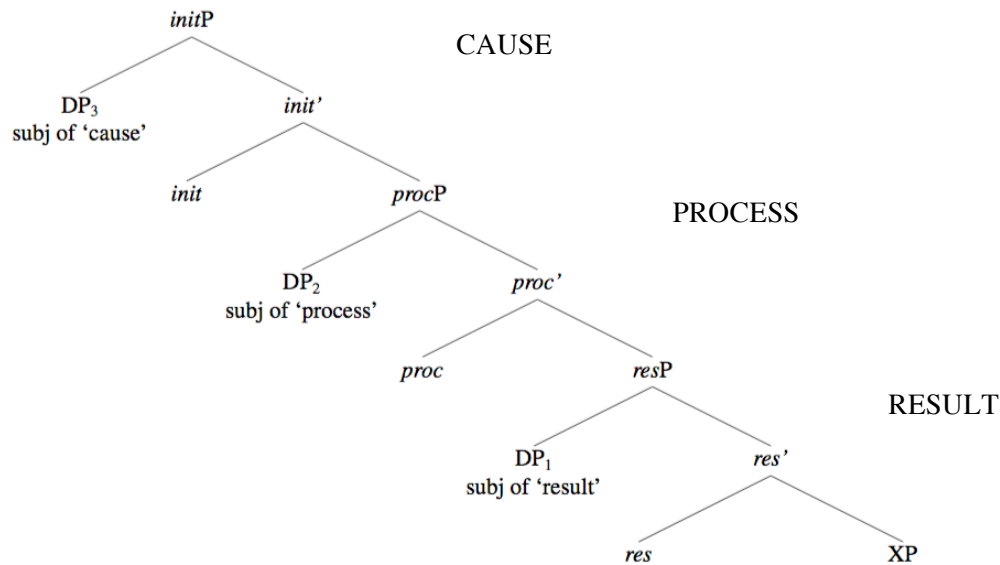### 3.1. *The building blocks of* Aktionsart

I follow García-Pardo (to appear) (see also Kratzer (2000) for German)[4] in that the two aspectual types that are allowed in APass are change-of-state (CoS) and stative causative (StC) predicates. Examples of CoS verbs are given in (10) and examples of StC verbs in (11). Regarding StCs, we can discern three types: *(i)* object-experiencer psychological verbs[5] (eg. (11a)) (Arad 2002; Landau

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[4] Kratzer (2000) assumes two types of APass: target states, which pose restrictions on the aspectual type of the base verb (telics and stative causatives), and resultant states, which can be formed with any verb type. See García-Pardo (to appear) for arguments against resultant state passives in German, and see also Sections 5.2 and 5.3 of this paper.

[5] An anonymous reviewer wonders what happens with psychological pronominal verbs such as *aburrirse* 'to be bored', *entretenerse* 'to be entertained' or *interesarse* 'to be interested', whose subjects are experiencers and yet they can form adjectival passives, as (i) shows (and see also Marín & McNally 2011 for a recent discussion of these verbs).

(i) a. Pedro se aburre.   b. Pedro está aburrido.
      Pedro se bored   *Pedro is   bored*
      'Pedro is bored.' (lit. 'Pedro bores himself')   'Pedro is bored.'

2010; Pylkkänen 1999, a.o.); *(ii)* location verbs (e.g. (11b) (Kratzer 2000; Rothmayr 2009); *(iii) govern*-type verbs (e.g. Fábregas & Marín to appear, García-Pardo to appear).[6]

(10)   CoS verbs: *romper* 'break', *abrir* 'open', *derretir* 'melt', *cortar* 'cut', *evacuar* 'evacuate', *destruir* 'destroy'…

(11)   StC verbs
    a. *preocupar* 'worry', *impresionar* 'impress', *divertir* 'amuse'…
    b. *rodear* 'surround', *cubrir* 'cover', *obstruir* 'obstruct'…
    c. *proteger* 'protect', *gobernar* 'govern', *controlar* 'control', *vigilar* 'surveil'…

The received view for CoS verbs is that they are semantically composed of (at least) two parts: a process subevent and a result subevent (Moens & Steedman 1988; Parsons 1990; Hale & Keyser 1993; Higginbotham 2000, a.o.). A similar decompositional approach has been pursued for StCs: they are taken to consist of two states, causally related (Pylkännen 1999; Kratzer 2000; Arad 2002; Rothmayr 2009, a.o.). I accept and adopt this view in this paper.

For the modelling of these verb types I follow Ramchand's (2008) first syntax framework, whose core assumption is that aspectual verb types, and their accompanying argument structures, are derived and constrained by the limited syntactic configurations within a decomposed VP. She proposes that the VP is composed at the most of three universally-ordered projections: *(i) init(iation)*P, which introduces a causational subevent and an external argument; *(ii) proc(ess)P*, which introduces a dynamic subevent; *(iii) res(ult)*P, which introduces a result subevent and an internal argument. The idea, then, is that there is a one-to-one syntax-to-semantics mapping in the VP, and that it is syntax that creates the existing *Aktionsart* types and their possible argument structures. I illustrate her proposal in (12).

I note that these verbs all have transitive counterparts, in which the subject of the pronominal verb is now the experiencer object (e.g. (iia)), and so they can be classified as object-experiencer psych verbs. However, these verbs do raise non-trivial questions with respect to their syntax and their derivational relationship to adjectival passives. First, if these verbs are stative and causative in Spanish (Marín & Sánchez-Marco 2012), then it is unclear why they can have anti-causative counterparts (i.e. their pronominal form) if the other StC verb types do not anti-causativize (e.g. (16b)). It is equally unclear why they cannot have *by*-phrases introducing Agents/Causers in APass if they are aspectually StCs (e.g. (iib).

(ii) a. El profesor aburre a Pedro.   b. Pedro está aburrido (*por el profesor)
    the teacher bores ACC *Pedro'*   *Pedro is   bored   by the professor*

Giving a solution to this puzzle goes well beyond the scope of this work: as is known, psych verbs display idiosyncratic grammatical behavior in several respect, such as reflexivization asymmetries (Postal 1971), case-marking and argument structure (Belletti & Rizzi 1988) and thematic properties (Pesetsky 1995). I leave aside psych verbs for the remainder of this work, noting that their distinct properties most probably warrant a different syntax from the one I propose in (15b) for the other StC verb types. See Landau (2010) and Fábregas & Marín (2015) for recent syntactic proposals (the latter specific for Spanish).

[6] Although Fábregas & Marín (to appear) argue that *govern*-verbs are non-dynamic events, rather than stative causatives.

(12)   The maximal projection of the VP (from Ramchand 2008:39)

CAUSE

PROCESS

RESULT

In Ramchand's system, the aspectual types of verbs are derived depending on which of these projections are present in the structure. States are derived by a single *init*P, which denotes a mere non-causational state when it does not combine with *proc*P. Activities are built minimally with *proc*P if intransitive, and with an additional *init*P if the activity verb is transitive-causative.

The core building blocks of CoS verbs, in Ramchand's system, are *proc*P and *res*P, which in combination denote a process (*proc*P) leading to a result state (*res*P). This is the structure of non-causative CoS verbs such as (13a). For the corresponding structure in (13b), I assume, as in Ramchand (2008), that the internal argument occupies both (Spec,*proc*P) and (Spec,*res*P), given that it is both an undergoer of the process as well as a holder of the result state. The CoS root *explot-* lexicalizes both the *proc* and *res* heads. Transitive-causative CoS structures, in turn, are have an additional *init*P with an external argument in its specifier, as in (14b).[7]

(13)   a. El globo   explotó.
           the balloon exploded
           'The balloon exploded.'
        b. [*proc*P el globo [*proc'* explotó [*res*P ~~el globo~~ [*res'* ~~explotó~~]
(14)   a. Pedro explotó   el   globo.
           Pedro exploded the balloon.
           'Pedro exploded the balloon.'
        b. [*init*P Pedro [*init'* Ø [*proc*P el globo [*proc'* explotó [*res*P ~~el globo~~ [*res'* ~~explotó~~]

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[7] Transitive CoS structures are derived in Ramchand (2008) in two ways: if the structure is part of an anti-causative alternation (i.e. if there is transitivization of a base unaccusative verb, like *explotar* 'explode' in (14a)), then a null *init* head is added, as in (14b)). If the verb has no unaccusative counterpart (i.e. if it is strictly transitive, such as *inventar* 'invent' or *asesinar* 'murder'), Ramchand argues that the root lexicalizes the three heads (*init* > *proc* > *res*). While agreeing with Ramchand's basic proposal for transitive CoS verbs, my take in this work is that CoS verbs that are strictly transitive in active voice (cf. Alexiadou et al.'s (2006) 'agentive' verbs) do not need to project *init*P in APass (and indeed, they do not project it in Spanish and other languages). See footnote 13 for further elaboration on this point.

