

Interpretation Domains in the Verbal Spine: Synthetic vs. Analytic morphology

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Introduction Cross-linguistically we observe that argument reduction (i.e. Passives) or increasing operations (i.e. Causatives) appear with either analytic or synthetic morphology on the verb. In this talk, we show that synthetic vs. analytic morphology is relevant for the range of interpretations a particular structure can obtain, obeying the generalization in (1):

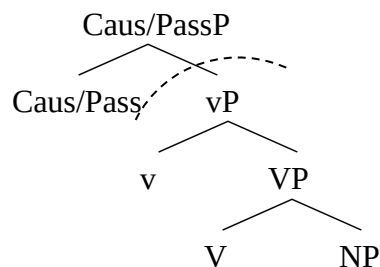
- (1) Synthetic morphology allows a range of interpretations whereas analytic morphology lacks such variability.

Evidence for the generalization in (1) comes from Passive and Causative Constructions cross-linguistically. We argue that morphology is a reflection of the way syntactic structure is spelled-out; in the case of synthetic morphology the Pass/Caus head and its complement v-head undergo merging thus licensing polysemy whereas in the case of analytic morphology the heads are spelled-out separately and the meaning is derived by strict compositionality.

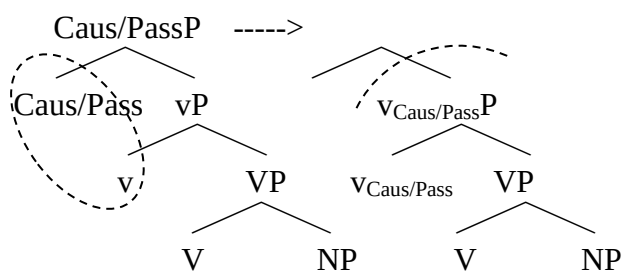
Cross-linguistic evidence for (1) In a number of languages that belong to different families (Albanian, Armenian, Amharic, Greek, PA Arabic, Quechua, Shakkinoono/ Kafinoonoo, Swedish, Turkish) the morphology used in synthetic - and crucially not in analytic passives - can also appear in at least one of the following environments; a) verbal reflexives and reciprocals, b) anticausatives, c) dispositional middles (as well as other constructions which vary cross-linguistically) which altogether constitute the so-called Middle Voice (see Kemmer 1993, Alexiadou & Doron 2012). In addition, synthetic causatives in many languages share the same morphology with benefactive, instrumental or comitative applicatives (Nedyalkov & Silnitsky 1969, Shibatani & Pardeshi 2002, Hemmings 2013 for Javanese, Austin 2005 for Australian Aboriginal languages, Lobben 2010 for Hausa and other Afroasiatic languages)

Analysis Following Legate (2010), Bruening (2013) we assume that passives are built on the basis of Pass head which embeds a vP. A causative head can embed a vP or a $\sqrt{P}$ (Pylkkänen 2002, Harley 2006). Crucially we assume that the corresponding Analytic and Synthetic structures have the same underlying structure. Building on Bobaljik (2012), we argue that synthetic structures involve an additional operation which merges the Pass/Caus head with the head of its complement. This operation derives a unique head which inherits the features of both and therefore it can acquire different interpretations depending on these features (2b).

(2) a. *Analytic Causative/Passive*



b. *Synthetic Causative/Passive*



To illustrate, consider the analytic passive in English (3a) vs. the synthetic one (4a) in Greek of the verb *wash*, which is considered to be naturally reflexive verb in both languages. In the analytic passive, the vP is spelled-out (3b) and then the *Pass* (3c) applies to existentially bind the

external argument introduced by *v* (Legate 2010, Bruening 2013). The derived meaning is that *there is an agent x s.t. x is the agent of the washing event e and John is the theme of e* (4d).

- (3) a. John_i [_{PassP} was [_{vP} washed t_i]].
 b. $\llbracket vP \rrbracket = \lambda x. \lambda e_s. \text{wash}(e) \ \& \ \text{theme}(e) = \text{John} \ \& \ \text{Agent}(e) = x$
 c. $\llbracket Pass \rrbracket = \lambda P_{\langle e, st \rangle}. \lambda e_s. \exists x. P(x, e)$
 d. $\llbracket PassP \rrbracket = \lambda e_s. \exists x. \text{wash}(e) \ \& \ \text{theme}(e) = \text{John} \ \& \ \text{Agent}(e) = x$

On the contrary, in Greek, the two heads *v* & *Pass* merge into one and the meaning derived can be Passive (*v_{Pass}*), introducing an existentially bound external argument (4b) or Reflexive (*v_{Refl}*) (4c), depending on whether the verb enters the derivation as reflexive or not:

- (4) a. O Gianis_i [_{v_{PassP}} pli-thi-ke t_i].
 John wash-PASS.PAST.3SG
 b. *Pass-M*: ‘John was washed.’ $\sim \llbracket v_{Pass} \rrbracket = \lambda f_{\langle s, t \rangle}. \lambda e_s. \exists x. f(e) \ \& \ \text{Agent}(e) = x$
 c. *Refl-M*: ‘John washed himself.’ $\sim \llbracket v_{Refl} \rrbracket = \lambda f_{\langle s, t \rangle}. \lambda e_s. f(e) \ \& \ \text{Agent}(e) = \text{theme}(e)$

By the same reasoning, we can also explain the other readings evoked by Middle Voice. A parallel distinction is drawn between analytic and synthetic causatives. In analytic causatives, such as the infinitival *faire* construction in Italian (5) the causative head is merged above *vP* and introduces a causing event and a causer argument (Pylkkänen 2002, Folli & Harley 2007, Campanini & Pitteroff 2012).

- (5) Je [_{CausP} ferai [_{vP} quitter la maison à Jean]].
 I will.make leave the house to John
 ‘I will make Jean leave the house.’ [Folli & Harley 2007; 200]

In synthetic causatives, the *Caus* and *v*-head merge into one head, thus allowing the derived head to function as a causative or as an Applicative depending on the properties of the verb. For example, in Kalkatungu and in other Australian Aboriginal Languages, the same suffix *-nti* gives rise to a causative interpretation when added to an unaccusative verb (6a) or an applicative (i.e. comitative) (6b) when it combines with an unergative verb (Austin 2005).

- (6) a. *ara* ‘enter’ → *ara-nti* ‘insert’ Causative
 b. *thuna* ‘run’ → *thuna-nti* ‘run with (something)’ Applicative

The correlation between Applicatives and Causatives goes back at least to Marantz (1993). The present account comes to explain why this correlation is observed only in synthetic but not in analytic structures. The merger of the two heads in the case of synthetic causatives allows the formation of a *v_{Caus}* or a *v_{Appl}* depending on the properties of the verb. Notice that for the Applicative reading to emerge it is not necessary that the morpheme attaches directly to the root (cf. Marantz 2007, Harley 2006) as an antipassive morpheme can intervene (Austin 2005).

Summary The observed contrast between synthetic and analytic morphology is explained based on the idea of Morphological merger due to synthetic morphology which subsequently leads to Phase-Extension/Suspension (Bobaljik 2012, Bobaljik & Wurmbrand 2013, den Dikken 2006). At the same time, the syncretism observed in the domain of synthetic passives and causatives receives an immediate explanation since a suffix occupies the same syntactic position and its function is determined by the properties of its complement. By this reasoning, it should be possible to find languages which share the same morphology in Passives and Causatives since the relevant head can merge in the same position. Indeed this is the case in Korean where the same morpheme can appear in Passive-Middle and Causative constructions (Yeon 1991).