

What's in a name? *The syntax of passive participles*

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1. What this talk is about

- Passive participles in a number of IE languages are deverbal adjectives
 - There is no category *participle*
 - There is no category distinction between *verbal* and *adjectival* participles
- (1) a. The vase was broken by Mary.
b. The vase seemed broken.
- The eventive/resultative distinction with participles is computed differently in languages that mark aspect morphologically on the verb stem, and those that do not.

2. Roadmap

- §3: The original rationale behind the adjectival/verbal distinction & the picture that has emerged in the more recent literature
- §4: A brief overview of the DM-type architecture of the grammar that I'll be assuming throughout the talk
- §5: The shortcomings of the diagnostics for English
- §6: What we can learn from Serbo-Croatian (SC) passive participles
- §7: Generalizing beyond SC and English: Resultatives are computed differently in two types of languages
- §8: Conclusion

3. Background

- Since Wasow 1977, the broad consensus in the generative literature has been that there are verbal and adjectival passive participles, as in (1) (Bresnan 1982, Levin & Rappaport 1986, Kratzer 2000, Embick 2004, Horvath & Sioni 2008, Alexiadou, Gehrke & Schäfer 2014, a.o.)
 - Verbal participles are associated with an eventive interpretation and adjectival participles with a stative interpretation. §5 elaborates on the purported distributional differences between the two.
 - There has also been a long tradition of assuming that *at least* adjectival participles are derived in the lexicon, in something like the following fashion:
- (2) Properties of Adjectival Passive Formation (Levin & Rappaport 1986:624)
- a. Affixation of the passive morpheme *-ed*
 - b. Change of category [V, -N] → [+V, +N]
 - c. Suppression of the external role of the base verb
 - d. Externalization of an internal role of the base verb
 - e. Absorption of Case
 - f. Elimination of the [NP, VP] position
- More recently, a number of problems have been identified with the lexicalist position:
 - There has been mounting evidence, both empirical and conceptual, that postulating a generative lexicon is at best superfluous (Baker 1985, 1988, Lieber 1992, Marantz 1997, Alexiadou 2001, Bruening 2018, a.o.)
 - Word-formation rules that have been proposed to account for the existence of adjectival passives amount to a duplication of operations already available in the syntax

- Kratzer (2000) and Embick (2004) show that adjectival passives can be phrasal in nature and exhibit patterns that are impossible with adjectives, such as modification by manner adverbials (e.g. *sloppily cut hair*).
- What have been termed *adjectival* and *verbal* participles both have the external syntax and morphology of adjectives in SC.

Previous proposals to treat 'verbal' participles as adjectives:

- * Freidin 1975: base-generated adjectives;
- * Emonds 2006: APs of a special sort, *a* not interpreted at LF;
- * Lundquist 2013: deverbal adjectives

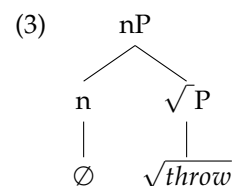
Most recent works assume one of the following:

- the adjectival/verbal contrast (Meltzer-Asscher 2011, Alexiadou, Gehrke & Schäfer 2014, Bruening 2014, Gehrke & Marco 2014)
- the outer layer of all participles is Asp, a verbal projection (Embick 2004, Alexiadou & Anagnostopoulou 2008)

4. Theoretical assumptions

I will be adopting a syntactic approach to word formation, à la Distributed Morphology (Halle & Marantz 1993, 1994, Marantz 1997, Harley & Noyer 1999, Harley 2014, Marantz 2019)

- *Syntax-all-the-way-down*
- Syntactic terminals are populated by:
 - (i) acategorical roots
 - (ii) functional heads
- Vocabulary insertion and meaning assignment:
 - (i) happen at the PF and LF interfaces, respectively
 - (ii) are competition based (the Elsewhere Principle)



(4) Interface instructions (Harley 2014:244)

PF: $\sqrt{\text{throw}} \leftrightarrow / \theta \text{row} /$

LF: $\sqrt{\text{throw}} \leftrightarrow \text{"vomit"} / [\text{v} [__] \sqrt{[\text{up}]_{\text{P}}}]_{\text{VP}}$

$\leftrightarrow \text{"a light blanket"} / [\text{n} [__] \sqrt{_}]$

$\leftrightarrow \text{"throw"} \text{ elsewhere}$

5. Do the diagnostics test for category differences?

NB: Virtually all of the diagnostics we'll see rely on the assumption that verbal, but not adjectival participles, can be modified by agentive *by*-phrases. We should keep in mind that *by*-phrases are also available with eventive nominalizations, which clearly have the distribution of nouns.