How about StC verbs? Although Ramchand (2008) does not address this verb type, it can be derived naturally in her system. Since StC verbs are semantically composed of two states, one denoting a cause and another denoting a result, it follows, from a transparent syntax-to-semantics mapping approach such as first-phase syntax, that they must be composed of two syntactic state-denoting projections: one denoting a cause (*init*P) and another one denoting a result (*res*P). Given that StC verbs are not dynamic, *proc*P is absent. An example of the proposed structure is given in (15).

(15)   a. Pedro vigila   la entrada.
           Pedro surveils the entrance
            'Pedro surveils the entrance.'
        b. [$_{initP}$ Pedro [$_{init'}$ vigila [$_{resP}$ la entrada [$_{res'}$ ~~vigila~~]

A crucial prediction of this analysis, note well, is that a StC verb cannot have an intransitive/anti-causative counterpart: StC verbs are formed by the external-argument introducing projection, *init*P, and so such aspectual type cannot undergo the transitive-unaccusative alternation (e.g. (16)).[8] This is unlike CoS verbs (e.g. (13-14a)), because their aspectual structure only requires *proc*P and *res*P, but not *init*P.

(16)   a. Los expertos {protegieron/ vigilaron/ controlaron/ habitaron} la fábrica.
            the experts   protected   surveilled controlled inhabited the factory
            'The experts {protected/ surveilled/ controlled/ inhabited} the factory.'
        b. *El museo (se) {protegió/ vigiló/   controló/ habitó}.
            the museum se   protected surveilled controlled inhabited

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[8] An anonymous reviewer points out that examples such as (ib) and (iib) below are grammatical.

(i) a. La policía protegió   a   la chica como pudo
       the police protected ACC the girl   as   it.could
    b. La chica se protegió como pudo.
       the girl se protected as   she.could
(ii) a. Los soldados protegieron la ciudad de   los villanos
        the soldiers protected   the city   from the villains
     b. La ciudad se protegió   de   los villanos.
        the city   se protected from the villains

While I agree with the reviewer's judgments, I note that the b. examples involve a reflexive construction, rather than an anti-causative one: the confusion lies in that both constructions share the reflexive *se* marker. In (i), this is clearly shown by the agentive modifier *como pudo* 'as (s)he/they could'. If the subject were inanimate, as in (iii), the sentence would be out, which shows we are dealing with a reflexive structure, not an anti-causative one. As for (iib), I think the reason that the sentence is fine is because *la ciudad* 'the city' is metonymically interpreted as the inhabitants of the town, which allows for the reflexive reading. If the city were explicitly claimed to be empty, the sentence would be at best be pragmatically odd, as in (iv).

(iii) *La caja de seguridad se protegió como pudo.
        the box of security se protected as   it.could
        Intended: 'The security box protected (itself) as it could.'
(iv) #La ciudad desierta se protegió de   los villanos.
        the city   deserted se protected from the villains
        Intended: 'The deserted city protected itself from the villains.'

*'The museum{protected/surveilled/controlled/inhabited}.'

It should be emphasized that *init*P is non-trivially different from Kratzer's (1996) VoiceP, an account that was later followed by many researchers, especially those working in Distributed Morphology. Kratzer's VoiceP merely introduces an event syntactically, and integrates it thematically with the VP complement of Voice, where *Aktionsart* is encoded (e.g. the operator CAUSE encoded in the root of CoS and StC verbs in Kratzer (2000)). In such an approach, there is no link whatsoever between the aspectual structure of the VP and the introduction of an external argument, thus failing to explain the asymmetries regarding the transitive-accusative alternation in CoS and StC verbs.

In the following subsection, I lay out the analysis I propose for Spanish APass, which builds crucially in the syntactic view of *Aktionsart* outlined here.

3.2. Building the APass

García-Pardo (to appear) observes that the *Aktionsart* of the underlying VP is not altered by APass formation, i.e. APass do not inherently encode any special anteriority/past semantics, unlike it has often been claimed (Bosque 1990; RAE 2009 for Spanish; Embick 2004; Bruening 2014 for English; Maienborn 2009 for German). It is only APass derived from CoS verbs that delivers an anteriority reading for APass (e.g. (17)); APass derived from StC verbs derive a progressive reading (e.g. (18)). Therefore, the term 'past participle', oftentimes used to refer to APass, is misleading.

(17)　La ciudad está demolida.
　　　the city　is　demolished
　　　'The city is demolished.'
　　　a.　✓Anteriority reading: the city is currently in a state brought about by a previous demolishing event, which is now over.
　　　b.　×Progressive reading: the city is currently being demolished.

(18)　La ciudad está vigilada.
　　　the city　is　surveilled
　　　'The city is surveilled.'
　　　a.　×Anteriority reading: the city is currently in a state brought about by a previous surveillance event, which is now over.
　　　b.　✓Progressive reading: the city is currently being surveilled.

It is important to note that in both cases we have a resultative reading, in the broader sense of resultativity. That is, result states do not necessarily involve a change of state, but they can also be results of stative causation, which does not involve dynamicity and hence no change. These two types of (lexical) resultative verbs also involve a different temporal organization, which carries over to their participial adjective form. Thus, with APass derived from CoS verbs, we have an anteriority reading because in CoS verbs the dynamic event strictly precedes temporally the result state it brings about. With APass derived from StC verbs, we get the progressive reading precisely because in StC verbs the result state is temporally coextensive with the causing state that maintains it (Pylkännen 1999; Arad 2002).

This state of affairs is in line with the hypothesis in (19), put forth by Fábregas et al. (2012) for the domain of nominalizations. I extend it to the domain of adjectivization as well.

(19)   Aspect Preservation Hypothesis: The lexical aspect of a verb is preserved under adjectivization.

If *Aktionsart* is built in the syntax, and it is preserved in APass formation, then it follows that APass formation includes some aspectually-meaningful verbal structure. Moreover, it should also be expected that such structure showed the same properties in its non-derived form as in its derived form (i.e. adjectivized or nominalized). As it turns out, Spanish APass show that this is indeed the case. As we saw in the preceding section, CoS verbs allow for the transitive-unaccusative alternation, whereas StCs do not. This asymmetry regarding the optionality of the external argument also shows its effects in APass: when derived from CoS verbs, the *by*-phrase is not possible; when derived from StC verbs, *by*-phrases and agent-oriented modifiers more generally are indeed possible. I repeat the relevant examples from (3) and (5) below for convenience.[9]

(3)   La ciudad está destruida *{por el   ejército/ con bombas/ vilmente}.
       *the city   is   destroyed *{by the army   with bombs foully*
       Intended: 'The city is destroyed {by the army/ with bombs/ foully}.'

(5)   La ciudad está protegida {por los ciudadanos/ con barricadas/
       the city   is   protected by the citizens   with barricades
       valerosamente}.
       courageously
       'The city is protected {by the citizens/ with barricades/ courageously}.'

My technical implementation is as follows. I assume that the APass is built with a head Adj (much like Kratzer's (2000) target-state APass, see Section 5.2 for further discussion), which has two functions: *i)* morphological: it derives an adjective from a verb; *ii)* semantic: it retrieves the result state of the underlying eventuality and existentially quantifies over the causing eventuality (be it a state or a dynamic event).

An immediate question is how the Adj selects for resultative eventualities (i.e. verbs which contain a result state in their event decomposition, namely CoS and StC verbs). Given that result states are encoded in the syntactic projection *res*P, I propose that Adj carries a selectional feature [+*res*] which is

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[9] An anonymous reviewer notes that the participle *destruido* 'destroyed' can accept agent/cause-oriented complements in some contexts, as in (i).

(i) a. La ciudad está totalmente destruida por la contaminación.
        the city   is   completely destroyed by the pollution
    b. Venezuela está destruida por los ladrones que la saquean día a   día.
        Venezuela is   destroyed by the thieves   that it loot   day by day
        'Venezuela is destroyed by the thieves that loot it day after day.'

I believe that the reason that (i) is acceptable is because destroy there is coerced into a StC reading, in which the pollution or the looting thieves keep the 'theme' (the city or Venezuela) in a destruction state. The same coercion effect, I believe, explains the acceptability of the *by*-phrase in (6c) with the participle *cortado* 'cut' (see also footnote 15).

checked with the head *res* of the underlying verbal predicate.[10] This makes the correct prediction that activities and non-causative states cannot be inputs for APass formation (e.g. (9)): the former are built with *prco*P (and, optionally, *init*P), and the latter only project *init*P.[11]

Be as it may, the key issue here is how we derive the restrictions regarding *by*-phrases: while I said that there were parallelisms between verbs and participles regading external arguments and *Aktionsart*, the picture is a bit more complicated than that: CoS verbs may or may not have external arguments, but APass derived from them cannot have *by*-phrases at all (assuming, as I do here, that *by*-phrases are the external argument semantically, i.e. that they saturate the open variable of *init* at LF).[12]

The proposal I put forth is that there is a first phase in the VP (in Chomsky's 2001 sense), call it the *Aktionsart* domain, where the core aspectual structure of verbs is built. The input to this phase is a numeration that feeds the relevant eventive heads for aspectual building to the syntax (e.g. {*proc,res*} in the case of CoS verbs, {*init,res*} in the case of StC verbs). The adjectivizing head in Spanish is inserted in this numeration, and it is encoded to take a verbal projection as a complement (either *init*P or *proc*P). I assume a late insertion ap-

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[10] The proposal of a [+res] feature in the grammatical ontology has its precedents in Folli & Harley (2014), who propose an analysis of the verb-framed vs. satellite-framed typology involving a [+res] feature.

[11] A reviewer presents potential counterexamples to my proposal from activity verbs that are licit in APass. I give the relevant examples s/he provided in (i) below.

(i) a. No entres, que el   suelo está fregado.
      not enter   that the floor is   mopped
       'Don't come in: I just mopped the floor.'
   b. Ya   está hablado, iremos   a París.
       already is   talked   we.will.go to Paris
       'It's settled then: we'll go to Paris.'
   c. Este fenómeno   está estudiado por D'Alessandro (en un artículo del   2014)
       this phenomenon is   studied   by D'Alessandro in an article of.the 2014
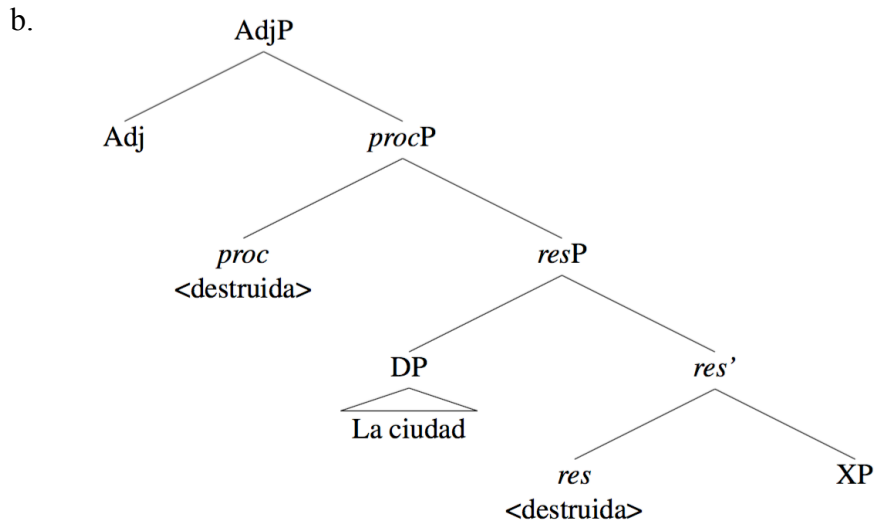   'This phenomenon is studied by D'Alessandro in a 2014 article.'

Upon closer inspection, however, these are not counterexamples. The activity predicate in (ia) is one of several that alternate between an activity and change-of-state reading (also in English, cf. *I mopped the floor {in an hour/ for hours}*). The example (ib) features an idiosyncratic use of the participle *hablado* that means 'decided' or 'settled', rather than just 'talked/discussed.' Note that it is pragmatically odd to use *hablado* in an APass if a decision or conclusion on the discussed subject has not been reached (eg. *#El asunto está hablado pero no hemos llegado a ninguna conclusión*, lit. 'The matter is talked, but we have not reached a conclusion.'). It appears, then, that *hablado* codifies a result in this usage. Finally, in (ic), we are not dealing with an activity, but rather a stative use of *estudiar* 'study' (eg. there is no habitual reading in the present tense: *D'Alessandro estudia este fenómeno en un artículo de 2014* 'D'Alessandro studies this phenomenon in a 2014 article.'). Evidence that it is syntactically complex (and hence, under my account, causative) comes from the ambiguity with the adverb *de nuevo* 'again': *D'Alessandro estudia de nuevo este fenómeno en un artículo de 2014* 'D'Alessandro studies this phenomenon again in a 2014 article.' has two possible readings: one in which the phenomenon has been studied before by other people, and one in which it was previously studied by her. Such a reading is absent from non-causative states such as subject-experiencer verbs, e.g. *Pedro ama a María de nuevo* 'Pedro loves María again' does not have the reading in which someone other than Pedro loved María before).

[12] Note that I depart from Collins (2005) in that external arguments are generated syntactically in the same position in active and passive sentences ((Spec,vP) in his account). Instead, I follow Bruening's (2013) for verbal passives that posits that *by*-phrases are adjuncts (of a passive VoiceP, in his accont).

proach, in which a root with matching category features lexicalizes the eventive heads in the first phase.

Let us see how this works for APass derived from CoS verbs with the example in (20a), repeated from (17). In the syntactic structure in (17b) I omit the (Spec,*proc*P) position, a position that the internal argument would also occupy, for perspicuity. The semantics are given in (20c), where '→' stands for the abstract 'leads-to' relation between the process event and the result state, as in Ramchand (2008).

(20) a. La ciudad está destruida.
        the city   is   destroyed
        'The city is destroyed.'

b.

```
                    AdjP
                   /    \
                Adj      procP
                        /     \
                    proc       resP
                 <destruida>   /    \
                             DP      res'
                            /  \     /    \
                        La ciudad  res     XP
                               <destruida>
```

c. ⟦AdjP⟧ = λs.∃e [e→s & destruida(e) & Subj(la ciudad,s) & destruida(s)]

As is clear from those structures, the external argument is missing, and hence *by*-phrases (and agent-oriented modifiers more generally) are correctly predicted to be out.[13]

Let us see how this works for StC verbs. As discussed, these verbs include an *init*P projection and hence an external argument semantically (but no specifier, and see the discussion at the end of Section 5.3). In the case of a 'short' APass (i.e. without a *by*-phrase, as in (21a)), I assume that the external argument is bound by existential closure (e.g. (21c)).

(21) a. La ciudad está protegida.
        the city   is   protected

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[13] A reviewer wonders how verbs that are strictly transitive in active sentences, such as *destruir* 'destroy' from the example, can appear without an external argument in adjectival passives. One can either assume that these verbs are not lexically specified for an external argument but rather, it is their conceptual agentive meaning that favors their appearance in transitive frames (eg. Borer (2005)), or rather, we can stick to Ramchand (2008) and accept that *destruir* is lexically specified as [*init,proc,res*], and further accept, as Ramchand does, the Superset Principle for lexicalization (Starke 2009), which posits that a lexical item can lexicalize a syntactic tree (or, alternatively, a 'span' of contiguous syntactic heads) iff the features of the lexical item are a superset of the features of the syntactic tree. In our case at hand, *destruir* can lexicalize the syntactic heads *proc* and *res* since it lexically contains a superset of those category features (*init,proc,res*).
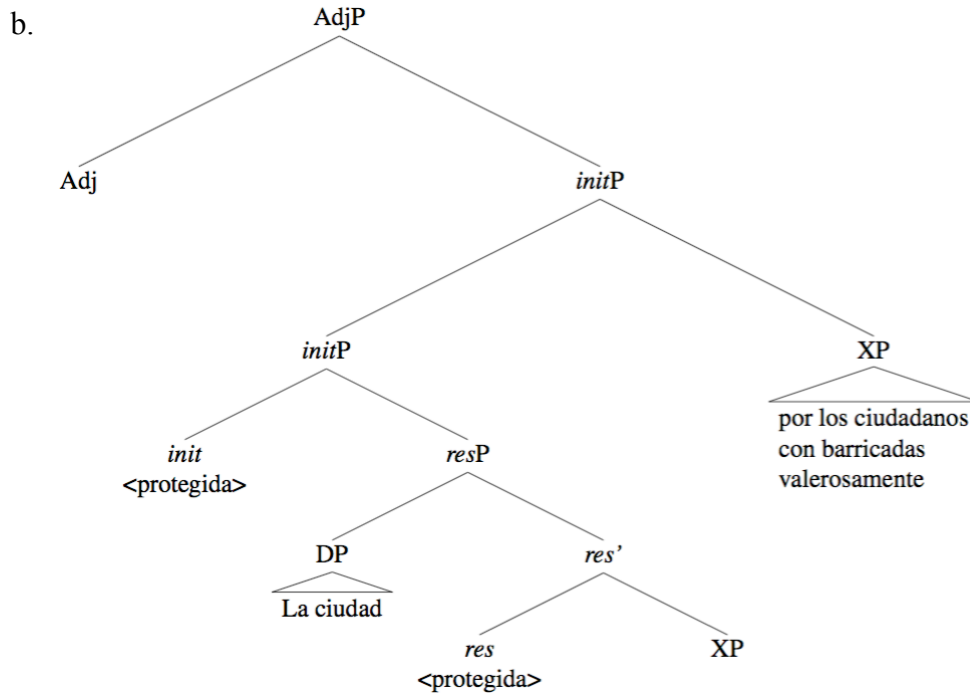
'The city is protected.'