I Prenominal modifiers

Observation: participles modified by agentive *by*-phrases cannot appear as prenominal modifiers in English (5)¹

(5) a (*by Justin) baked (*by Justin) cake

Claim: these participles' inability to appear in this position is due to their category status (nouns are modified by adjectives)

Alternative: a conspiracy of two word-order restrictions

→ the Head-Final Filter (Williams 1982)

(6) a. *a baked yesterday/in the kitchen cake

b. *the fond of Sam boy

→ the impossibility of leftward PP scrambling in prenominal modifiers in English, but not in e.g. SC (7) (see also Rapp 2000 and Sleeman 2011 for German and Dutch, respectively)

(7) od strane naše učiteljice otvoreno pismo
by side our taught opened letter
'lit. the by our teacher opened letter'

¹The *by*-phrase may appear if it follows the participles, as in *a cake baked by Justin*. These cases have been analyzed reduced relative clauses (Sleeman 2011), and I will not address them here.

II Complements of *seem*

Observation: Verbs such as *seem* take adjectival, but not verbal complements. Participles followed by a *by*-phrase cannot head the complement of *seem* (8).

(8) The cake seemed baked (*by Justin).

Claim: The eventive participle in *baked by Justin* is a verb.

Alternative 1: Lundquist 2013, based on Matushansky's 2002 claim that *seem* can only take gradable complements: the event variable in eventive participles makes them unavailable for direct degree modification; but see (9).

(9) The listed companies were very (much) pursued by investors.

Alternative 2: *Seem* requires that its bare complements be stative; agentive *by*-phrases in English force an eventive interpretation with participles derived from change-of-state verbs. Notice that the *by*-phrase can reappear when *seem* is followed by a stative participial complement (10).

(10) The resources seemed appreciated (by the students).

III Negative *un*-

Observation: The prefix *un*- can have either a negative or a reversative interpretation. If *un*- attaches to a participle that includes a *by*-phrase, *un*- can only get a reversative reading (11a). If *un*- attaches to a participle that is the complement of a verb such as *seem*, *un*- can only get a negative reading (11b).

(11) a. The truck was unloaded by the workers.

b. The road seemed unmarked and dangerous.

Claim: Only adjectives combine with negative *un*-, cf. (12)

(12) The child seemed unhappy.

Alternative: Given the observations that (i) one *un-* form is shared by the two meanings, (ii) the *by-* phrase in English forces an eventive interpretation, and (iii) *seem* requires stative complements, the contrast in (11a-b) is expected. Crucially, it **does not bear directly on the issue of category membership**.

IV Selectional requirements

Observation: Some passive participles are followed by subcategorized material that is selected (13a). This is impossible with pure adjectives (13b).

(13) a. John is considered a fool.

b. *John is obvious a fool. Wasow (1977:341)

Claim: The participle in (13a) must be a verb.

Alternative: The observation is empirically unjustified. There is a whole host of adjectives that have selectional requirements, e.g. *proud of X*, *desirous of X*, *angry at X*; see Merchant 2019.

V Degree modifiers

Observation: Verbs and adjectives cannot be modified by the same type of degree modifiers (14a-b); passive participles allow both (14c).

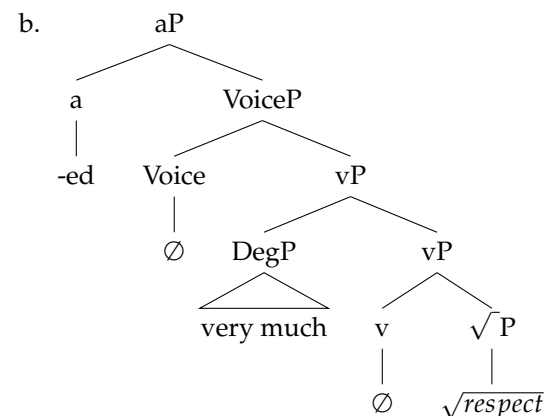
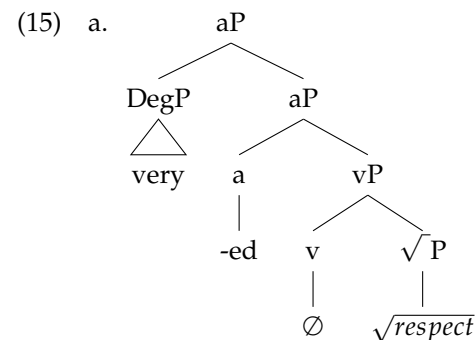
(14) a. John very *(much) respects your family.