b.
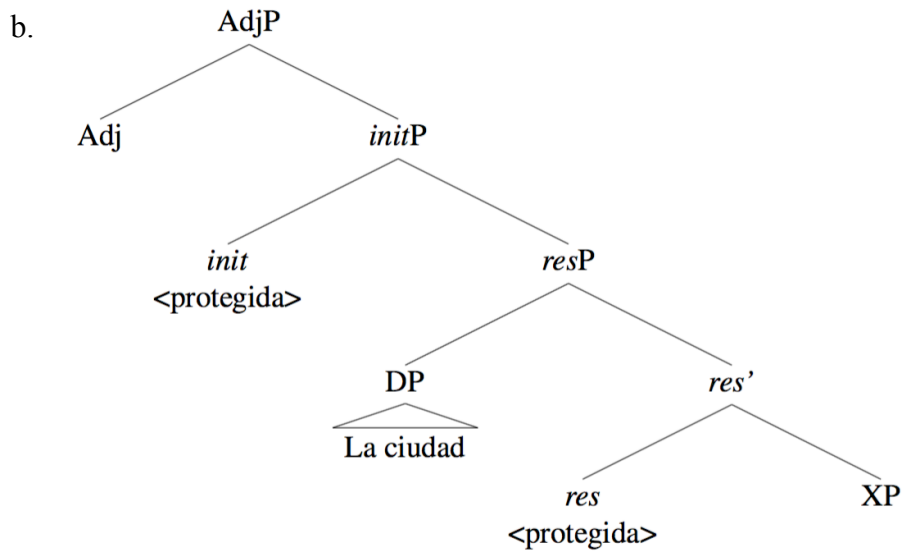
c. $[\![AdjP]\!] = \lambda s_2.\exists x,s_1 [s_1 \rightarrow s_2$ & $Subj(x,s_1)$ & $protegida(s_1)$ & $Subj(la ciudad, s_2)$ & $protegida(s_2)]$

If there is indeed a *by*-phrase, or an agent-oriented modifier more generally (e.g. (22a), from (5)), then I assume they are adjoined to *init*P (see also Bruening (2013), who adjoins them to a specifierless transitive VoiceP, as well as footnote 12 of this paper). The *by*-phrase semantically saturates the open argument introduced by *init*P, whereas I assume that agent-oriented adverbs and instrumental are semantically integrated by conjunction (Davidson 1967) to the causing event introduced by *init*P. The syntactic structure is given in (22b). The toy semantics for the APass in (22a) with the *by*-phrase are given in (23a), with the instrumental in (23b) and with the agent-oriented adverb in (23c).[14]

(22)   a. La ciudad está protegida {por los ciudadanos/con   barricadas/
          the city   is   protected by the citizens   with barricades
          valerosamente}.
          courageously
          'The city is protected {by the citizens/ with barricades/ courageously}.'

---

[14] In an earlier paper dealing with the same phenomena (García-Pardo in press), I put forth a different account within the temporal syntax framework of Demirdache & Uribe-Etxebarria (2007 and references therein). I proposed a bipartite causative-resultative VP-structure for both CoS and StC verbs: simplifying a bit, the lower resultative VP of both verb types would have an inherent State-Time (ST-T) argument in their specifier that allowed for result-oriented modification. The higher VP of StC verbs would introduce another ST-T argument that would allow for modification of the causative sub-event. However, the Event-Time (EV-T) argument associated to the higher CoS VPs would be severed from the eventive-causative VP and introduced separately by a projection I labeled Ev(ent)P. In APass in languages like Spanish, adjectivization would happen before EvP would project and hence spatio-temporal modification of the causative event would be impossible. In contrast, in other languages like Greek (see also data in 6.2 of this paper), EvP projects before adjectivization and hence modification of the casuative event with participles derived from CoS verbs is possible. I ultimately abandon this previous account in favor of the one I present in this present paper, the main reasons being that it is quite ad-hoc and does not shed light on other independent phenomena involving external arguments, and it runs into potentially lethal problems in the light of phenomena such as eventive nominalizations, which do not allow result-oriented modification (Alexiadou 2001).

b.

(23) a. $[\![AdjP]\!] = \lambda s_2.\exists s_1 [s_1{\rightarrow}s_2 \text{ \& Subj(los ciudadanos},s_1) \text{ \& protegida}(s_1) \text{ \&}$
       $\text{Subj(la ciudad},s_2) \text{ \& protegida}(s_2)]$
      b. $[\![AdjP]\!] = \lambda s_2.\exists x,s_1 [s_1{\rightarrow}s_2 \text{ \& Subj}(x,s_1) \text{ \& protegida}(s_1) \text{ \&}$
       $\text{con(barricadas},s_1) \text{ \& Subj(la ciudad},s_2) \text{ \& protegida}(s_2)]$
      c. $[\![AdjP]\!] = \lambda s_2.\exists x,s_1 [s_1{\rightarrow}s_2 \text{ \& Subj}(x,s_1) \text{ \& valerosamente}(s_1) \text{ \&}$
       $\text{protegida}(s_1) \text{ \& Subj(la ciudad},s_2) \text{ \& protegida}(s_2)]$

Although with APass derived from CoS verbs we cannot have agent-oriented modifiers as in (22) due to the lack of *init*P, we can nonetheless have result-oriented modifiers. Note the contrasts in (24). In (24a), the modifier *en el jardín* 'in the garden' is possible because it modifies the result state, i.e. it indicates where the treasure ended up as a result of the burying event. On the other hand, *desde un helicóptero* 'from a helicopter' is out, because it modifies the cause event, missing in these type of APass. A similar contrast is seen in (24b): *con una cuerda* 'with a rope' specifies the material that the dog has ended up tied with, whereas *con guantes* is an instrumental that needs to attach to *init*P, hence the ungrammaticality (but note that the modifier would survive under the reading that the gloves are what was used to keep the dog tied, as is the case with the rope).

(24) a. El tesoro   está enterrado {en el   jardín/ *desde un helicóptero}.
        the treasure is   buried   in the garden from   a helicopter
        'The treasure is buried {in the garden/ *from a helicopter}.

      b. El perro está atado {con una cuerda/ *con guantes}.
        the dog is   tied   with a   rope   with gloves
        'The dog is tied up {with a rope/ *with gloves}.

34

4. Apparent counterexamples: pseudo-incorporation

4.1. By-*phrases in APass derived from CoS verbs?*

My account faces some apparent counterexamples that need to be addressed. So far, I have claimed that APass derived from CoS verbs do not allow *by*-phrases. However, I presented some examples when discussing the state-relevance hypothesis in Section 2.1. that seem to contradict this view: they are instances of APass derived from CoS verbs and they nonetheless allow *by*-phrases. The relevant examples are in (6) and I repeat them below for the reader's convenience.[15]

(6)   a. El documento está firmado por el embajador.
          the document is   signed by the ambassador
          'The document is signed by the ambassador.'
      b. El abrigo está agujereado por las polillas.
          the coat   is   perforated by the moths
          'The coat is eaten-up by moths.'
      c. El camino está cortado por los manifestantes.
          the road   is   cut   by the demonstrators
          'The road is cut by the demonstrators.'

There are two possible routes to follow here. One is to reject the analysis put forth in this paper altogether and propose instead that all APass contain *init*P/VoiceP across the board in Spanish, and so *by*-phrases and other agent-oriented modifiers are naturally licensed. This is indeed the current mainstream hypothesis for other languages (McIntyre 2013, 2015; Bruening 2014 for English; Alexiadou *et al.* 2014 for German; Meltzer-Asscher 2011; Doron 2013 for Hebrew, a.o.).

However, this hypothesis overgenerates. It is still the case that *by*-phrases and agent-oriented modifiers are highly restricted in APass (eg. (3)), and the state-relevance restriction won't help to account for such restrictions, as I showed in Section 2.1.

The second option is to maintain the view that APass derived from CoS verbs indeed do not have an *init*P/VoiceP in their decomposition. If so, one must explain why it is that sometimes *by*-phrases are indeed allowed (e.g. (6)). I commit to this view, and I suggest in the next section that *by*-phrases and agent-oriented modifiers in Spanish APass derived from CoS verbs are pseudo-incorporated to the participle, following an original proposal for German by Gehrke (2015).

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[15] Upon closer inspection, however, example (6c) is not really a counterexample. The verb *cortar* 'cut', though typically a CoS verb, can also have a StC reading as in (6c), where the demonstrators keep the road 'cut' or blocked. Evidence for this ambiguity is given in (i), where the progressive sentence can either mean that the demonstrators are in the process of blocking the road, or that they are already blocking it and are maintaining such state.

(i) Los manifestantes están cortando la carretera.
    the demonstrators are cutting   the road
    'The demonstrators are bocking the road.'

4.2. A pseudo-incorporation account.[16]

Gehrke (2011,2012b,2015), focusing on APass derived from CoS verbs in German, notices that *by*-phrases and agent-oriented modifiers in general are very restricted, just like we have seen for Spanish. I show this in example (25), taken from Rapp (1996:246) (via Gehrke 2012b).

(25)   Der Mülleimer ist {*von meiner Nichte / *langsam / *genüsslich / *mit der
        the rubbish-bin is by my   niece   slowly   pleasurably with the
        Heugabel} geleert.
        hayfork   emptied

Gehrke (2015), however, points out that *by*-phrases and other agent-oriented modifiers[17] may be possible under certain conditions, which coincide with those that have been observed to license pseudo-incorporated nominals (PINs) (e.g. Massam 2001) and, as such, Gehrke concludes that these APass modifiers are in facts PINs. The first characteristic of PINs is discourse opacity: the nominal modifiers in APass tend to be indefinites and have weak referential force. Thus, they cannot introduce specific referents, and as such cannot be referred back to in the discourse by means of an anaphor (e.g. (26), from Gehrke 2015:904).

(26)   a. Die Karte ist mit [einem Bleistift]$_1$ geschrieben. *Er$_1$ ist blau.
           the card is with a   pencil   written   he is blue
        b. Die Zeichnung ist von [einem Kind]$_1$ angefertigt. *Es$_1$ hat rote Haare.
           the drawing   is by   a   child produced   it has red hairs

Gehrke further notes that the participial predicate resulting from pseudo-incorporation must be somehow well-established or institutionalized within the community of speakers. The PIN may then be a definite, specific referent provided it is someone noteworthy within the community of speakers, participating in an activity significant to his or her persona. For instance, in (27) (taken from Gehrke 2015:914 via Maienborn 2009), the *by*-phrase can introduce a specific referent because the event of a manuscript being cited by Chomsky is a noteworthy one in the community of speakers, as opposed to being cited by Sandberger.

(27)   Das Manuskript ist von {Chomsky/ ?Sandberger} zitiert.
        the manuscript is by {Chomsky ?Sandberger cited
        'The manusript is cited by {Chomsky/ (Sandberg)}.'

Note that indefinite PINs must obey this restriction too: in (28), from Gehrke (2015:923), the *by*-phrases are out because there is no well-established or noteworthy eventuality of a niece emptying the rubbish bin, or a man opening the door.

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[16] For seminal work on noun incorporation and pseudo-incorporation, see Mithun (1984); Baker (1988); Massam (2001). For pseudo- incorporation in Spanish and Catalan, see Espinal (2010); Espinal & McNally (2011).

[17] It needs to be noted that Gehrke's (2012, 2013) account focuses on event-related modification more generally (i.e. as opposed to result-oriented modification). She proposes that APass in German denote result states from event-kinds, as opposed to event tokens (i.e. paralleling Carlson's (1977) proposal for the nominal domain). I will not be pursuing an account in terms of event-kinds here, and so I refer the interested reader to the aforementioned work.

(28)   a. *Der Mülleimer ist von einer Nichte geleert.
         the rubbish-bin is by a   niece emptied
         intended: 'The rubbish bin is emptied by a niece.'
       b. *Die Tür ist von einem Mann geöffnet.
         the door is by a   man   opened
         intended: 'The door is opened by a man.'

Interestingly, I observe the same patterns in Spanish APass. First, the nominals introduced by *by*-phrases and instrumentals indeed tend to have weak referential force and be non-specific. In (29), we cannot have a specific referent for the pencil or for the moths. Note that, in (29b) (cf. (6b)), even though *las polillas* 'the moths' has a definite determiner the reading is actually generic. As expected, these nominals cannot have anaphoric reference (e.g. (30)).

(29)   a. La carta está escrita {a lápiz/ ??con este lápiz}.[18]
         the letter is   written by pencil   with this pencil
       b. El abrigo está agujereado {por las polillas/ *por estas diez polillas}.
         the coat is   perforated   by the moths   by these ten moths
(30)   a. ??La carne está cocinada a la parrilla$_i$. *pro$_i$* es de muy buena calidad.
         the meat is cooked   at the grill   is of very good quality
         Intended: 'The meat is cooked at the grill. It (the grill) is of a very good quality.'
       b. ??El capuchino está preparado por un barista experto$_i$. *pro$_i$* Tiene los
         the cappuccino is prepared by a barista expert   has   the
         ojos verdes.
         eyes green
         Intended: 'The cappuccino is prepared by an expert barista. He has green eyes.'

Moreover, the *by*-phrases in APass are also subject to the well-establishedness condition. The contrasts in (31) are due to the fact that it is not conventionalized among speakers that kids evacuate buildings or that German tourists empty swimming pools, as opposed to firemen or cleaning services. Note again that specific nominals can indeed be introduced in *by*-phrases but, as

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[18] An anonymous reviewer claims that we can construe examples with specific instrumental referents, as in (i) (his own example).

(i) La carta que encontramos está escrita con este lápiz, así que no puedes   tocarla porque
    the letter that we.found   is   written with this pen   so that not you.can touch.it because
    es una prueba
    is one proof
    'The letter that we found is written with this pencil, so you can't touch it because it's a piece of evidence.'

I agree with the reviewer's judgment: (i) sounds indeed natural to me. The reason, I believe, is that the context now makes the pencil significant (e.g. the pencil has the prime suspect's fingerprints on it, so if we know that the letter was written with that pencil, the event of having written the letter with the pencil is noteworthy. In that respect, it is not too different from the Chomsky example in (27)). If uttered out of the blue, as in (29a), the specific modifier is still degraded to my ear.

we saw for German, the referents need to be noteworthy among the community of speakers: see (32), in contrast with the classic example taken from (6a).[19]

(31)   a. El edificio   está evacuado {por los bomberos/ ??por un niño}.
           the building is   evacuated by the firemen   by a   kid
         b. La piscina   está vaciada {por los servicios de limpieza/ ??por
           the swimming-pool is   emptied by the services of cleaning   by
           los turistas alemanes}.
           the tourists German}.
         'The swimming pool is emptied by the cleaning services/ by the German tourists.'

(32)   El documento está firmado {por el embajador/ ??por Pepito}.
         the document is   signed   by the ambassador by Pepito

    I thus conclude that *by*-phrases and agent-oriented modifiers in APass derived from CoS verbs in Spanish are not licensed by *init*P, or any external-argument introducing projection for that matter. Rather, I suggest, they are pseudo-incorporated to the verb. In other words, *by*-phrases in these APass do not saturate an open variable for an agent nor do instrumentals modify a causative subevent: they are semantically modifiers of the change-of-state predicate.[20]

    The picture that emerges is that there is a cartography of modifiers in Spanish APass depending on where in the articulated VP structure they attach, as shown in (33). At the lowest level of the VP, we have result-oriented modifiers, attaching to *res*P. At the intermediate level of procP (plausibly licensed by
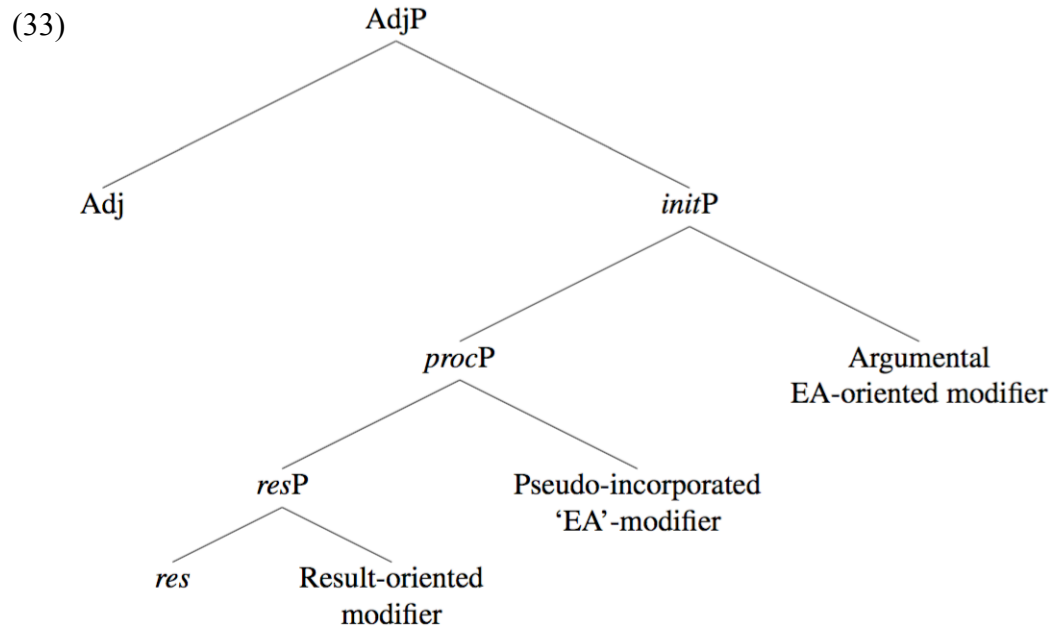
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[19] An anonymous reviewer disagrees with my judgments of examples (31) and (32). He provides yet other examples that sound natural to his ear.

(i) La piscina está vaciada {por el jardinero/ por Jaime}.
   the pool   is emptied by the gardener by Jaime
(ii) El documento está firmado {por Antonio/ mi director}.
   the document is   signed   by Antonio my director

To me, (i) is degraded with *Jaime* but quite OK with *el jardinero*. I however find more natural (31b) with *los servicios de limpieza* 'the cleaning services' than (i) with *the gardener*, which I assume is due to the fact that the cleaning services name an institution, rather than a specific referent. With respect to (ii), I can only find *Antonio* acceptable as the referent of the *by*-phrase if Antonio somehow has a high status or position that makes his signature relevant. That is, the sentence sounds quite unnatural to me if Antonio were to be, say, a regular customer in a gym that signs a waiver.