b. John is very (*much) fond of your family.

c. Your family is very (much) respected.

Claim: The string in (14c) can stem from two derivations, with two participles belonging to distinct syntactic categories.

Alternative: The participle is a deverbal adjective in both cases; the two possibilities arise due to different heights of attachment of the modifiers. *Very* attaches to the adjectival layer, *very much* attaches to one of the verbal layers embedded below. A schematic representation is given in (15).



NB: I will not discuss the structural differences between 'verbal' and 'adjectival' participles in English in detail. I adopt a proposal that has been argued for extensively, namely that 'adjectival' participles in English lack a Voice layer which introduces the external argument (Kratzer 2000, Embick 2004). In addition to not allowing agentive *by-* phrases, 'adjectival' participles cannot control into purpose clauses; see also Gehrke & Grillo 2009 for diagnostics involving binding and Marantz 1997 for a discussion of (im)possible idioms.

6. Category membership: evidence from SC

Passive participles in English and SC have a similar distribution, modulo the fact that SC participles are influenced by some additional factors, in particular viewpoint aspect (see §7).

- (16) a. Prozori su lomljeni od strane huligana
window were broken by side hooligans
'The window were broken by the hooligans'
- b. polomljen prozor
broken window
'a broken window'

► Adjectival properties

→ Both stative (17a) and eventive (17b) participles are derived using adjectival morphology; cf. (17c), a pure adjective

- (17) a. Taj telefon mi se činio ošteće-n.
that telephone me SE seemed damage-ADJ.MASC.SG
'That telephone seemed damaged to me'
- b. Taj sako je kupova-n od strane...
that jacket was buy-ADJ.MASC.SG by side
'That jacket was bought by ...'
- c. Kraj ovog romana je tuža-n
end this novel is sad-ADJ.MASC.SG
'The end of this novel is sad'

NB: I take the final vowel on the adjectival stem to be epenthetic. It disappears in the feminine and neuter genders which have an additional agreement vowel following the adjectival suffix (*tuž-n-a*, *tuž-n-o*). Once the illicit coda [ʒn] disappears, so does the epenthetic vowel.

→ Both stative and eventive participles show agreement/ concord for case, gender and number features (18a-b); purely verbal forms agree with their subjects only in person and number (18c)

- (18) a. Ta kuća je izgledala nespretno
that house.NOM.FEM.SG is looked clumsily
sklepa-n-a.
build-ADJ-NOM.FEM.SG
'That house looked clumsily built'
- b. Ove palate su građe-n-e
these palace.NOM.FEM.PL are build-ADJ-NOM.FEM.PL
od strane tajkuna.
by side tycoons
'These palaces were built by tycoons'
- c. Zajedno pro pravi-mo splav.
together 1PL make-1PL raft
'We are making a raft together'

→ Both stative and eventive participles can combine with the prefix *polu-* 'half' (19a-b), which attaches to adjectives (19c), but not to verbs (19d)

- (19) a. Kuća mi se činila polusagrađena.
house me SE seemed half-built
'The house seemed half-built to me'
- b. U tom momentu, stanari su bivali poluisterani
in that moment tenants are be.IMPV half-evicted
iz svojih kuća od strane...
from own houses by side
'In that moment, the tenants were being half-evicted from their homes by...'
- c. Oni su bili u polusrećnom braku.
they are were in half-happy marriage
'They were in a half-happy marriage'
- d. *Svake godine polusagradi-mo dve kuće.
every year half-build-1PL two houses
'Every year, we half-build a house'

► Verbal properties

→ There is a clear correlation between the theme vowel on the infinitive, and the vowel on the passive participle stem:

- (20) a. *gled-a-ti* 'watch' *gled-a-n* 'watched'
b. *šut-nu-ti* 'kick' *šut-nu-t* 'kicked'
c. *vol-e-ti* 'love' *volj-e-n* 'loved'
d. *uč-i-ti* 'teach' *uč-e-n* 'taught'
e. *pas-Ø-ti* 'graze' *pas-e-n* 'grazed'

→ The theme vowel is not sensitive to the phonological properties of the word form (cf. *gled-a-n*, *gled-a-n-a*, *gled-a-n-o*)

→ Slavic theme vowels have been proposed to be exponents of the verbalizing head, *v* (Svenonius 2004, Čaha & Ziková 2016, Biskup 2019), because they attach to clearly non-verbal forms to produce verbs (e.g. *crven* 'red' / *crven-i-ti* 'red-V-INF') and may signal argument structure changes in verbs (e.g. *crven-i-ti* 'make red' vs. *crven-e-ti* 'become red').

7. Resultative participles

→ Embick 2004 introduces an additional distinction in the domain of 'adjectival' participles, that between resultative (21a) and purely stative participles (21b)

- (21) a. The door was built open/closed.
b. The package remained carefully opened/closed.

→ In SC, resultative ps are derived from perfective stems:

- (22) Paket je ostao pažljivo *(ot)pakovan/ *(za)pakovan
package is remained carefully PF-packed PF-packed
'The package remained carefully unpacked/packed'

→ The presence of perfective aspect on resultatives:

- (i) provides additional evidence for verbal structure;
(ii) is responsible for an important difference between SC and English

→ Unlike in English, resultative participles in SC can be modified by agentive *by-phrases*:

(23) Ta vaza mi se činila izlomljena od strane
that vase me SE seemed PERF-broken by side
nestašnih patuljaka.
mischievous dwarfs
'That vase seemed broken by the mischievous dwarfs'

→ Alexiadou et al. (2014) note this for Greek and German

A summary of AGS 2014: Events enter the derivation as predicates of event kinds, and get instantiated when they are embedded under further functional structure, e.g. tense/aspect.

*In German (and English) adjectival participles are not directly embedded under tense/aspect → the event remains in the kind domain → naming event participants is impossible

* In Greek (and SC) the additional aspectual structure instantiates the event → naming the agent of the event is possible

→ **3 problems:**

- Encoding aspect is not a sufficient condition for verbs to be compatible with *by*-phrases in stative contexts, or even with stative contexts as such (24); perfective aspect is needed.²

(24) *Ta vaza mi se činila lomljena (od strane
that vase me SE seemed broken.IMPF (by side
nestašnih patuljaka).
mischievous dwarfs)
'That vase seemed broken (by the mischievous dwarfs)'

Base imperfectives ↗ syntactic aspect? But then...

- The analysis in AGS 2014 still cannot account for the general incompatibility of imperfectives with stative contexts;
- How is the event instantiated with eventive participles, which are also deverbal adjectives?;
- Secondary imperfectives are also bad:

(25) *Ova kupola mi se činila
this dome me SE seemed
o-slik-a-va-n-a (od strane...)
PERF-paint-V-IMPF-ADJ-FEM.SG by side
lit. 'This dome seemed to me painted (by...)'

- Comparing (23) with (24) and (25), it is clear that the availability of the stative reading on SC participles in general is dependent on the presence of perfective aspect.
- A salient property of perfective viewpoint is that it includes in its denotation the final endpoint of a situation (Smith 1991), whereas the imperfective does not.
- Since there is no endpoint, there can be no resulting state, i.e. no state for the resultative participle to refer to.
- If this prerequisite of perfectivity is satisfied, both agentive *by*-phrases and event-related modifiers are possible without any effect on the stative interpretation.

²Or the *perfect*, as in Greek.

8. Conclusions and open questions

- The characteristics of passive participles in a number of IE languages can be accommodated if we treat them as adjectives which embed varying amounts of verbal structure
- In languages that encode viewpoint aspect on the verb stem (SC, Greek), a prerequisite for resultatives is perfectivity
- In languages that do not, resultative participles lack the VoiceP layer which introduces the external argument
- Differences between lexical and superlexical prefixes?
- Slavic lexical prefixes \neq German resultative particles? (Svenonius 2004)
- Why should the addition of VoiceP in English force an eventive interpretation? (Kratzer 1996)

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