[20] I remain agnostic here as to what the specific syntactico-semantic analysis of pseudo-incorporation in APass should be. One option would be to assume, as in Dayal (2011), that verbs have two lexical entries: a non-incorporating one, which takes individual-denoting arguments, and an incorporating one that takes property-denoting arguments that further restrict the property of events denoted by the verb. This analysis, however, is incompatible with the constructionist analysis proposed here, and highly undesirable given that it multiplies lexical entries. A second option is to assume, as in Gehrke (2015), that all verbs start out as an incorporating lexical entry, linking this to the process event being a kind, in Carlson's sense: if tense and aspect operators locate this event, then they instantiate it. It is not clear to me, however, how this account derives non-incorporating instances of verbs and, more importantly, the asymmetries between CoS and StC verbs to this respect. An alternative that I find more promising, but which I won't pursue here pending more research on the syntax-semantics and pragmatics of pseudo-incorporation, is to posit an operator at the procP level that delivers a predicate of properties and effectively licenses pseudo-incorporated elements, in the sense of Dayal (2011).

some operator attached to it, see footnote 10), we have pseudo-incorporated modifiers (the 'fake' agent-oriented modifiers). At the highest level, *init*P, we have fully-fledged agent-oriented modifiers. It is, then, the specific aspectual structure of verbs which licenses the modifiers that appear in APass and which restricts their distribution.

(33)

```
                          AdjP
                  ╱              ╲
                Adj               initP
                           ╱            ╲
                        procP          Argumental
                     ╱        ╲        EA-oriented modifier
                  resP      Pseudo-incorporated
               ╱      ╲      'EA'-modifier
             res   Result-oriented
                     modifier
```

Before I go on to the next section, I would like to make a final remark. While I think that Gehrke's pseudo-incorporation account of modifiers in APass derived from CoS verbs is sound (and indeed, the soundest in the current state-of-the-art), I do not contend that the proposal is fully satisfactory as it is: there are still open questions regarding the variability among speakers with respect to the acceptability of modifiers in APass derived from CoS verbs (see f. 18 and 19 for discussion of the differences between an anonymous reviewers' judgments and my own). Also, the notion of a specific referent being noteworthy in the community of speakers or relevant in the specific context needs to be better defined in pragmatic terms.

In short, we certainly need more research to determine what the exact interaction between syntax and semantics/pragmatics is in APass and offer a precise account: I have but sketched one here that may or may not turn out to be correct once that the properties of modification in APass are better understood and the possible dialectal variation is more adequately delineated. What I strongly commit to in this paper is that this is the right route to follow, i.e. APass derived from CoS verbs do not project the phrase that introduces the external argument, and so the restricted instances where we do find *by*-phrases and agentive modifiers must be explained by different means (eg. pseudo-incorporation of the modifier into the participle). Characterizing exactly what the mechanisms that license such modifiers are, I believe, is what future research in APass should focus on. Current accounts that explain *by*-phrases and agent-oriented modification via VoiceP, as I see it, are doomed to fail to explain the pervasive restrictions on agent-oriented modification in APass derived from CoS verbs (and of course, why such restrictions do not exist with CoS verbs).

5. Crosslinguistic extensions

This section discusses APass in other languages. In Section 5.1, I compare Spanish to other languages like German and Hebrew which behave similarly with respect to external-argument modification in APass. In section 5.2., I present and review a recent account for APass in Greek and other languages which are observed to behave differently from Spanish-type APass. I point out this account's shortcomings, which I believe stem from ignoring the role of *Aktionsart* in APass, and suggest an alternative.

5.1. Other languages like Spanish: German and Hebrew

In the previous section, we saw how Spanish shares German's restrictions on agent-oriented modification with APass derived from CoS verbs, concluding, in fact, that these were not true agent-oriented modifiers, but rather, pseudo-incorporated nominals.

An obvious question, unaddressed in the previous section, is whether German freely allows agent-oriented modifiers and *by*-phrases in APass derived from StCs. As it turns out, StC verbs do allow *by*-phrases unrestrictively with these type of APass. I provide examples in (34) and (35).

(34)   a. Die Arbeiter sind durch den Vorarbeiter überwacht.   (Thomas Borer, p.c.)
          the workers are by   the foreman   supervised
       'The workers are supervised by the foreman.'
       b. Er ist von der Musik beeindruckt.   (Gehrke 2012b:190)
          he is by the music impressed

(35)   a. Das Haus ist von Polizisten umstellt /   umzingelt.
          the house is by police-men around-positioned   enclosed
       'The house is surrounded by policemen.'
       b. Das Haus   ist von Bäumen umgeben.
          the house is by trees   around-given
       'The house is surrounded by trees.'   (Gehrke 2012a:16)

Gehrke (2012b) points out the permissibility of *by*-phrases in stative APass, although she did not differentiate between StC and simple states, disallowed in German APass. She proposes that there are two kinds of *by*-phrases in German APass: one type modifies the event kind with CoS verbs (it pseudo-incorporates, according to her 2015 account) and the latter modifies the state-token with stative verbs. She provides prosodic evidence for this (see also Schlücker 2005): the event-kind *by*-phrases form a prosodic unit with the participle whereas her state-token *by*-phrases do not. As we can see in (36a), the neutral stress falls on the nominal introduced by the *by*-phrase, whereas in (36b) the neutral stress falls on the participle.[21]

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[21] Gehrke (2012) proposes that the event-kind *by*-phrases are adjuncts to the VP, applying before adjectivization takes place. State-token *by*-phrases are adjuncts to the AP: they cannot attach to VP because these APass involve lexical adjectivization in the sense of Kratzer (1994), although why there should be a correspondence between lexical adjectivization and state-token modification is not clear in Gehrke (2012). See also Gehrke & Sánchez-Marco (2014) for a similar account for Spanish drawing from corpus data.

Her structures are as in (i), where 'ø' stands for the phonologically-null adjectivizer.

(i) a. [$_{AP}$ [$_{VP}$ [$_{V°}$ [$_{PP}$ von Chomsky] zitiert]] ø]   (Event-kind *by*-phrase)
    b. [$_{AP}$ [$_{PP}$ von der Musik] [$_{A°}$ [$_V$ t$_1$] (un)beeindruckt$_1$-ø]]   (State-token *by*-phrase)

(36)   a. Das Manuskript ist von CHOMsky zitiert.
        the manuscript is by Chomsky   cited
        'The manuscript is cited by Chomsky.'
        b. Er ist von der Musík beEINdruckt.
        he is by the music impressed
        'He is impressed by the music.'   (From Gehrke 2012b:198)

Interestingly, similar observations regarding the asymmetries in the acceptability of *by*-phrases in APass have been made for Hebrew by Meltzer-Asscher (2011). Hebrew, like German and Spanish, also disallows *by*-phrases and agent-oriented modifiers in APass derived from CoS verbs quite generally, as shown in (38).

(38)   ha-mexonit rexuca (*al-yedey maks / *be-tsumet lev / *be-cinor).
       the-car   washed by   Max   in-attention   in-hose
       intended: 'The car is washed by Max / carefully / with a hose.'
                                (From Meltzer-Asscher 2011:824)

Nonetheless, Meltzer-Asscher (2011) notes that *by*-phrases and agent-oriented modifiers are sometimes possible in Hebrew APass (e.g. (39)-(41)). For (39) and (40), she proposes, without articulating it theoretically, that modification is licensed because it can be detected from the state, and for (41) because the agent participates in the state. This is essentially the classic explanation for APass modification in the traditional literature of Spanish that we reviewed in Section 2.1.

(39)   ha-kelev kašur be-recu'
       the-dog tied   in-leash
       'The dog is tied with a leash.'
(40)   ha-sefer arux   al-yedey orex mecuyan.
        the-book edited by   editor excellent
       'The book is edited by an excellent editor.' (Meltzer-Asscher 2011:826)
(41)   ha-ictadion šamur al-yedey šotrim   xamušim.
       the-stadium guarded by   policemen armed
       'The stadium is guarded by armed policemen.'
                                (Meltzer-Asscher 2011:826)

As far as I can see, the data from Hebrew and German falls naturally under my account. Example (39) is an instance of result-oriented modification. Example (40), an APass derived from a CoS verb, could tentatively be an instance of a pseudo-incorporated *by*-phrase à la Gehrke (2015), pending Hebrew speakers' judgments about the specificity and well-establishedness of that adjectival predicate, as well as further data. Example (41) for Hebrew, as well as (34) and (35) for German, are instances of APass derived from StC verbs, which are expected to allow *by*-phrases unrestrictedly.

Note that my account also captures the underlying intuition in the literature on Spanish, German and Hebrew that *by*-phrases are allowed when the agent participates or maintains the result state. The reason is aspectual: since the two states that compose StC verbs are temporally coextensive, and the agent (or

causer, broadly) is a participant of the causative state, it follows that its participation will take place throughout the result state, and only throughout the result state. This is unlike CoS verbs, where the participation of the agent precedes temporally the result state.

5.2. Permissive languages: Alexiadou et al. (2015)

In a recent book, Alexiadou et al. (2015) put forth a cross-linguistic typology of APass. They observe that, while there are languages like German and Hebrew in which *by*-phrases and agent-oriented modifiers are quite restricted, there are other languages like Greek (Anagnostopoulou 2003; Alexiadou & Anagnostopoulou 2008), Swedish (Larsson 2009) and Russian (Paslawska & von Stechow 2003) which allow *by*-phrases unrestrictedly. I provide examples for Greek in (42), taken from Anagnostopoulou (2003:19): (42a) includes a *by*-phrase, (42b) an agent-oriented adverb and (42c) an instrumental. Note that all three examples in (42) are instances of APass derived from CoS verbs, and they indeed do not appear to conform to the pseudo-incorporation restrictions that we observed for German and Spanish.

(42)   a. To psari itan tiganismeno apo tin Maria.
          the fish was fried   by   the Mary
          'The fish was fried by Mary.'
        b. To thisavrofilakio itan prosektika anigmeno/ skopima   paraviasmeno.
          the safe   was cautiously opened/deliberately violated
          'The safe was cautiously opened/ deliberately opened.'
        c. Ta malia tis basilisas   ine xtenismena me xrisi   xtena.
          the hair the queen-GEN are combed   with golden comb
          'The hair of the queen is combed with a golden comb.'

Alexiadou et al. (2015) link this cross-linguistic typology with Kratzer's (2000) distinction between target and resultant state passives. Kratzer proposes that German has two types of APass: *(i)* target-state passives, which retrieve a transitory target state from the event structure of the underlying VP; *(ii)* Resultant state APass: they deliver properties of times true of any time following the runtime of the event (i.e. a Perfect aspect operator).[22] These APass are derived by different stativizers with the semantics in (43), where *s* is the type of eventualities (i.e. events and states).

(43)   a. $\lambda R_{<s,st>} \lambda s \exists e [R(s)(e)]$ (Target-state APass)
        b. $\lambda P_{<st>} \lambda t \exists e [P(e) \& \tau (e) \leq t]$ (Resultant-state APass)
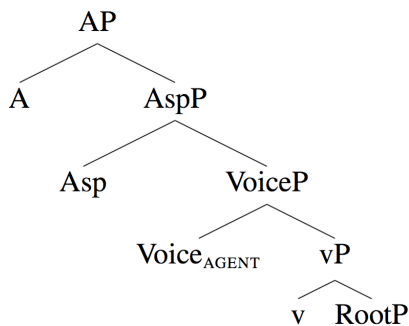
Kratzer's test for the two types of APass is the acceptability of *immer noch* 'still' modification: since target-state APass denote a transitory state, modification with *immer noch* is possible (e.g. (44a)). Resultant-state APass, on the other hand, do not accept *immer noch*, since they deliver a property of times that follow the eventuality, and as such the eventuality is irreversible (e.g. (44b)).

---

[22] Note that resultant state is an aspectual notion that refers to the time that holds forever after the completion of an eventuality (see Parsons 1990), and is not to be mistaken with the term 'result' state that I use in this paper (i.e. the consequent state part of a CoS or StC eventuality), which would be Kratzer's target states. I, however, do not assume that result states are necessarily transitory, unlike Kratzer's target states.

(44) a. Die Geisslein sind immer noch versteckt.
         the little.goats are still   hidden
      b. Das Theorem ist (*immer noch) bewiesen.
         the theorem is   still   proven

Alexiadou et al. (2015) argue that Greek-type (i.e. Permissive-type) APass are derived with an Asp operator denoting a Perfect of Result with the same semantics as Kratzer's resultant state APass in (43b). They argue that adjectivization is done separately, by an A head above AspP. Asp takes as a complement verbal structure that includes a non-active agentive VoiceP (i.e. a specifierless VoiceP that introduces an external argument semantically but not syntactically). Their structure is given in (45).

(45) Greek-type resultant state APass

```
              AP
            /    \
          A       AspP
                /     \
             Asp       VoiceP
                      /      \
               Voice_AGENT    vP
                             /  \
                            v   RootP
```

They support this account with the observation that *still* is ungrammatical with event-related modifiers in Greek-type languages (e.g. (46), from Alexiadou et al. 2015:158).

(46) a. Ta lastixa ine (*akoma) fuskomena apo tin Maria.
         the tires   are (still)   inflated   by the Mary
         'The tires are still inflated by Mary.'
      b. Ta lastixa ine (*akoma) fuskomena me   tin tromba.
         the tires   are (still)   inflated   with the pump.
         'The tires are (*still) inflated with the pump.'
      c. To thisavrofilakio itan (*akoma) prosektika anigmeno.
         the safe   was (still)   cautiously opened
         'The safe was (*still) cautiously opened.'

With respect to German-type resultant-state APass, these authors argue that they also include a non-active agentive VoiceP that introduces an external argument semantically. Their difference with Greek-type APass is that they lack the Asp operator. Inspired by Gehrke's (2012,2015) work, they claim that the absence of this Asp operator prevents the event from being spatio-temporally instantiated, bringing about the restrictions regarding agent-oriented modification (and event-related modification more generally). Their proposed structure is given in (47).

(47)   German-type resultant state APass

```
                    AP
                  /    \
                 A     VoiceP
                      /      \
              Voice_AGENT     vP
                             /  \
                            v   RootP
```
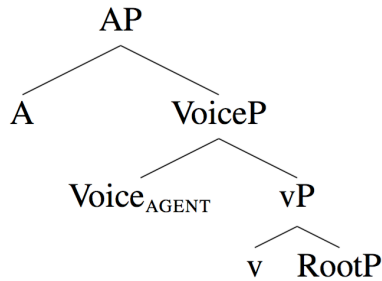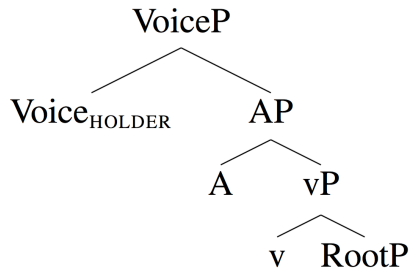
The authors notice that target-state passives (i.e. those that allow for *still* modification) freely allow *by*-phrases and agent-oriented modification in both German-type and Greek-type languages provided they refer to or relate to or modify the consequent state directly.[23] If they relate to the causing event, as in (49), they are not allowed. Their examples for Greek are given in (48) (2015:181) and (49) (2015:158).

(48)   a. To stadio   ine akomi perikiklomeno apo tin astinomia.
           the stadium is   still   surrounded   by   the police
           'The stadium is still surrounded by the police.'
        b. O   skilos ine akomi demenos me   skini.
           the dog   is still   tied   with leash
           'The dog is still tied with a leash.'
        c. To stadio   ine akomi filagmeno prosektika.
           the stadium is   still   guarded   carefully
           'The stadium is still carefully guarded.'
        d. Ta axladia ine akomi voutigmena sto   krasi.
           the pears are still   soaked   in.the wine
           'The pears are still soaked in wine.'
(49)   a. Ta lastixa ine (*akoma) fuskomena apo tin Maria.
           *the tires are (*still) inflated   by   the Mary*
           'The tires are still inflated by Mary.'
        b. Ta lastixa ine (*akoma) fuskomena me   tin tromba.
           the tires   are (still)   inflated   with the pump
           'The tires are (*still) inflated with the pump.'

To make sense that target state passives freely allow *by*-phrases and other Voice modifiers, and that such modifiers must relate to or modify the consequent state directly, they posit a Voice_HOLDER P introducing the result state *above* the adjectivizer, so that Tense and Aspect can locate it and modify it. Their structure is given in (50).

---

[23] The reader will remember that I have discussed similar effects reported for Spanish in Section 2.1

(50)   Target state APass (all languages)

```
                    VoiceP
                   /\
                  /  \
        Voice_HOLDER    AP
                       /\
                      /  \
                     A    vP
                         /\
                        /  \
                       v    RootP
```

5.3. Problems with Alexiadou et al. (2015)

   In this section I review critically Alexiadou et al.'s (2015) proposal and suggest an alternative explanation. The root of their proposal's shortcomings, as I see it, is ignoring the role of aspect in the modification patterns in APass and following instead the target vs. resultant state distinction proposed in Kratzer, which has independently been shown to be problematic (García-Pardo to appear; Gehrke 2012; Maienborn 2009).

   The resultant vs. target state distinction, as we saw, is diagnosed by the (un)acceptability of *still*. This view leads (indeed forces) Alexiadou et al. to assume that German APass that refuse *still* are "resultant" states (e.g. (44b), repeated below as (51)).

(51)   Das Theorem ist (*immer noch) bewiesen.
        the theorem is   still   proven

   However, the authors also claim that resultant-state APass are derived by an operator denoting a perfect of result encoded by Asp, which licenses full-fledged agent-oriented modification in Greek and is absent in German APass. If Asp is indeed absent in German, what kind of APass is then (51)?

   Also problematic, in my view, is their account of target-state APass. First, it is counterintuitive to posit that *by*-phrases and other agent-oriented modifiers to attach to a result-denoting Voice projection to capture the fuzzy notion that those modifiers somehow relate to the state. For one, the crosslinguistic data overwhelmingly shows that these modifiers are linked to the external argument, and not to the internal argument/object-of-result (e.g. data from unaccusatives/anti-causatives), so such an ad-hoc proposal weakens the predictive power of *by*-phrases and other agent-oriented instrumentals, since they could in principle attach anywhere in the VP.

   The source of the confusion, I believe, is to take the target state vs. resultant state as a point of departure. To this respect, I follow García-Pardo (to appear) that there is no real target vs. resultant state distinction in APass in German and Spanish, both types being subsumable under the 'target-state' type, in the sense of the APass being a predicate of the underlying result state of the complex eventuality denoted by the base verb. That is, a sentence like (51) is out not because of the presence of a dedicated perfect operator, but because the result state of a theorem being proven is hardly understood as transitory, and therefore it clashes with the presuppositions triggered by *still* (Krifka 2000).

   The incompatibility with the semantics of *still* is also at the core of the contrasts in (48) and (49). The examples in (49) are not out because those APass are target-states and as such do not have an agentive VoiceP to license those

modifiers, as Alexiadou et al. (2015) claim. Rather, they are out because *still* scopes over the participle and its modifiers. While the result state of a tire being inflated is indeed transitory (i.e. it will stop holding when the tire deflates), and as such accepts *still* (e.g. (52)), the result state of the tire being inflated by Mary or with a pump cannot be reversed. I argue that this is not because there is a perfect operator at play, but because *by Mary* or *with a pump* apply to the causing event, which in the temporal organization of the CoS VP precedes the result state, and hence it cannot be reversed. In other words, this is a matter of inner aspect, not of grammatical aspect.

(52)   Ta   lasticha ine akoma fuskomena.
        The tires   are still   pumped.up   (From Alexiadou et al. 2015:157)

On the other hand, the *by*-phrase in (48a) and the agent-oriented adverb in (48c) are perfectly fine because these APass are derived from StC verbs, and the causing state in this event type is temporally coextensive with the result state. As such, once the result state stops holding, so will the causing state, and therefore *still* can scope over both the result state and *by*-phrases and other modifiers of the causing state. Under this view, note well, there is no need to propose a Voice$_{HOLDER}$P ad hoc to account for the availability of *by*-phrases with *still*: rather, as I discussed in the previous section, *by*-phrases and other agent-oriented modifiers with StC verbs are notionally understood to 'relate' to the result state simply because of the temporal structure of this verb type, in which the causing and result states are temporally coextensive. Finally, (48b) and (48d) are instances of result-oriented modification, so it comes as no surprise that they are accepted.

Note also that the perfect operator account predicts that APass derived from StC verbs should be able to have an anteriority reading. This prediction is not borne out: APass derived from StCs do not have an anteriority reading like those derived from CoS verbs, but only a progressive reading: this happens not only in Spanish (see discussion in Section 3.2. and the examples in (17) and (18)) but also in German and Greek as well.

Moreover, such a proposal cannot predict why it is that activities and simple states are ungrammatical in APass, not only in languages like German (e.g. (53) for activities and (54) for states) but also in languages like Greek (e.g. (55) for activities and (56) for states). Kratzer (2000) notes that activities improve in APass under a 'job-done' reading context, and Anagnostopoulou (2003) notes the same effects in Greek (note the contrast between (53) and (55) with (54) and (56)). However, the perfect operator/ resultant state account would not predict extra context to be necessary for APass derived from activity verbs to (marginally) improve. My view, consistent with the *Aktionsart*-based account put forth here, is that context improves these APass because it allows the activity reading to be coerced into a CoS reading.

(53)   a. #Die Katze ist schon   hongestreichelt.
          The cat   is already petted
        b. #Dieser Kinderwagen ist schon geschoben.
          'This baby carriage is already pushed.'
(54)   a. *Dieses Haus ist bessessen.
          this   house is owned

b.*Die Antwort ist gewusst.
    the answer is known   (Anagnostopoulou 2003:13-14)

(55)   a. #Ta karotsia   ine idhi   sprog-mena.
          the baby-carriages are already pushed
        b. #I   gata ine idhi   xaidhemeni.
           the cat   is   already petted

(56)   a. O Janis kseri   tin apantisi.
          the Janis knows the answer
          'John knows the answer.'
        b. No participle related to the verb *ksero* 'know'. (Anagnostopoulou 2003:14)

The question remains as to how my proposal for Spanish (and, plausibly, German and Hebrew) could be extended to Greek, and how the parametric variation with APass could be captured. My suggestion is that the adjectivizer/stativizer A attaches higher in Greek than in Spanish in APass derived from CoS verbs, at least higher enough for *init*P to be projected and introduce an external argument semantically.

What, however, allows it to attach higher in Greek? I suggest the following. Suppose that what is understood to be the VP is comprised of two phases in the sense of Chomsky (2001), along the lines of a proposal that has been independently made by Panagiotidis (2015). The lower phase in the structure, as I argued in Section 3.2, is the one where the core *Aktionsart* of the verb is built.

The second phase, for transitive verbal predicates, would have VoiceP as its edge. Modifying Ramchand (2008) a bit, and following intuitions in Pylkännen (2008), Alexiadou et al. (2006) and Harley (2013), among others, I propose to split the external-argument projection in two: a specifierless *init*P that introduces causative semantics in combination with verbal structure below (i.e. *proc*P or *res*P) and VoiceP. Now, Voice can come in two types: active and passive (Kratzer 1996). If active, it introduces an external argument syntactically and assigns accusative case; if passive, it does not introduce an external argument in the syntax. Note that this extension of the structure still preserves our link between *Aktionsart* and the external argument, inasmuch as there cannot be a VoiceP without an *init*P, which semantically introduces the external argument and the causative state.

Now, if passive VoiceP is then taken as a complement by the grammatical aspect projection AspP, then we have a verbal passive. If, on the other hand, an adjectivizer A takes it as its complement, then we have an APass of the Greek type. The parametric differences, then, reduce to whether the adjectivizer in a given language can merge in that higher Voice-phase or not.

The structure for Greek APass derived from CoS verbs would then be as in (57).

(57)   Greek-type APass derived from CoS verbs
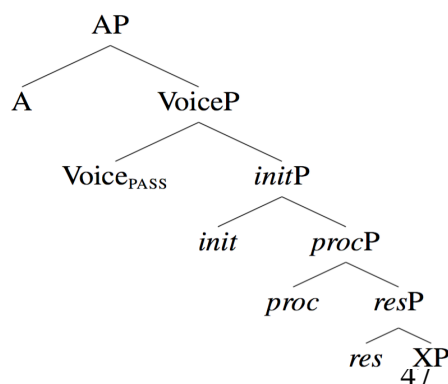
6. Conclusions

This paper has argued that the asymmetries in *by*-phrases and agent-oriented modification in Spanish APass have the aspectual structure of the articulated VP as their source. The formation of the adjectival participle in Spanish happens at the first syntactic phase where *Aktionsart* is built: APass derived from StCs verbs freely allow *by*-phrases and agent-oriented modifiers more generally because their syntactic structure inherently includes causative semantics, whereas CoS verbs do not inherently include causative semantics in their first phase and hence adjectivization bars the introduction of the relevant external-argument-introducing structure.

Moving beyond Spanish, I have discussed languages like German and Hebrew which seem to behave in a similar way to Spanish, and I have proposed that they can be given a uniform analysis. I have also presented data from languages like Greek which freely allow *by*-phrases and agent-oriented modifiers in APass derived from both StC and CoS verbs, and have suggested that the adjectivizer in these languages attaches at the next syntactic phase, that has Voice as its edge and includes causative semantics.

The picture that emerges for APass, then, is that any account that disregards inner aspect will be unable to account for the cross-linguistic empirical facts regarding *by*-phrases and agent-oriented modification: whether they are allowed or not in APass depends on whether the aspectually meaningful structure of the base VP allows for it. Thus, any account that claims that the external-argument introducing projection (VoiceP for most accounts) is uniformly absent or uniformly present in APass, without taking *Aktionsart* into consideration, will inevitably make the wrong predictions (at least for languages like Spanish, German and Hebrew that clearly display an aspect-based asymmetry).

For the general theory, this work provides evidence that it is not only internal arguments which play a role in determining the aspectual reading of the verb (e.g. the well-known contrast *John wrote {letters for hours/ the letter in an hour},* see Krifka 1992), but that the external argument is also intrinsically linked to the aspectual calculation of the VP. This is unlike common assumptions starting at least with Kratzer (1996) that the introduction of external arguments is orthogonal to aspect, i.e. that the aspectual meaning of the predicate is introduced by vP/VP, the external argument being introduced by a higher VoiceP that merely integrates the external argument thematically to the verbal predicate. As it stands, then, this work reinforces the view, most notably expressed in the works of Hale & Keyser (1993) and Ramchand (2008), that the argument structure of the extended VP fully determines its aspectual meaning.

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